Medicines in the context of older people's lives

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Abstract

Background

Older people often take a relatively high number of prescription medicines and experience a range of issues linked with these medicines. Older people admitted to hospital for an acute condition often experience changes to their medicines and as a result they may experience problems such as adverse medicine events. The number of older people is increasing in New Zealand and worldwide. It is important, therefore, to understand older people's attitudes towards their medicines.

Aim

The aim of this thesis is to look at medicines in the context of older people's (≥75 years) lives. It consists of two investigations. The aim of Investigation One is to explore older people's experiences of medicines over their lifetime. The aim of Investigation Two is to explore how older people, who had recently been discharged from hospital to their own home, managed medicine changes which were made during their stay in hospital.

Methods

For Investigation One twenty people ≥75 were selected and interviewed using open-ended questions with an oral history approach. Participants with a range of different characteristics (e.g. age, sex, occupation, and ethnicity) were chosen.

For Investigation Two, forty people aged ≥75 were recruited from two internal medicine wards in Dunedin Hospital. Participants were included in the study if they were taking four or more prescription medicines at admission, experienced a change to these medicines in hospital and were discharged to their own home. Semi-structured qualitative interviews were undertaken with participants after their discharge.

Interviews were digitally recorded, transcribed verbatim, coded using NVivo and analysed for themes.

Results

Participants in Investigation One took a wide range of medicines (over the counter products and home remedies) in their youth but do not perceive these to be the same as their modern prescription medicines. Most participants did not begin taking regular prescription medicines until later in life and some struggled initially with this transition. Participants believe that younger people are too quick to "run to the doctor" and access prescription medicines in comparison to their youth.

Participants in Investigation Two experienced a median of four medicine changes per person. Sixteen (40%) participants were not fully aware of all of the changes to their medicines and others had concerns about changes. The majority of participants trusted the hospital doctors and had a positive view of their stay in hospital. Many said they did not want to trouble the staff with questions about their medicines and did not necessarily think it was their place to ask questions.

Participants in both investigations would rather not take medicines and at times are dismayed at the number that they do take. They trust their doctors, believe that the medicines are good for their health and, therefore, are willing to accept medicines as part of their normal lives.

Conclusion

Investigation One shows the importance of understanding older people's past experiences of medicines in seeking to better understand their current attitudes to medicines. Investigation Two highlights the need to improve communication regarding medicine changes with older people at discharge from hospital. Participants from both investigations would rather not take any medicines but were willing to accept them as part of their everyday routine because they believed they were necessary and trusted their doctors.

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Chapter One: Introduction

1.1. Aim

The aim of this thesis is to explore medicines in the context of older people's lives. Older people often experience multiple illnesses and the use of medicines is a key component in treating these illnesses.[1-3] The majority of people in this age range, 65 and over, take one or more prescription medicines and they can experience a range of issues linked with the use of multiple medicines. These issues become more prevalent when older people are admitted to and discharged from hospital, an occurrence which is more common for older people than adults of other ages.[2, 4] Older people admitted to medical wards in hospital are also likely to experience changes to their medicines. The number of older people is increasing in New Zealand and worldwide.[5, 6] It is important, therefore, to understand older people's attitudes towards medicines. The wider context of older people's lives is an important part of understanding their interactions with medicines. This thesis looks at medicines from the point of view of the person taking them and how taking medicine fits into the context of their lives.

The thesis consists of two investigations. Both are based on qualitative interviews with older people and explore their attitudes, beliefs, and experiences of medicines and how taking medicine fits into the wider context of their lives. Investigation One explores older people's experiences of medicines over a lifetime and involves oral history interviews with twenty older people. Investigation Two explores how older people managed changes to their medicines after a discharge from hospital to their own home. It involves semi-structured interviews with forty participants who had recently been discharged home from hospital and experienced changes to their medicines.

This thesis contributes a new perspective on older people's attitudes towards their medicines. Having these two particular investigations meant this thesis could explore both a range of older people and a specific subset of older people who had recently been acutely unwell and were taking relatively higher numbers of medicines. The findings from these two studies are then compared and contrasted. Investigation One is a broad view of people's attitudes and experiences regarding medicines over the course of their lives. Investigation Two is a focussed view on a recent experience which involved medicines. This focus on the present and the past means that a wider picture of medicines in the context of older people's lives is explored.

All of the older people interviewed in the two investigations are aged 75 and over. In New Zealand, the official Government definition of an older person is someone aged 65 years or over. It is the age at which people are eligible for New Zealand Superannuation, the age at which Statistics New Zealand defines an older person, and the age at which the Ministry of Health* (MOH) defines an older person in their health strategies.[7-9] The decision to interview people aged 75 and over in this study meant it was aligned with the age range in research I was involved with in 2008. This research formed the background to this thesis and is discussed later in the chapter. Professor John Campbell, Professor in Geriatric Medicine at Dunedin Hospital, pointed out that people aged 75 and over are more likely to take a high number of prescription medicines and are more likely to suffer from multiple chronic illnesses. Findings released by the MOH in 2006 showed that people aged 75 and over were much more likely to experience four or more chronic conditions than those aged 65 to 75.[10(p30)] They also took a higher number of prescription medicines than people aged 65 to 75.[10(p54-55)]

* The MOH is the Government department that has overall responsibility for the health and disability system in New Zealand.

One of the intentions of this thesis is to use the results from Investigation One and Two to inform pharmacists and doctors about older people's attitudes towards medicines and how past experiences might inform their current decision-making. This knowledge will aid health professionals in their understanding of older patients and their ability to talk to them about their medicines. Investigation Two also provides an in-depth picture of medicines issues experienced by older people after hospital discharge. It provides a basis for recommending changes in practice to the discharge processes for older people and a basis for further research into improving those processes.

The remainder of this chapter will further outline the main aim of the thesis. Firstly it outlines the increase in the numbers of older people in New Zealand and the significance this has for research regarding older people and their medicines. The chapter then looks at the background to the thesis and introduces the four chapters in the thesis which contain the results and discussion from the two investigations. This is followed by discussion of the scope of this thesis and a definition of the exact objectives and boundaries of the research. The chapter then looks at the structure of the thesis and the reason why the chapters have been arranged in a certain way. It then summarises the aspects of the New Zealand health system and medicines system which are relevant to the two investigations. Finally it briefly looks at the main demographic features of Dunedin, the place where the majority of participants lived at the time of the interviews.

1.2. Ageing population

The number of older people in New Zealand and worldwide is growing. Between 1970 and 2005 the number of older people in New Zealand doubled to half a million.[6(p8)] In comparison, the total population of New Zealand increased by 44% over the same period and was just over 4 million at the start of 2005.[6, 11] It is estimated

that the growth in the 65 and over age group will make up 87% of the growth of the total population between 2005 and 2051.

The MOH has forecasted that from approximately 2014 the population of New Zealand will begin a period of "rapid structural ageing" as the large number of people who are "baby boomers", born between 1945 and 1965, begin to age.[5(piv)] It is estimated that between 2004 and the late 2040s the proportion of the population aged 65 years and over will have doubled from 12% to approximately 25%. The proportion of the population aged 85 years and over will increase from 1.3% to approximately 5.5%.

This increase in the ageing population is also driven by the increase in life expectancy over the past half century and the projections of further decreases in mortality over the next half century.[5(p2)] Findings released by Statistics New Zealand in August 2011 show that a baby girl can expect to live, on average 82.7 years, and a baby boy 78.8 years.[12] These averages are based on the total population of New Zealand and Statistics New Zealand does not calculate life expectancy for the different ethnicities in New Zealand on a frequent basis.[13] Māori life expectancy is lower than that of non-Māori. Between 2005 and 2007 the life expectancy at birth for Māori females was 75.1 years and for males it was 70.4 years.[14] In 2008 it was estimated that the life expectancy at birth of Asian* females was 87.2 and males 84; Pacific Island females was 77.2 and males 72.8.[16(p26)] Projections predict that the life expectancy at birth for all of these ethnicities will increase in the coming decades.[17(p3)] Also, an increasing number of Māori, Pacific Island and Asian people in New Zealand will reach and pass the age of 65.[18(p69)] This increase means that the older population in New Zealand will become more ethnically diverse in the future.

* Statistics New Zealand classifies the following ethnicities as Asian: Southeast Asians (Filipino, Cambodian, Thai, Malaysian, Indonesian, Vietnamese, Burmese, Laotian), Chinese, Indian, Sri Lankan, Japanese, Korean, Afghani, Bangladeshi, Nepalese, Pakistani and Tibetan.[15]

In recent years there has been debate in New Zealand, and overseas, regarding whether the age of eligibility for superannuation should increase above 65.[19] Some of this debate is based on the increase in life expectancy and the number of people aged 65 and over who are living longer and healthier lives.[20] The number of people aged 65 and over who are still participating in paid employment has also increased.[19] However, there is concern that New Zealand will not have enough workers to support the large numbers of retired people. In 2010 the New Zealand Retirement Commission recommended that the age of eligibility needs to increase to keep superannuation affordable because of the increasing number of older people.[21] It is also projected that the growing number of older people requiring health care will put increasing pressure on health funding in New Zealand.[18(78-81)]

The increase in the number of older people should not be viewed as having only negative consequences. The vision outlined in the New Zealand Positive Ageing Strategy is for "a society where people can age positively, where older people are highly valued and where they are recognised as an integral part of families and communities".[22] In 2010 the President of the International Federation of Ageing described the use of words such as "productive" and "active" by policy makers and researchers worldwide as demonstrating a sense of optimism and celebration of population ageing in the 21st century.[23]

Gusmano and Okma argued against the idea in industrialised countries that the growing number of older people will become a drain on the resources of the younger working population.[24] They pointed out that international data shows that there is no relation between the spending level for health care and the degree of ageing. They also argued that older people support their children in multiple ways, are a major source of informal care and that there are increasing numbers of people aged 65 and over who are working. They argued that "there is ample reason to celebrate aging as a major accomplishment".[24]

1.3. Older people and medicines

An ageing population does, however, face challenges in the area of health. As already mentioned, older people are more likely to experience chronic and coexisting illnesses and take multiple medicines to treat these illnesses. Martin et al., in a 2002 New Zealand study, looked at the computerised records of 139, 359 general practice patients aged 65 and over and found that participants were prescribed a mean of 19.7 medicine items per year.[25] Between 12% and 25% of people in the sample received no medicines during the year but conversely 30.1% of patients aged 80 to 84 were prescribed thirty or more medicine items per year. The study also found that participants aged 90 and over were taking fewer medicines than those aged 65 to 89. Martin el al. argued that this may be due to this group representing the "healthy old" while those with significant multiple illnesses are already deceased. They also argued that people in this group may have less access to care due to immobility and isolation in the community and are also more likely to be receiving rest home care which might skew the data. The study found that there was a high potential for medicine interactions in at least 50% of the participants. Martin et al. concluded that older people in New Zealand have a high level of exposure to medicines and that this indicated a need to further study potential medicine interactions and side effects in older people. Two New Zealand studies, one qualitative with thirty-one participants aged 65 and over and one quantitative with 316 participants aged 75 and over, found that people took an average of seven prescription medicines. These studies show that older people in New Zealand are taking a relatively high number of prescription medicines.[26, 27]

People taking multiple medicines are at greater risk of having medicines which are unnecessary or which react adversely with another medicine and this is referred to as polypharmacy. Older people are also more susceptible to adverse effects from medicines due to physiological changes as people age.[28-30] Older people experience age-related changes in pharmacokinetics (what the body does to a medicine) and pharmacodynamics (what a medicine does to the body) which result in altered

responses to many medicines.[30, 31] The overall effect of these changes is a decreased clearance (through the kidneys and liver), increased volume of distribution of lipid soluble medicines which can prolong the effects of medicines and altered sensitivity (usually increased) to some medicines.[32] Polypharmacy and other issues related to older people's medicines use are further discussed in Chapter Two (Literature Review).

1.4. Background

The underpinning ideas of the thesis and its component investigations were developed from research that I was involved in as a research assistant in 2008 at the School of Pharmacy, University of Otago. For this research, Examining Medication Use Practices Amongst Home Based Older Persons Over 75 Years in an Urban Setting, I interviewed 316 people, aged 75 and over, in their own homes using a structured questionnaire.[27] Over the course of the 316 interviews it became clear that participants did not make decisions about their medicines in isolation from the rest of their lives. This provided me with the overall aim of the thesis which is to look at medicines in the context of older people's lives.

There is now a tradition, in multiple disciplines, of looking at illness and medicines from the perspective of the patient and exploring their everyday lives and life stories.[33-36] In 1985 sociologist Conrad argued that research on adherence to medicines needed to explore patients' experiences of illness and medicines.[36] In the same year leading historian Porter argued that medical history needed to focus more on the experiences and perspectives of patients.[35] This focus on the perspective of the people taking medicines underpins both investigations in this thesis and the literature on this topic is further discussed in Chapter Two (Literature Review). The methodological considerations and issues related to qualitative interviews are discussed in the first section of Chapter Three (Methods).

One component of studies which look at the patient's perspective is the importance of their past life experiences. During the interviews in 2008 I noticed that there were certain attitudes towards life and medicines which were shared by many participants. I was curious to know whether these attitudes were based on shared life experiences from this cohort of older people and whether exploring these experiences would aid in a greater understanding of their current attitudes. With my background in history (graduated Master of Arts at the University of Otago 2003), this curiosity led to Investigation One of the thesis which looks at older people's experiences of medicines over their lifetime.

During the course of the interviews in 2008 a few participants expressed confusion about changes to their prescription medicines after a recent discharge from Dunedin Hospital. This confusion contrasted with the majority of participants who said they had little trouble with taking their medicines because it was a routine they had been practising for a long time. It highlighted an area for further study as the questionnaire did not ask any specific questions about discharge from hospital. Also, as already mentioned in this chapter, hospitalisation can be a common part of life for older people. Investigation Two of this thesis, therefore, looks at how older people manage changes to their medicines after a discharge from hospital.

1.4.1. Investigation One

The intention of Investigation One is to look at people's experiences of medicines over a lifetime. An oral history approach was adopted to gain an understanding of people's lives as a whole and to give people a chance to share at length about their experiences of medicines. Oral history is a technique commonly used to record biography or life story narratives and to gain a fuller understanding of the past through learning about people's experiences and beliefs.[37, 38]

Where oral history normally looks at a person's life story or a specific event or phenomenon, this investigation focuses on people's experiences of medicines and is best defined as an oral history of medicine taking. A Finnish study of people aged 90

and over argued that when people make their own decisions about their medicines "the cultural concepts they have formed during their lifetime also come into play".[39] The study argued that people make decisions based on their interactions with people and events outside of the medical world. Oral historian Thompson argued that researchers need to explore older people's lives from childhood through to the present day to better understand their attitudes towards ageing.[40] Investigation One links participants' current attitudes with their past experiences and explores changes in medicines use over time.

Oral history studies have been conducted in England to explore people's past experiences of ill health, health services and medicines and how these changed over time.[41-43] These studies and others regarding the use of history and oral history are discussed in Chapter Two (Literature Review). The results and discussion from Investigation One are in Chapter Four (Medicines over a lifetime).

1.4.2. Investigation One and Two: Attitudes towards regular medicines

All sixty participants' attitudes regarding their regular prescription and non-prescription medicines are discussed in Chapter Five (Attitudes towards regular medicines). Questions regarding attitudes towards prescription medicines, side effects, health, and non-prescription medicines were asked of all sixty participants from both investigations. This chapter provides a bridge between Investigations One and Two. It discusses participants' attitudes towards their regular prescription medicines, rather than their past attitudes which are explored in Chapter Four (Medicines over a lifetime). It follows on chronologically from the section in Chapter Four which explores how participants from Investigation One made the initial transition to taking regular prescription medicines. It also leads on to Investigation Two which explores participants' attitudes towards changes to the regular prescription medicines they normally take.

There are many qualitative studies in medical, pharmacy and gerontology journals which explore older people's current and recent attitudes towards their medicines.[44-46] Often these studies are focussed on the topic of medicines adherence. Chapter Five also looks at older people's current attitudes but has the advantage of being able to draw on the life experiences of participants from Investigation One and the recent hospital experiences of medicine changes of participants in Investigation Two. The chapter is not focussed on the topic of adherence but some of the findings do highlight reasons why participants choose to take or not to take medicines.

1.4.3. Investigation Two

Investigation Two focuses on a particular aspect of older people's medicine taking experiences: medicines during and after a hospital discharge. The objective of this study was to explore how older people, who had recently been discharged from Dunedin Hospital to their own home, managed any changes which were made to their medicine regimen during their stay in hospital. It looked at this in the context of the practical problems people encountered after being discharged from hospital.

Hospitalisation is common amongst older people and an important part of understanding medicines in the context of their lives. In New Zealand people aged 65 and over are significantly more likely to use public hospital services (excluding the Emergency Department) than people aged 5 to 64.[4(p319)] People aged 75 and over are also 10% more likely to use public hospital services than children aged 0 to 4.[4(p319)]

The transition from hospital to home is a time when problems regarding medicine changes can occur such as poor communication between the hospital, the patient and their general practitioner (GP), discrepancies in the recording of medicines in hospital and adverse medicine events.[47-50] In New Zealand, most adults being admitted as hospital inpatients are older, have multiple illnesses, take between three and fifteen prescribed medicines and have changes to those medicines during their stay.[51(p129)] The literature related to older people and medicines at discharge from hospital is discussed in Chapter Two (Literature Review). The results and discussion

from Investigation Two are in Chapter Six (Medicine changes at discharge from hospital).

1.4.4. Final discussion and conclusion

Together, Investigations One and Two offer a comprehensive insight into older people's experiences of medicines. The two investigations explore the past use of medicines, the everyday use of medicines and the use of medicines after a discharge from hospital. Participants in both studies share similar attitudes towards medicines, health and health professionals. However, there are also some differences between the two investigations, due to the recent hospital experiences of participants in Investigation Two. Chapter Seven (Final discussion and conclusion) discusses the main themes from both investigations and provides the overall conclusions to the thesis, including areas for future research. This chapter also outlines the limitations of the thesis.

1.5. Scope of research

The aim of this thesis is to understand medicines from the perspectives of older people and how taking medicines fits into the wider context of their lives. In both investigations I recorded the full list of prescription and non-prescription medicines that participants were taking at the time of the interview. I did not evaluate the efficacy of these medicines, the appropriateness of the prescribing or the potential for any adverse medicine events as this was not the aim of the thesis. I recorded all of the medicine changes experienced by participants in Investigation Two but did not assess whether these changes were appropriate. If participants shared any concerns then I suggested that they contact their GP. If I had any concerns regarding medicines use by a participant I had an arrangement whereby I could contact one of my thesis supervisors (a pharmacist) and if needed she could contact a specialist in Older People's Health at Dunedin Hospital. Neither investigation is an intervention

study and the aforementioned arrangements were made to ensure the research was conducted in an ethical manner.

The two investigations of this thesis are primarily focussed on people's experiences of their medicines. Both investigations also look at people's health and their interactions with health professionals but only because they are related to medicines. People's experiences of medicines cannot be divided from the illnesses they are taking them for or from people's general view of their own health. In Investigation Two people had been admitted to hospital, and had their medicines changed, because they experienced illnesses and accidents.

Both investigations look at participants' interactions with health professionals because these are the people who prescribe and dispense their medicines and give them advice regarding these medicines. Investigation Two also involved background interviews with a ward pharmacist and nurse. The purpose was not to interview multiple staff or explore medicines from their perspectives but to provide a context for the rest of the study.

Investigation One assessed participants' experiences of medicines over a lifetime and how these relate to their life stories. The intention of Investigation One is to look at participants' life stories in relation to medicines rather than to explore their full life stories or their attitudes towards ageing. It was an oral history of medicine taking and not an oral history of the participant.

1.6. Structure of thesis

The structure of this thesis is different from what is considered normal practice for science research and the reasons for this are explained in this section. The methods chapter includes discussion of the actual recruitment of participants and the participant characteristics. Although this is not usual in the sciences it is normal in some social-science disciplines and the methods for this thesis are drawn from sociology, history and pharmacy. The methods chapter also includes references to

interviews from both investigations because this was the most appropriate way to explain my approach to certain methodological issues related to qualitative interviewing.

The results and discussion from the two investigations are included together in chapters four to six, and not as separate sections of the chapters. Given the qualitative nature of the interviews, it would have been difficult to separate the participant's responses (the results) from the discussion of the responses in light of the relevant literature. Although the thesis is based on two investigations, Chapter Five (Attitudes towards regular medicines) looks at all sixty participants' attitudes towards their regular prescription and non-prescription medicines. As already explained in section 1.4.2. this chapter serves as a link between the two investigations. The inclusion of the recruitment processes and the participant characteristics in the methods chapter means that the reader has been introduced to all of the participants before Chapter Five, even though the findings from Investigation Two are not fully analysed until Chapter Six (Medicine changes at discharge from hospital).

1.7. New Zealand health system

The parts of the New Zealand health system that the participants in both investigations have the most contact with are: DHBs, Primary Health Organisations (PHOs), GPs and pharmacists. The following sections briefly outline the function of these organisations and medical services. Older people's interaction with these services, and their transfer from secondary to primary care, is the cause of many issues related to medicines. Over the last thirty years the New Zealand health system has been restructured multiple times but the problem of integration between secondary and primary care has persisted.[52] These issues are discussed in Chapter Two (Literature Review).

1.7.1. District Health Boards

Dunedin Hospital is the largest hospital in the Otago/Southland area and it is the hospital from which the participants for Investigation Two were recruited. It is owned and run by the Southern DHB. DHBs are responsible for publicly funded primary, community and hospital health services in their district and are accountable to the MOH.[53(p207)] There are currently twenty DHBs in New Zealand and all of the country's public hospitals are run and owned by these DHBs. They have existed since January 2001 when the New Zealand Public Health and Disability Act 2000 came into force.[53(p206-209)] The Southern DHB was formed by a merger of the former Southland and Otago DHBs in May 2010 and is responsible for most publicly funded primary health and hospital services in Southland and Otago.[54]

The formation of the Southern DHB occurred during the period when participants for Investigation Two were being recruited from wards 8A and 8B, Dunedin Hospital (recruitment took place between March and July 2010). This caused no discernible changes to admission, procedures on the ward, or discharge for the participants who were recruited after this date.

Hospitals in New Zealand provide their inpatient and outpatient services free of charge to all permanent residents of New Zealand. The majority of public funding for the public health system comes from general taxation.[53] This means that all of the participants in Investigation Two did not have to pay for the care or medicines they received during their stay in Dunedin Hospital.

1.7.2. Primary Health Organisations

All of the participants in both investigations are enrolled with a doctor who is part of a PHO. PHOs are funded by DHBs to provide primary health care services to people who are enrolled with the PHO through a medical practice.[55] The first PHOs were established in July 2002 as part of the Primary Health Care Strategy 2001.

All of the participants in Investigation Two and nineteen of the participants in Investigation One are enrolled with doctors who are part of the Southern PHO. It formally commenced in October 2010 and is responsible for primary health care in Otago and Southland.[56] It is a merger of nine Otago and Southland PHOs and all of the GP practices in Dunedin belong to it. One participant is enrolled with the Rural Canterbury PHO and the reason for this is explained in Chapter Three (Methods).

Doctors working in primary health care in New Zealand are known as GPs and they work in privately owned medical practices.[57] GP practices receive funding from the Government, via DHBs and PHOs, to subsidise the cost of their consultations with patients. GPs also charge a copayment. This means that there is not a standard national price for visiting a GP in New Zealand. GPs, who receive Government funding, are able to set their own fees for consultations within limits set by the MOH. For example, they cannot charge more than a specified sum for consultations with children aged 6 and under. The MOH has also placed a cap on how much GPs can increase their costs each year. GP practices can choose not to be part of a PHO or receive Government funding but this is not the case for any of the practices in Dunedin. All of the participants from both investigations who take regular prescription medicines receive their prescriptions from a GP. This prescription is then taken to a community pharmacy where the medicines are dispensed by a pharmacist.

1.8. New Zealand medicines system

The Pharmaceutical Management Agency of New Zealand (PHARMAC) decides, on behalf of DHBs, which medicines are subsidised for use in the community and public hospitals.[58] PHARMAC manages the Pharmaceutical Schedule, which is the list of government subsidised medicines in New Zealand. The budget for medicines is set by the MOH each year and PHARMAC decides what medicines to fund and sets subsidy levels.

Most people in New Zealand aged six years and over pay $3 per prescription medicine provided that they are enrolled in a PHO, the prescription is written by a GP at their normal practice, and the medicine is fully subsidised by PHARMAC. Some medicines are not fully subsidised and incur a part-charge and some medicines have no subsidy. Once a person, or their family, has purchased twenty subsidised medicine items from their pharmacy in a twelve month period starting from the first day of February, the pharmacy will issue them with a Prescription Subsidy Card. This means that they will pay no money for any subsidised items from the time the Prescription Subsidy Card was issued until the last day of January the following year.[59] Many of the participants in Investigations One and Two would, either individually or with their spouse, purchase more than twenty medicine items within a calendar year and subsequently be eligible for free medicines.

For the majority of prescription medicines in New Zealand a GP can prescribe a ninety day supply which a patient can pick up all at once from a pharmacy.[60] This means that most people aged 65 and over, who are taking prescription medicine, will see their GP at least every three months to renew their prescriptions. Sometimes GPs will renew a prescription following a telephone request from a patient and this means that at times people might not see their GP in person for six months. A small number of medicines can also be prescribed in a 180 day supply. Close Control allows doctors to control the amount of medicine a patient has at any one time by dispensing medicines more often than the Pharmaceutical Schedule would normally allow. Close Control can only be implemented by doctors when certain conditions are met: for patients who are likely to be confused by taking multiple medicines, for medicines which are dangerous in large quantities and for expensive medicines.[26, 61]

All people aged 65 and over, who are legally and ordinarily resident in New Zealand, are eligible for a SuperGold Card which is managed by the Ministry of Social Development.[62] The SuperGold Card entitles older people to the same health subsidies as the Community Services Card.[63] These subsidies entitle people to reductions in the cost of fees for after hours doctor visits, visits to a doctor who is not

their regular doctor, prescriptions written by a doctor who is not their regular doctor and home help.[64]

Older people may also be eligible for Care Plus which is a primary health care initiative aimed at aiding people with high health needs due to chronic conditions, acute medical or mental health needs, or terminal illness.[65] A person is eligible for Care Plus if they are enrolled with a PHO and a GP or nurse identifies them as being able to benefit from it. It is usual for people aged 65 and over to receive Care Plus. According to the MOH, what a person receives with Care Plus varies between PHOs but in general they will receive a comprehensive assessment, an individual care plan, and more effective management of their chronic conditions; all of which is provided at low or reduced cost.[65]

1.9. Study Setting

Fifty-nine of the participants in this thesis currently live within the city boundaries of Dunedin, New Zealand. Only one participant comes from outside of this area and lives on a farm near Ashburton in Canterbury. The reason for this is explained in Chapter Three (Methods). According to the 2006 New Zealand Census*, Dunedin has a population of 118, 683 people, 2.9% of New Zealand's total population.[66] The Dunedin population is ranked eighth in size out of the seventy-three districts in New Zealand.[66] In Dunedin City 78.7% of people are New Zealand European, 6.5% are Māori, 5.4% are Asian, and 2.3% are Pacific Islanders.[67] Chinese people are the largest ethnicity in the Asian ethnic groups.[68]

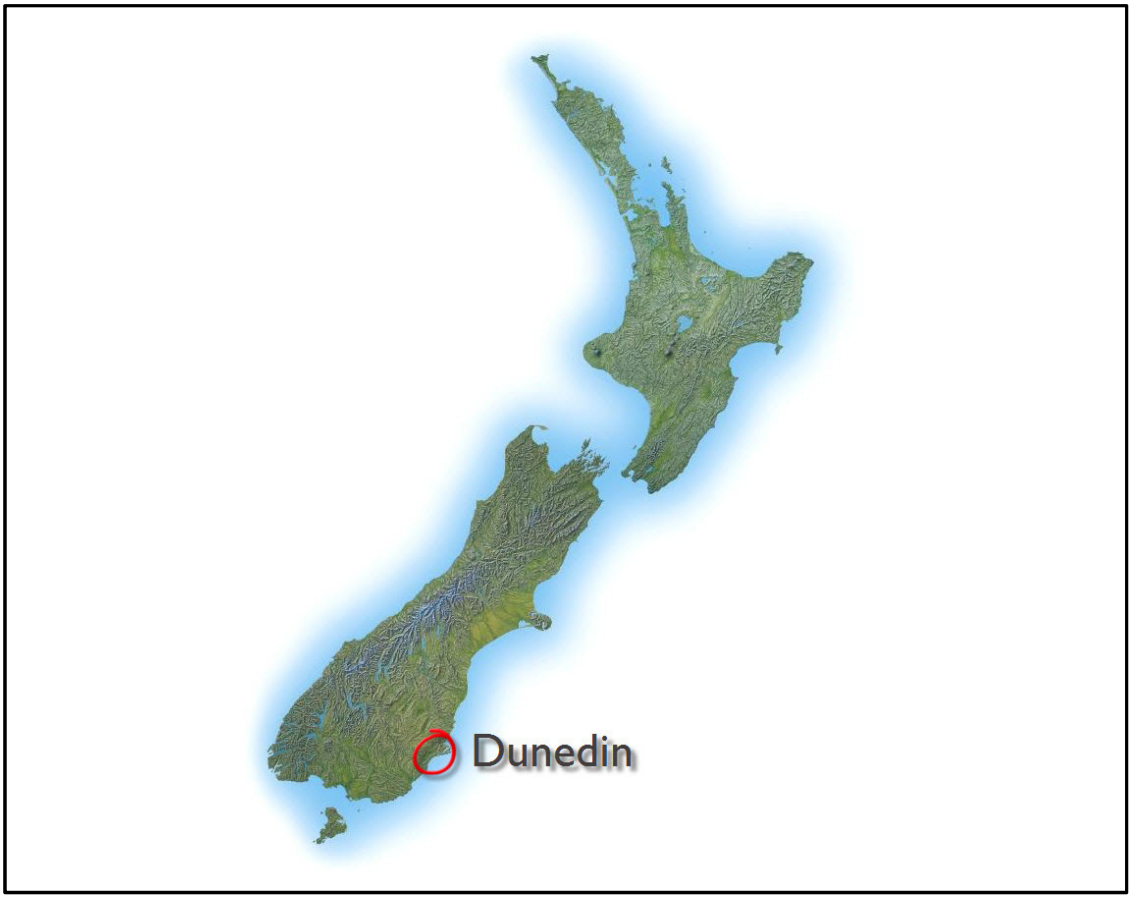
In Dunedin City 13.4% of people are aged 65 or over compared with 12.3% nationally, and 6.8% of people in Dunedin are aged 75 and over compared with 5.7% nationally.[69-71] Of this 75 and over group: 88% are European, 0.8% are Māori, 0.1% are Pacific, 0.9% are Asian and 0.3% are Middle Eastern/Latin American/African.[70] Another 10% of people aged 75 and over consists of small ethnic groups and also

* 2006 was the last year that a full Census took place in New Zealand.

people who, when completing their Census 2006 forms, recorded their ethnicity as "New Zealander" or gave responses such as "Don't Know" or refused to answer.

Figure 1: Dunedin, New Zealand

(http://www.newzealand-indepth.co.uk/colorbox-images/dunedin-on-map.jpg)



Chapter Two: Literature Review

2.1. Introduction

This chapter discusses the literature that informed the two investigations in this thesis. It also discusses the literature used to produce the interview schedules for both investigations. The literature was drawn from a wide range of disciplines such as pharmacy, sociology and history. These disciplines have different methods and aims which are relevant to this research but the main aim of the two investigations is to explore older people's attitudes towards and experiences of medicines. Literature which is closely linked with the methodology of the investigations is referred to in Chapter Three (Methods).

This chapter is divided into four main sections. The first two look at literature which is relevant to both investigations. It first looks at the general topic of older people and medicines and expands on the issues already discussed in Chapter One (Introduction). The second section looks at health research which focuses on the patient's perspective. Many of the studies mentioned are based on qualitative interviews because this method is commonly used to explore issues from the patient's perspective. For this reason, qualitative interviews were chosen for Investigations One and Two. The third section relates to Investigation One and examines the literature regarding the oral history of health and medicines. The fourth and final section relates to Investigation Two and reviews the literature regarding older people's admission to and discharge from hospital.

2.2. Older people and medicines

Older people are not the only people at risk of problems arising from medicines use. However, older people are more likely to experience multiple illnesses which can result in more complicated prescription medicine regimens and are also at greater risk of adverse medicine reactions due to physiological changes caused by ageing.[1, 3, 30, 31] Not all of the following topics were asked about directly or explored in depth during the interviews but they are issues which I needed to understand in preparation for the interviews and analysis of the findings.

2.2.1. Non-prescription and complementary and alternative medicines

Studies from western countries have found there has been an increasing use of non-prescription medicines and complementary and alternative medicines (CAM) in recent decades.[72, 73] There is some overlap in the definition of these two groups of medicines and they are sometimes used interchangeably in studies and by the media. Non-prescription medicines (or over the counter medicines) are normally defined as western medicines purchased over the counter at a pharmacy or supermarket. This includes some medicines which are also prescribed by doctors such as analgesics (pain-relief), laxatives and anti-inflammatories. CAM normally refers to a wide range of practices and medicines, such as herbal medicines and homeopathy, which are not part of the dominant health system of a particular country.[74, 75] The use of these types of medicine can cause interactions and side effects when used in conjunction with prescription medicines.[76]

In a review article, Leontowitsch et al. postulated that the use of non-prescription medicines by older people in England would be low because prescription medicines are free for people aged 60 and over.[72] However, when they reviewed studies of older people in the United Kingdom, they found older people's use of non-prescription medicines is only slightly lower than that of younger people.

In a 2006 editorial for the New Zealand Medical Journal, Dr Edzard Ernst argued that doctors need to more routinely ask patients about their use of alternative medicines because the failure to do so could be detrimental to the health of their patients.[77] This is important in New Zealand as studies have found that the use of non-prescription medicines and CAM is widespread.[78-81] These studies highlight the importance of asking the participants in both investigations about their use of, and attitudes towards, medicines not prescribed by doctors or other health practitioners.

While the use of herbal remedies would commonly be perceived as an alternative medicine in a study about CAM, for many Pacific Islanders and Māori these medicines are a normal part of their culture. In the New Zealand studies mentioned above, 10.7% of 233 Māori participants in one study (in an Emergency Department) and 59% of thirty-seven Māori participants in the other (hospital inpatients) were users of traditional Māori medicine.[78, 79] In the Pacific Islands the use of traditional herbal medicine is still accepted by locals alongside the use of modern prescription medicines.[82, 83] In 2010 Beresford argued that more recognition is being given to traditional medicines in New Zealand, including an increasing interest by both Māori and non-Māori in Rongoā Māori (the traditional Māori healing practices which include the use of herbal medicines).[84, 85] The term "alternative", therefore, is misleading. These topics are further discussed in Chapters Four (Medicines over a lifetime) and Five (Attitudes towards regular medicines).

2.2.2. Polypharmacy and adverse medicine events

According to a review article by Hajjar, the term polypharmacy has two definitions in the literature.[86] The first is the use of multiple medicines (often defined as the use of between four or seven medicines or more) but Hajjar argued that a patient with multiple illnesses may need multiple medicines.[86, 87] The second meaning is unnecessary medicines use which is the addition of medicines which are not clinically indicated.[86] In 2006, the Best Practice Advocacy Centre, for the campaign to decrease medicine related problems in older people, defined polypharmacy as "the

addition of one or more drugs to an existing regimen which provides no additional therapeutic benefit and/or causes drug related harm".[88] In practice, the more medicines that somebody takes, the more likely it is that they will experience a medicine related problem. For example, the estimated risk of an adverse medicine event is 13% for two medicines, 58% for five medicines and 82% for seven or more medicines.[88(p4)] An adverse medicine event is any harm resulting from the use of a medicine or the inappropriate use of a medicine.[89] An adverse medicine reaction is harm caused by a medicine given at normal doses during normal use. These are medical definitions, but the participants in the 2008 study and in the two investigations for this thesis almost always used the term "side effects" when referring to any negative effect related to medicines.

Older people are at greater risk of medicine related problems because they commonly take multiple medicines and because of physiological changes caused by ageing which can result in different and more severe medicine related problems.[31, 88] Adverse medicine events in older people can reduce their quality of life and lead to hospitalisation or death.[28, 29] New Zealand research into hospital patients' adverse medicine and related therapeutic events (experienced in hospital and prior to admission) found that older people were more likely to experience an adverse medicine event than those younger than them and this was consistent with overseas research.[90] Older people are also more susceptible to adverse medicine events after discharge from hospital and this is discussed later in the chapter.

2.2.3. Adherence

The extent to which people do or do not take their medicines as directed by their doctors is referred to as medicine compliance or adherence. The term "compliance" implies that the patient is passive and simply complies with the doctor's orders.[91] For this reason it is a term that is now less common, in comparison to the use of the term "adherence" which implies more autonomy for the patient.[91] "Concordance" is also used as an alternative term to compliance and refers to agreement and harmony in

the relationship between doctor and patient.[92] However, it is less common in more recent literature than the term "adherence". Nonadherence can be accidental, such as forgetting to take the medicine, or intentional. From a medical point of view nonadherence can lead to a decrease in quality of life, sickness and hospitalisation. As Vermeire et al. argued in their 2001 article: "With increasing numbers of medications shown to do more good than harm when taken as prescribed, low compliance is a growing concern, seriously undermining the benefits of current medical care".[92] Vermeire et al. concluded that to increase adherence, health professionals need to abandon a paternalistic approach to the patient, involve them in decision-making and seek to understand their health beliefs.[92] Nonetheless, some adherence studies continue to assume that complete adherence is the best course for all people and define anything less than this as unreasoned deviance from the doctors' instructions. Instead, the investigations in this thesis take into account older people's own reasoning in relation to illness and medicines.

Di Matteo completed a meta-analysis of 569 studies and concluded that the average number of people (of all ages) who were nonadherent was just under 25%.[93] New Zealand and overseas studies have found that many older people do not adhere to their medicine regimens for various reasons but the findings from these studies differ on the extent of this nonadherence.[26, 94, 95] Studies also suggest different reasons for why older people do not always take their medicines. For example, Donavon and Blake argued that nonadherence in some older people is due to reasoned decision-making.[96] Others studies argue that older people may not be less adherent than younger people but are more susceptible to adverse health effects from not taking their medicine.[91, 97] Older people with memory problems or cognitive decline may be more susceptible to inadvertent nonadherence.[97, 98]

Studies from the USA and Canada have found that high cost is a reason some people choose not to pick up medicines from a pharmacy and, therefore, are unable to adhere to a prescribed regimen.[99, 100] Cost is less likely to be an issue in New Zealand because older people pay $3 per prescription item for most of their medicines and

also receive free medicines once they have purchased twenty items in a calendar year. Studies looking at a range of ages in New Zealand have found that some people do not pick up their prescription medicines from a pharmacy because of the cost.[101, 102] Recent New Zealand studies which focus on older people have found that in general older people can afford to pay for their prescription medicines.[27, 103, 104] These are the only studies which have looked at older people's perceptions of prescription medicine costs since $3 prescriptions were introduced in 2007.

Pound et al., in their synthesis of qualitative studies of medicine taking, argued that lay people's response to medicine is best captured by the concept of resistance.[105] They argued that the main reason people resist taking medicines is due to concerns about the medicines themselves and that this view has been marginalised or treated as "beliefs about medicines" even though the existence of adverse medicine events is well documented. They pointed out that this finding is in contrast to older theories that link nonadherence with patients' failings and newer theories which link it to the failure of health professionals or health systems. Pound et al. highlighted the importance of understanding people's perspectives on their medicines. Few of the studies reviewed by Pound et al. included older people who may differ from younger people in their experiences and concerns about medicines.

The issue of medicine adherence is a common topic for medical researchers and these studies usually focus on current and recent attitudes with the aim of analysing or improving patient adherence. They seek to understand what people think about their medicines and link that with why they do or do not take them.[106] Some of these studies look at adherence in general while others focus on specific medicines or medicines for specific illnesses. Adherence is discussed further in the next section.

2.3. Patient-centred perspective

In health research there is now a strong tradition, conducted in a range of disciplines, of looking at issues from the perspective of the patient. This tradition also takes into

account the wider context of people's everyday lives and not just their experiences while they are in direct contact with a health professional or health service. The largest part of this section of the chapter refers to studies regarding patient adherence. This is because there are a large number of adherence studies, in medicine, pharmacy and ageing journals, which focus on the perspective of patients regarding their medicines.

2.3.1. Patients' perspectives in adherence research

In a 1985 article sociologist Conrad argued that research into medicine adherence needed to look at the patient's experience of illness.[36] Conrad's article is based on eighty in-depth interviews of people with epilepsy. Conrad highlighted the two models of compliance which were common at the time and then suggested a different perspective which was based on the experiences and attitudes of the people taking the medicines. The first model argued that noncompliance stemmed from problems in the patient-doctor relationship and the second model that compliance was influenced by the health beliefs of the patients taking the medicines. Conrad argued that the problem with the first model was that people are only patients for a small percentage of their lives and do not necessarily make decisions based on their role as being patients following doctors' instructions. The problem with the second model was that, even though it took into account people's perspectives, it assumed people make rational decisions based on health related beliefs. Conrad argued for the perspective of patients as people who make decisions which are not based just on their doctors' instructions but on their own experiences and beliefs regarding illness and medicine: "Such a perspective proposes that we examine the meaning of medications as they are manifested in people's everyday lives".[36]

Conrad's arguments were new ideas at the time, but it is now more common for adherence studies to assess the attitudes of the people taking the medicines with the use of qualitative interviews. Pope and May argued that qualitative methods can

complement quantitative methods in health research and answer certain questions more effectively than the latter can:

> Yet some of the most important questions in health services concern the organisations, and culture of those who provide health care, such as why the findings of randomised controlled trials are often difficult to apply in day to day clinical practice.[107]

In an example regarding diabetes research, Pope and May argued that for a general practitioner (GP) knowledge about the effectiveness of a diabetes therapy might be secondary to "knowing whether the patient will comply with the treatment".[107] Britten and Green also argued that qualitative research is an effective method for exploring patients beliefs and attitudes and that it can pursue research questions "that are not easily answerable by experimental methods.[108]

Many qualitative studies explore why people choose not to take their medicines. Sale et al., in a study on older people with osteoarthritis, found that participants treated their pain relief medicines differently from their other medicines.[44] Participants were very reluctant to take their analgesics, despite experiencing serious pain, for reasons such as fear of addiction and desire to minimise their overall medicines use. Givens et al. explored the attitudes of older people towards their antidepressants and found that many of their participants were resistant to taking their medicines.[45] They found there were four main reasons why people were resistant: fear of dependence, resistance to viewing depressive symptoms as a medical illness, concern that antidepressants would prevent natural sadness and previous negative experiences with medicines for depression. The qualitative nature of these two studies allowed the researchers to explore in greater depth why participants had certain attitudes towards their medicines.

The importance of understanding people's perspectives on their medicines has also been explored in quantitative research.[106, 109] In an 1999 editorial for the Journal of Psychosomatic Research, Horne argued for the importance of understanding a patient's belief about their medical treatment.[110] He highlighted the growing emphasis on patients having an active role in health care but argued that little was

known about how patients make decisions and why they choose one treatment over another. In a quantitative study looking at patients' beliefs about their medicines Horne and Weinman found that participants' beliefs about medicines were "stronger predictors of reported adherence than clinical and socio-demographic factors".[111] Most participants believed their medicines were necessary but one-third had concerns about possible adverse effects and these participants reported lower adherence to their medicines.

Even when taking the patient's perspective into account adherence studies often have a narrow focus on why people do or do not take a certain medicine. Investigations One and Two are not focussed on a medical view of participants' beliefs but explore their attitudes towards medicines in general and how their medicine taking fits into their everyday lives. Investigation One also looks at their experiences over a lifetime. Some studies do examine patients' perspectives on their medicines but do not primarily focus on adherence. For example, Moen et al. aimed to explore the use of multiple medicines from the older patient's perspective.[112] They found that that their participants had coexisting positive and negative attitudes towards their medicines.

2.3.2. Narratives

Another area of research concerned with patients' perspectives is the narratives, or stories, which people tell in relation to their health. Greenhalgh and Hurwitz argued that engaging with patients' narratives of their illness is a crucial step in doctors' understanding and addressing of patients' concerns.[33] They described a patient's illness narrative as part of the wider story of their lives and providing "meaning, context and perspective for the patient's predicament".[33] Bissell et al. echoed this and pointed out that when people become ill they make sense of that illness in personal and social terms and by relating it to their own life story and the wider social world they live in.[34] Bissell et al. referred to narratives about medicines and how these can increase understanding of what it means to be taking medicines:

> They may also be useful in understanding our attitudes towards, use of and relationship to medication in times of illness and also in times of health when medicines may be used to maintain or enhance performance. Medication narratives may hold the key to understanding why some people are compliant with medication instructions and others are not.[34]

They argued that the use of narratives is a neglected methodology which should be employed more often in pharmacy research.

Narrative research extends the idea of looking at a participant's beliefs and attitudes to looking at their lives as a whole and the stories they tell regarding their health and medicines. Although this literature does not refer specifically to the oral history approach adopted in Investigation One it does emphasise the importance of understanding people's life stories in relation to their health and medicines.

2.3.3. Patients' perspectives in history

In historical health research there is also a tradition of looking at health experiences from the patient's perspective. Leading historian Porter argued in 1985 that traditionally medical history had been written from the point of view of the doctor.[35] He argued that this needed to change because medical encounters involve an interaction between doctor and patient and the patient's family and community. He also pointed out that healing often takes place with little, or no, contact with professional health practitioners. Writing in 1979, oral historian Roberts argued that up until that point in time most medical history tended to ignore the "receivers of care" unless they appeared as a statistic.[43] She argued that there is a need for a medical history where the role and attitudes of the patient are more central.

Porter's and Roberts' arguments are similar to those of Conrad in highlighting the importance of seeing users of health care as more than just patients. Investigation One aims to follow the guidelines mentioned by Porter and Roberts in providing a history of medicine use from the perspective of the person taking the medicines. More literature regarding the use of history in health research is discussed in the next section of this chapter.

2.4. History

This section reviews the literature in support of the use of oral history interviews. It briefly outlines the development of historical research and the use of history in health research. It then looks at the development of oral history and its use in health research before discussing the oral history of medicines overseas and in New Zealand.

2.4.1. History in health research

The study of history is a view of the past and "explores how and why change has occurred in human societies over time".[113(p3)] Historians are interested in placing people and events in a wider context and believe that past events and changes over time are relevant to understanding present events and attitudes.

Social historian Berridge outlined three of the main ways history has been utilised in the study of health: the lesson of history, assigning blame or praise in history, and history to make you think.[114(p147-148)] History as a lesson is the "use of events in the past to support a present day stance".[114(p147)] Berridge referred to the responses to venereal disease in the nineteenth century as providing a model for policies regarding HIV/AIDS. Problems with this approach are that it can oversimplify the past and assume that historical models from western countries can be universally applied. The assigning of blame refers to the use of history to assign blame or praise for past actions. For example, history has been used to highlight the delay in response to health issues such as tobacco addiction. Finally Berridge argued that history can be utilised in a more challenging manner to highlight our current preconceptions, how they came about, and how they can be questioned.

Bashford and Strange argued that history is best utilised in health when the aim is not simply to use an example from the past as a template for the present.[115] They argued that policymakers can benefit more from the wide thinking of historical analysis on issues such as infectious diseases: "Above all, the historian's intellectual

commitment to explore and analyse context can provide a corrective to narrowly biomedical accounts of public health history".[115] In this thesis the biggest advantage of using historical research is the importance it places on how past events can shape people's current beliefs and actions.

The interviews from Investigation One reveal a part of New Zealand's history of medicine which has received little attention and Chapter Four places participants' stories within the historical framework of the country's public health history. However, this is not the primary aim of Investigation One which is to understand people's experiences and attitudes regarding medicines over a lifetime.

2.4.2. Oral history in health research

From the 1960s onward the discipline of history moved away from being an account of politics and economics to encompassing areas such as social history, family history, and rural history.[116(p372)] Historians began to focus on the family, childhood, and the lived experiences of people in their normal daily lives. This transition was reflected in the history of medicine which has been a discipline since the 1930s and which, at first, was mainly interested in the perspectives of medical professionals.[114(p146)] From the 1960s onward the social history of medicine looked at a range of new areas of research including women, children, and lay perspectives in health.[114(p146)] Oral history was a way to record the health experiences of these groups of people.[114(p151)]

Oral history is a form of qualitative interviewing which has a particular focus on people's life stories. Leading oral historian Thompson argued that there are three advantages of using oral history to examine the history of health.[117] Firstly oral history provides a broader picture of the past because it can capture the experiences of people, such as women, children and working people, who rarely feature in written records of the past. Secondly oral history allows the exploration of areas of life which are also not present in the written record such as family relationships and workplace culture. Thirdly oral history can be used to re-examine well documented

areas with a new perspective. These advantages are also mentioned by other oral historians.[37, 114(p146)]

Investigation One reflects these advantages because it seeks to gain the perspectives of older people about their medicines and not the perspectives of health professionals. It also aims to explore participants' daily experiences with medicines and health at home. This relates to the medical literature, such as the research by Conrad and Horne, regarding health research from the perspective of the patient.

In an article in the British Journal of General Practice, oral historians Smith and Bornat pointed out that GPs already have experience in interviewing patients about their life histories during consultations.[37] They argued that, in comparison to histories taken in hospital, these general practice interviews are rich in biographical details. They went on to highlight some of the key contributions oral history has made to the study of health in older people. The analysis of older people's past lives was significant in developing appropriate strategies for providing care and support. It was also beneficial in promoting positive views of patients amongst carers and clinicians because it helped to explain people's preferences or "apparently aberrant behavior patterns".[37] Smith's and Bornat's arguments parallel those of Britten and Pope and May regarding the advantages of using qualitative research in health.

For their study of health beliefs in old age Cornwell and Gearing argued that people's beliefs about health, illness and the health system are also connected to their past experiences: "therefore our understanding of their views will be improved by knowing something about the context from which they have emerged".[118] They interviewed participants more than once and asked them about their biographical details and their past and current experiences of medicine and health. Their aim was to encourage people to talk at greater length about their health beliefs through exploring their past.

The aim of Investigation One is not to provide an in-depth view of one or more parts of participant's life history but to look at their experiences of medicines over time. In

a 1992 article looking at the study of ageing, Thompson argued that up until that time sociologists and oral historians had conducted truncated interviews of older people.[40] Sociologists were mainly interested in older people's current lives and oral historians were focussed on their childhood memories. Thompson argued that more research needs to cover the span of older people's lives from childhood through to the present day.[40] While Thompson's article focused on the study of ageing the arguments also support the aim of Investigation One. It aims to link people's past experiences, which an oral historian would normally be interested in, with their current attitudes towards medicine taking, which a pharmacy researcher would normally be interested in.

2.4.3. Oral history of medicines

Often in the oral history of medicine, as in the history of medicine as a whole, the role of the physical medicines has been taken for granted. In a 2011 article historian Heydon argued that:

> Medicines are a key tool in the prevention and treatment of sickness, but, although interest in medicines is increasing in the literature, their central role in the introduction and spread of modern medicine in the late nineteenth and twentieth centuries, apart from vaccination, has been given inadequate attention in histories of medicine.[119]

In his book on the social history of medicines in the twentieth century Crellin placed medicines in their historical context.[120] He looked at what influenced the availability and use of medicines over this time period. Crellin argued that the development of "milestone" medicines such as antibiotics and antidepressants has been well documented but that the socio-cultural factors which shaped their use by people have not.[120(p1)]

Some oral history projects have been undertaken in England looking at people's experiences of health and these included questions about medicines. These were particularly relevant for this thesis because they looked at people's everyday

experiences of medicines and also because England was the main source of New Zealand immigrants in the late nineteenth and early twentieth centuries.

In the late 1970s Berridge interviewed twenty-one pharmacists and doctors and two lay people about their experiences of opium in the early twentieth century.[121] Her aim in using oral history was to investigate the cultural place of opium and whether there was any difference between official attitudes and the attitudes of sellers and buyers. She found that there was a gap between the "official presentation of the dangers of opium use and continuing, if declining, popular reliance on the drug".[121] Her research showed that there can be a difference in what is presented in official sources and what is commonly practised by people.

Some studies examine people's health experiences over a long period of time. Beier argued that this is needed because of the huge changes in health and provision of health services over the course of the twentieth century.[41(p222)] During the 1970s and 1980s Roberts and Beier interviewed 258 working class residents of Lancashire about their life experiences over the course of the twentieth century.[122] The interviews included a range of questions regarding people's memories of health and medicines from childhood and adulthood. Several articles and books were published based on these interviews. Beier and Roberts found that in the first half of the twentieth century the participants shifted from relying on traditional home remedies and patent medicines* to a growing reliance on health professionals.[122, 123(p157)] Few of the younger mothers reported any traditional remedies and were more likely to consult a health professional.[123(p149)] In contrast, older mothers were more likely to rely on their own judgement, traditional remedies and the advice of neighbours and relatives.[123(p145-147)] In another study on twentieth century health care choices Beier also concluded that government health policy does not necessarily dictate people's behaviour and that prior to WWII government-provided health services were

* Patent medicines originally referred to medicines which had received an official royal patent. However, most medicines referred to as "patent medicines" between the 18th and early 20th centuries were not patented. Most were "proprietary medicines" which were protected from commercial competition because the ingredients or method of manufacture were kept secret and protected by trademark or copyright.

underused or used as a last resort.[41] This underuse only changed when the National Health Service was introduced.

2.4.4. Oral history of medicines in New Zealand

Several articles, some autobiographical, are based on people's reminiscences of past medicines use in New Zealand. These articles tend to focus on memories of medicines in a certain period in the past and do not seek to analyse or interpret those memories.[124-126] However, they gave me an idea of the different types of medicines and home remedies people used and the terms they used to describe them. This was useful for background understanding and in formulating interview questions and prompts.

There is now a range of history and oral history research looking at the social history of medicine in New Zealand.[127-132] Again, while references to the medicines (the physical substances) are scattered through this literature, they are rarely the specific focus of research or oral history interviews. Bishop argued that research into New Zealand's domestic health practices has been neglected.[133] Her thesis is based on anthropological analysis of medical knowledge and domestic health care in New Zealand from the late 1700s to the 1930s. She highlighted some of the medicines which were common at the time through researching women's diaries and letters. Her PhD was not based on oral histories or focussed on people's experiences of medicines. A number of qualitative projects look at the attitudes of older Māori and Pacific Islanders to the health system in New Zealand.[134-137] These studies are normally focussed on participants' current attitudes and some of them only look at medicines as one of a range of topics.

The oral history research which is the most relevant to this thesis is The Caversham Project which is an interdisciplinary research project looking at the southern suburbs of Dunedin between 1881 and 1940. The Caversham project involved oral history interviews with 140 people born between 1890 and 1925 in the Caversham area. The interviews took place in the early 1980s and from 1995 to 1998 and covered a range of

topics.[138(p363-364)] One of these was people's health and their use of medicines. The interviews and the interview schedules were available in the archives and manuscripts (unpublished) collection at the Hocken Library in Dunedin.[139] The Caversham Project oral histories revealed some of the popular medicines and health beliefs of the time. Over the period from 1880 to 1940 mothers were still regarded within the home as "experts in health care. And although they were aware that germs had to be eradicated, they clung to older, commonsense understandings of the body as a system requiring balance to maintain health".[140(p308)] As part of the Caversham Project historian Brookes also focussed on women's health including the medicines they used for birth control. Birth control was a topic I did not focus on in this thesis because it is an area which has been well covered already and because as a male interviewer I did not always feel it would be appropriate to broach this subject.

The Caversham Project looked at people's memories of medicines in their youth but this was only one of many topics covered in the interviews and their experiences of medicines over time were not asked about. No New Zealand studies explore people's experiences of medicines over a lifetime from childhood through to their current experiences of taking regular prescription medicines.

2.5. Hospital discharge

There are a significant number of overseas and New Zealand studies which look at the challenges involved with older people's journeys into hospital, through hospital and back out into the community. Certain issues such as systems implemented by the hospital were not topics I could explore in great depth with participants but they were still important in understanding the context of their experiences. The literature in this section includes several qualitative studies and these parallel the research mentioned earlier in this chapter which seek to explore the patient's perspective. There are no qualitative New Zealand studies of a large number of older people who have recently been discharged from hospital.

This section of the chapter is divided into the main areas of concern, regarding medicines and discharge from hospital, identified from the literature: the recording of medicines information, the communication of medicine changes and adverse medicine events. It then reviews the literature which places the discharge of older people into the wider context of their lives. Finally it looks at issues regarding medicines at discharge from hospital in the New Zealand context.

2.5.1. Recorded information at hospital discharge

Studies indicate that an accurate record of people's medicines is not always recorded at admission to hospital.[48, 141, 142] This can lead to medicine related problems after people have been discharged.[47] Cornish et al., in a study of 151 patients, found that medicine errors at admission were common and could potentially cause harm and that processes for recording medicines at admission were inadequate.[48] Elliot, in a review of the Australian literature on people aged 65 and over, found that much of the potential for prescribing errors when older people are admitted and discharged from hospital is due to prescribers' lack of awareness of what medicines patients are taking.[2] These studies illuminate the importance of understanding the entirety of patients' journeys through hospital.

Studies also show discharge summaries can contain medicine related errors with the potential to harm or confuse patients.[49, 143] Some studies found that electronically produced discharge summaries can contain as many errors as handwritten ones.[144, 145] McMillan et al. argued that electronic discharge summaries would be more effective if they were linked to electronic prescribing for inpatients.[145] Accurate discharge summaries are also important for GPs as they are often the only way they can gain accurate information regarding a patient's treatment in hospital and their ongoing requirements.[146, 147] After patients have been discharged their GP may change their medicines again for reasons such as the medicine prescribed in hospital being too expensive for older people to afford.[148(p185)]

2.5.2. Communication at hospital discharge

Studies have commonly found that communication regarding medicine changes, both to the patient in hospital and to their primary health carer, is often inadequate.[143, 149] This can result in problems such as incomplete instructions regarding medicines which in turn can lead to patients not taking their medicines correctly once they are at home.[150] As already mentioned, the main form of communication between hospital staff and GPs is via discharge summaries, but patients also receive information verbally during their stay in hospital. Cua et al. argued that medicine mismanagement after discharge is often due to poor communication of discharge instructions where typically a doctor has presented a large amount of information in a short time with the use of medical jargon.[47] Studies have found that pharmacist involvement at discharge can improve the process for patients by identifying and resolving medicine problems.[151, 152]

However, studies focussing on communication in hospital do not necessarily explore what the patient thinks about medicine changes and their interactions with hospital staff regarding these changes. Knight et al., in a qualitative study of nineteen older people and seven carers following hospital discharge, found that participants experienced inadequate explanations about medicines which led to confusion and anxiety.[153] Investigation Two of this thesis also aims to look at participants' attitudes towards medicine changes but with a larger number of participants and in a New Zealand setting.

2.5.3. Adverse medicine events after discharge

People who experience medicine changes in hospital are at greater risk of adverse medicine events after discharge.[152, 154] This is because people can experience multiple medicine changes combined with inadequate patient education and continuity of care once they have been discharged home.[152] Again, older people are more susceptible to these problems because they have multiple illnesses and take a relatively higher number of prescription medicines and this is especially true of frail

older people.[50] Hajjar et al. found that four out of every ten frail older participants in their study were taking at least one unnecessary medicine and nearly one quarter of these had been started in hospital.[87] They defined older people as frail if they met two or more of ten criteria such as: experiencing a stroke, an unplanned admission or multiple falls within the previous three months; prolonged bed rest; incontinence; dementia; depression; or malnutrition. They recommended that older patients who are admitted with nine or more medicines from multiple prescribers be targeted for intervention because of their higher risk of taking unnecessary medicines.

2.5.4. Discharge in the context of older people's lives

Qualitative studies have examined older people's perspectives of admission to hospital, their hospital stay and discharge.[155-158] These studies were useful sources for looking at the discharge process from the perspective of the older person and seeking to understand that process in the wider context of their lives. For example some of these studies outlined the importance of asking participants about their experiences of returning to their normal household routine and their use of home care services. In a 1992 study LeClerc et al. argued that the literature, analysing why discharge plans did not meet patients' needs, was missing a description of what the older patients identified as "the struggles and challenges of everyday life after discharge from the hospital".[158] Cua et al. pointed out that some older people lack adequate social support and struggle to look after themselves after discharge.[47] This can mean that, whilst struggling with other aspects of daily life, they are unable to adhere to their medicine regimens even though they understand the information provided to them in hospital. These studies show that there are a range of challenges that older people can face following discharge. Although these studies did include references to participants' medicine experiences they did not primarily focus on how older people managed medicine changes.

2.5.5. Medicines and discharge in New Zealand

Issues regarding medicines at discharge have been recognised in New Zealand for a long time and a 1975 study at Auckland hospital found that prescribing errors by medical staff was one of the causes of people not taking their medicines correctly following discharge.[159] Other reasons people did not take their medicines as prescribed were the occurrence of an adverse medicine effect, a belief that the medicine was ineffective and misinterpretation of instructions. In a 1992 article, pharmacist Cowles highlighted that a gap exists in the services provided to older people by hospital and community pharmacists.[160] She argued that hospital pharmacists can bridge the gap by aiming to educate patients about their medicines and ensuring they are prepared to return home. These findings are similar to those found in overseas studies.

The discharge of older people from hospital is an issue which is discussed in health professional journals, Ministry of Health reports and newspaper articles.[51, 161, 162] Ministry of Health reports from the last decade regarding the health of older people and reports regarding medicines emphasise the need for good communication between the hospital and patient and between secondary and primary care at discharge from hospital.[9, 51, 148, 163] In a 2008 article in Pharmacy Today, Professor Connolly, Auckland University Freemasons' Professor of Geriatric Medicine, argued that: "Discharging elderly patients after a hospital stay with just a prescription and expecting them not to miss a single dose is unrealistic".[164] He believed that this task could be too difficult for cognitively impaired patients who are "traumatised" following an extended stay in hospital. In a 2009 article in Pharmacy Today, pharmacist Irvine argued that patients, GPs and pharmacists "are often left with a dilemma when patients are discharged due to confusion over medication changes during their time in hospital".[161] He believed that more integration between pharmacists and GPs is needed to help prevent these problems.

It was surprising to see that some of the same problems highlighted in 1975 and 1992 still persisted in 2008 and 2009. This shows that problems related to the discharge of

older people are still an important and relevant topic for investigation in New Zealand today. However, many of the studies and opinions referred to in this section lack the perspective of older people on their stay in hospital, medicine changes and their recovery at home; a perspective that I have examined in this thesis.

2.6. Conclusion

The literature shows that older people face a range of possible problems with their medicines even though these medicines are an important part of treating their multiple illnesses. It is important, therefore, to study the topic of older people and their medicines.

The literature regarding patient's perspectives highlights the relevance of research which aims to explore people's attitudes towards their medicines, the stories they tell about them and how they fit into the wider context of their lives. The oral history approach used in Investigation One is a method which can be used to achieve this while taking a broader look at older people's life experiences of medicines and linking these experiences to their current practices and attitudes. This approach has not been used in any New Zealand studies.

The literature regarding hospital discharge in New Zealand and overseas shows that there is ample evidence of the types of problems that older people are likely to encounter in the transition from hospital to home. What is lacking is research into how this transition affects older people and their attitudes towards medicine changes during this time. Investigation Two aims to address this. Together the two investigations offer an in-depth look at older people's experiences of medicines and their attitudes towards them in the context of their lives.

Chapter Three: Methods

3.1. Introduction

All sixty interviews for this thesis are qualitative. The aim is to explore older people's attitudes and experiences, for which qualitative interviews are well suited. Two different types of qualitative interview were used: in-depth oral history interviews for Investigation One and semi-structured interviews for Investigation Two.

The disadvantage of using qualitative interviews is that this method raises a number of issues regarding interviewer bias during the interviews and data analysis and makes it more difficult to provide definite recommendations for practice. The issue of researcher bias is discussed in this chapter and in Chapter Seven (Final discussion and conclusion). Quantitative methods were not considered appropriate for these investigations as these methods would not allow participants' attitudes and experiences to be explored in depth. With a quantitative interview I would not have had the same ability to explore participants' answers with further questions or to explore topics they highlighted which I may not have previously considered. The advantage of using quantitative methods would have been the ability to recruit a larger, more random and representative sample, to capture a wider range of older people's attitudes and to generalise the findings to the wider population of older people.

This chapter is divided into four main sections. The first section examines the subject of older people's memory and the nature of qualitative interviews and some of the methodological issues relevant to this form of interviewing. It includes references to interviews from both investigations because this was the most appropriate way to explain my approach to certain methodological issues. The second section outlines the particular methods used in Investigation One and the third section outlines the particular methods used in Investigation Two. As discussed in the introduction to this thesis, these sections also outline the recruitment processes and participant

characteristics. The final section looks at the method of transcribing and analysis used for both investigations.

To ensure the anonymity of the sixty participants that were interviewed, each is given a first-name pseudonym in the thesis. It would have been too impersonal to refer to participants by a number or a surname pseudonym because this thesis aims to look at medicines from the perspective of older people. People who were interviewed to provide background information for the thesis have also been given pseudonyms.

Chapter Four (Medicines over a lifetime) also includes vignettes of a selected number of participants. These vignettes serve to highlight the importance of participants' life stories in relation to their experiences of medicines. The vignettes repeat some information which is already in the main text of the chapter but they allow the reader to see the details about a participant all in one place.

3.2. Memory and qualitative interviews

3.2.1. Memory

Interviewing older people about their experiences means that the subject of memory must first be addressed. Issues regarding memory were different for Investigation One and Two but because they are interrelated, all of them are discussed here.

In general, older people's short-term memory declines as a normal part of the ageing process.[165] Older people's short-term memory can also be seriously affected by medical conditions such as dementia.[166, 167] They can also have memory impairments that are not immediately obvious. A 2011 American study found that some older people can "exhibit significant memory deficits but do not have dementia because their general intellect is preserved and they have no impairments in everyday activities".[168] The study concluded that these deficits can lead to dementia but sometimes dementia does not occur.

The loss of short-term memory is pertinent to this research in regards to participants sharing more recent experiences, especially in Investigation Two where they shared about a recent stay in hospital. I did not explore whether any of the participants in this thesis suffered from dementia, or whether they exhibited any early signs of dementia, but it is possible that some might have and that it affected their short-term memory. This would not invalidate the interviews because my aim was to talk to people about their attitudes and perspectives on their own medicine taking. The open nature of the interviews allowed me to further explore people's experiences even if they did not think they could remember exactly what happened. For example, if a participant in Investigation Two could not remember exactly what time they were discharged from hospital I could ask them if they thought it was in the early or late afternoon, whether it was before or after dinner or what they thought about the timing of the discharge. Interviews were also checked for internal consistency and, for some topics, were compared with the responses of other participants. While compiling field notes after each interview I recorded if I thought a participant had significantly poor memory or if they, or their spouse, informed me of their poor memory.

In Investigation Two I could verify certain details regarding people's hospital stay and medicines from information I recorded while on the wards. I learnt about the usual ward procedures during conversations with a ward 8A nurse and pharmacist. If people had trouble remembering I could prompt them about certain aspects of a stay in hospital. Poor memory could also be an important part of the findings in highlighting how older people can be discharged from hospital without fully understanding or remembering everything that transpired.

In Investigation One, with interview questions spanning people's lifetime, there is also an issue in regards to older people's long-term memories. People's memories of wider social and historical events can be verified by checking other sources but this is more difficult to achieve with personal reminiscences. Oral historian Thompson pointed out that people's immediate memory begins deteriorating firstly at age 11

and especially after age 30 so that "it becomes increasingly difficult, for example, to retain a whole set of complex numerals in the head".[169(p136)] As mentioned above, older people's decline in recall affects their recent memory first. They might have relatively poor short-term memory but still retain a very good long-term memory, not significantly worse than that of a 30 year old. If participants had trouble remembering I could use some of my own knowledge, gained from the literature review, to prompt people about medicines and illnesses when they were younger. Participant's answers could also be checked with other information they gave in the interview and that of other participants.

Often participants told me if they could not remember something or could only remember it partially. As mentioned already, people's lack of memory did not invalidate the interviews. My aim was to explore what people could remember of their life experiences of medicines and their attitudes towards them. Thompson concluded that: "Interviewing the old, in short, raises no fundamental methodological issues which do not also apply to interviewing in general – and consequently to a whole range of familiar historical sources, as well as to those of the oral historian".[169(p137)]

3.2.2. Construction of memories

People's memories of and attitudes towards past events can change over time and our construction of memories is influenced by subsequent events and current attitudes. Again, this does not invalidate interviewing as a form of research but it highlights the need to understand how memories are recalled and relayed. For the interviews in this thesis I accepted that people were sharing with me the memories they constructed over time and the meaning they had attached to them.

Some participants in Investigations One had a strong sense of family memory; they talked about events and practices which happened before they were born or when they were very young. Thompson argued that it is common for people to intermingle their personal and family stories when discussing their life and to refer to

experiences from their childhood or before birth that they do not directly remember.[170]

Memories are also shared within the context of the present; people take into account who they are sharing the memories with and what they think is expected of them. During the interviews I was aware that some participants viewed me as a medical professional and this is further discussed in the subsection regarding reflexivity. Some participants in Investigations One and Two seemed to give more socially acceptable answers regarding medicines earlier in their interviews but shared more openly as the interviews progressed. This topic is discussed in Chapter Five (Attitudes towards regular medicines). Thompson argued that after older people have retired they can have an increased willingness to remember and can be less concerned about tailoring their memories to the expectations of their audience.[169(p137)]

3.2.3. Aim of qualitative interviews

In qualitative interviews the aim is to explore the interviewees understanding of the topic being discussed and what meaning they attach to it.[171(p1)] In the interviews for both investigations I included open-ended questions which allowed people to share their own attitudes and beliefs regarding the topic of medicines.

In a qualitative interview the aim is also to build a good rapport with the interviewee to encourage people to respond openly. I aimed to spend some time in casual conversation with the participant before turning the digital recorder on. People often wanted to ask questions regarding where I was born, if I was married and if I had any children. I saw this as an opportunity to get to know the participant before interviewing them and put them at ease. Often these topics were interspersed with questions regarding the study itself.

During the interviews I aimed to listen carefully to the interviewee, not interrupt them and encourage them to keep sharing without imparting too much of my own interpretation of what was being shared.[172] This created the first of many tensions

which are commonly encountered within qualitative interviews.[173(p33)] The qualitative interviewer aims to be friendly and to share something of themselves in the interview but not to the point where they are sharing too much and directing the interview.[174(p57)] This is quite different from a social conversation with a friend where both parties share equally. It is an issue of reflexivity and is further discussed in the following paragraphs.

3.2.4. Reflexivity

Reflexivity refers to how the interviewer reflects on their influence on the interviewee and the outcomes of the interview. The focus of qualitative interviews should be on a participant's own understanding and I was careful not to impose my own attitudes and assumptions onto the interviews. I aimed to be open and sensitive to what the participants talked about.[175] I also aimed to ask questions that did not lead participants into answering in a certain way. In interviews with participants who gave very short answers, or who frequently talked about themes not central to the research, I sometimes needed to include more leading questions. Conversely, if an interview (or final interview) was nearing its end and the interviewee had repeatedly hinted at information central to the research aims of the project, I sometimes had to ask more leading questions to explore this further. Although the aim in all of the interviews was to avoid leading participants as much as possible, the above examples show that sometimes it was necessary to do so. Kvale argued that sometimes leading questions are asked too little in interviews and that they can be used to explore new and worthwhile knowledge and to check the reliability of participants' answers.[176] I sought to lead the interviewee towards certain subjects and themes while not leading them to share specific meanings regarding these themes.[175] I also used leading questions to verify participants' own interpretations.[171(p172)]

Another challenge faced by qualitative interviewers is when the interviewee asks the interviewer a question regarding the topic of research.[172, 173] This clearly provides an opportunity to build a stronger rapport in the interview but also means that the

interviewer risks directing the interview. Some sources recommend that the interviewer should not give their own opinion.[174(p57)172] Other sources argue that it is wiser to answer people's questions because the interviewer is not a detached observer and they are already having an effect on the interview.[173] During the earliest interviews for this thesis participants asked me questions regarding what I thought about the topics we were discussing. Initially I was unsure how to respond to these questions but I decided to answer honestly when this occurred and I maintained that rule for the remainder of the research.

Answering participants' questions was the best approach because if I was expecting them to answer so many questions then it was only fair that I honestly answered theirs. Three participants asked me what medicines I took when I was young and I told them about the regular asthma inhalers I took from early childhood through until high school. Some of the other questions I was asked concerning my own experiences were what illnesses I had experienced as a child, what illnesses my children had experienced and what medicines I had given to my children. I was comfortable with sharing all of these experiences because they were based on my own memories, aided the rapport between myself and the interviewee and for some people it encouraged them to share more. I was more hesitant when their first response to a question was to turn that question back on me, especially if it was a question about their attitudes towards medicine. In these instances I still answered honestly but tried not to share too much. Over time I gained more experience in dealing with such occurrences.

It is also impossible to avoid the effect that the qualitative interviewer themselves has on the interview.[172] Medical sociologist Green argued that: "The interviewer must be aware of cultural and social differences, not because these should be eliminated but because they need to be taken into account in qualitative work".[174(p57)] As a relatively young male I did not think it was appropriate to explore female participants' use of contraceptive medicines and this is also a topic which has been covered in other research (as referred to in the literature review).

Even though I made it clear at each interview that I was not a doctor or a pharmacist or a medical or pharmacy student some participants perceived me as a medical professional, possibly because of my involvement with the School of Pharmacy or because they first met me in hospital. At times participants referred to my expertise as a pharmacist or a doctor and at other times people thought I might only be interested in discussing the types of medicine they took and why they took them. This perception may have influenced participants' responses to my questions, especially with participants from Investigation Two. My lack of medical or pharmacy training meant that I did not have the temptation to provide participants with medical advice, a common challenge in qualitative interviews in medical research.[172]

The considerable difference in age between the participants and I may have hindered the rapport I had with them. Studies have found that an older interviewee may not share as freely with someone who is much younger than them or that the age difference can significantly affect their responses to questions.[177, 178] However, studies have also found that the relationship between an interviewee and interviewer with a large age difference is complex and that there can be advantages.[179] The age differences in this thesis may been an advantage, especially in Investigation One, as participants would often pause in their own reminiscences to explain more to me about general historical events; they did not assume that I had prior knowledge of these events.

In both investigations I started the interviews with the idea that participants might be withholding information from me if they did not share their concerns regarding regular medicines use. This is because of the range of international studies detailing the concerns older people have about taking medicines and also because of the many issues I encountered when interviewing older people about their medicine taking practices in 2008. This preconception may have affected the data collection and analysis, however, it was something I did become aware of early in the interviewing process.

Other factors that can influence interviews are the time when the interview takes place, the space in which the interview takes place and the degree to which participants are familiar with and trust the interviewer.[174(p58)] For these reasons I aimed to conduct the interviews at participants' normal places of residence at a time which suited them best.

3.2.5. Involvement of spouses

Another factor which can influence a qualitative interview is the presence of other people during the interview. In both investigations, the wife or husband of the participant was sometimes present and contributed to the interview. This could have led the interviewee to answer in a certain way or to withhold certain memories or attitudes. However, because the people present were their spouses and because most of the discussion did not involve sensitive topics, interviewees were not negatively affected.

Having a spouse present added extra depth to the interviews because often, through conversation with their spouse, participants were able to remember more. At other times the spouse was able to share information that the participant could not remember. This was especially true in Investigation One regarding the medicine and health decisions people made regarding their children. Children's health was an area mainly overseen by mothers and often male participants would refer to their wives for answers to these questions. Spouses also talked about their own childhood memories and attitudes and these provided further findings which could be compared and contrasted with the views of their husbands or wives. In Investigation Two, some participants could not remember all of the details regarding their admission and discharge to hospital and referred certain questions to their spouses. Also, the social context of medicines is not just about the individual and some participants relied on their spouses to organise their medicines for them. Literature regarding planned interviews with two people argues that it can yield rich information in comparison to interviews with one person.[180, 181] All of the responses

from spouses were coded and analysed in NVivo and have been included in the results and discussion.

3.2.6. Structure of qualitative interviews

Qualitative interviews still have a structure which is dictated by the research questions they seek to explore, but because the aim is not to quantify the findings there is more flexibility in the interview questions. For both investigations, the exact manner in which each interview question was asked and the order in which they were asked varied with each interview, depending on the responses of the participant. If a participant started talking about a certain medicine experience at the beginning of an interview, I allowed the discussion to unfold in this way rather than interrupting them with my first question. If a participant did not understand, or respond well, to a question I asked then I reframed that question or prompted them with different questions or attempted to use their own vocabulary.

During the course of an interview, and the research as a whole, new questions and areas of interest emerged from the responses of participants.[172] These questions and areas of interest were confined to achieving the overall purpose of the research but did necessitate changes being made to the interview schedules. Some lines of questioning were unique to the person being interviewed and were not repeated in other interviews. For example, the nurse and the doctor I interviewed were asked questions pertaining to how being health professionals affected their attitudes to taking their own medicines.

3.2.7. The craft of qualitative interviewing

The conclusions from the subsections above point to the fact that successful qualitative interviewing is a craft that has to be learnt.[171 (p17, p81-95), 174 (p57-58)] Although there are obvious issues to be aware of and general rules regarding what should and should not be done during a qualitative interview, there is not a complete set of guidelines which can be adhered to in every interview. As mentioned in the

subsection regarding reflexivity, the same interview can be approached in a different way with different participants.

I prepared myself for the qualitative interviews by reviewing the relevant literature, some of which has been referenced in this section, and gaining an understanding of the different issues arising from this style of interviewing. In 2009 I attended an oral history workshop, run by English oral historian Graham Smith, which looked at some of the issues mentioned in this section. Although the workshop was focussed on oral history interviews, some parts were also relevant to qualitative interviews in general and informed the methods for Investigation Two.

The 316 interviews of older people which I completed in 2008 were based on a quantitative questionnaire but they did give me experience in gaining a rapport with older people and relating to them during an interview. There were also instances where I had to grapple with the influence I had on the interviews. Some questions which people did not initially understand needed rephrasing or explaining and at times when people asked me questions I had to decide how to answer without being too leading.

This background helped inform my approach to the interviews for the two investigations but much of my skill as an interviewer was developed through the process of interviewing people, not before the interviews started. I compiled field notes after each interview which allowed me to analyse my skills as a qualitative interviewer and the ways that different people responded to me and I to them. These field notes provided a further level of detail to the findings from these interviews and are further discussed in the final section of this chapter.

3.3. Methods: Medicines over a lifetime

3.3.1. Aim

The aim of this study was to explore older people's, aged 75 and over, attitudes towards and experiences of medicines over their lifetime, and how taking medicines fits into the wider context of their lives.

3.3.2. Rationale

Open-ended interviews, which allow people to answer at length, were considered the best option for this investigation because the aim of the thesis was to explore the experiences and attitudes of older people towards their medicines. An oral history approach was adopted to gain an understanding of people's lives over time and to give people a chance to share at length about their experiences of medicines.

I interviewed twenty people, aged 75 and over, with at least two interviews per person. Because the questions looked at a person's lifetime experience of medicines, one interview was not sufficient to cover all of the topics of discussion.

The literature on qualitative research argues that samples of between twenty and fifty participants are sufficient for in-depth qualitative interviews.[182(p65)183, 184] Smaller samples of people are also appropriate when interviewing each person more than once.[183] When applying for ethical approval I stated that I would interview approximately twenty participants but that the maximum feasible number, because of time constraints, would be thirty. I considered that by the end of the twentieth interview I had reached saturation of new ideas which were beneficial to the research and aligned to the aims of the research. Twenty participants sufficiently covered the diversity I was looking for in the sample and this diversity is discussed in the subsection on recruitment. Further interviews would inevitably have uncovered new ideas and directions but would not have necessarily added any new data of great worth.[185]

3.3.3. Ethical approval

The investigation received ethical approval from the Human Ethics Committee, University of Otago in March 2009. The interviews were conducted between May 2009 and July 2011.

3.3.4. Inclusion and exclusion criteria

I planned to interview people aged 75 and over and only participants living within a forty-five minute radius of Dunedin city were included in the study. Due to time and resource constraints it was not deemed feasible to interview people who lived further away than this in the wider Otago region. No other exclusion criteria were applied but I aimed to recruit a diverse range of older people.

3.3.5. Recruitment

This investigation employed maximum variation sampling which is a form of purposeful sampling. The aim of purposeful sampling is to select information rich cases for study from which a great deal can be learnt about issues of central importance to the purpose of the research.[186(p169)187] This approach suited the research because the aim was to explore people's experiences of medicines and not to generate data from which statistical generalisations could be made.

A maximum variation sample is where a small sample of great diversity is chosen. This type of sample yields detailed information about each participant and highlights patterns which are shared between people.[186(p169)] Maximum variation sampling allowed me to interview people with a range of different life experiences. The criteria (diverse characteristics) for constructing the sample in Investigation One are shown in Table 1. The participants were purposefully chosen on the basis of characteristics known by myself and my supervisors in advance of the participant being contacted.

Table 1: Criteria for constructing the sample – Investigation One

Sex: male and female
Age range: 75-79, 80-84, 85-89, 90+
Ethnicity: New Zealand European, Māori, Pacific Islanders, Chinese
Occupation: range of occupations
Medical professionals: nurse, doctor, and pharmacist
Geographic location: people who grew up in urban and rural areas

The four ethnicities chosen for this investigation were the main ethnic groups present in Dunedin: European, Māori, Pacific Islanders and Chinese. This has already been outlined at the end of Chapter One (Introduction).

As the interviews progressed I realised that I needed to recruit someone who had a more negative attitude towards prescription medicines than the participants I had already interviewed. As a result I recruited a participant, by contacting a company which dealt in natural remedies, who avoided taking prescription medicines altogether. I also realised that most participants shared similar experiences of taking few medicines in the middle decades of their lives. I decided that I needed at least one interview with someone who had been taking regular prescription medicines for a long-term illness from a relatively early age. As a result I recruited a participant who had been taking medicine, related to his bipolar disorder, for over forty years.

The majority of participants I approached agreed to be interviewed and this was probably because they were known to me, my supervisors or a contact of ours. Three Chinese participants I contacted via telephone declined to be interviewed. I made contact with them through a third party who they knew but unlike the other participants the third party had not contacted them first. Grace, one of the Māori participants, said that she only agreed to the interview because I knew her great-nephew in Tauranga and his family had told her about me. She said that in the past

she has turned down requests for her to be interviewed as part of university research. Amipa, one of the Pacific Island participants, only agreed to be interviewed because it was arranged by a community support worker she knew at the Pacific Trust Otago and because that person was present for the first interview. The worker from Pacific Trust Otago said it was important when interviewing Pacific Islanders to initially have someone present who was known by the interviewee.

Table 2 outlines how the participants in Investigation One were recruited and the characteristics they were selected for.

Table 2: Recruitment – Investigation One

Method of recruitment	Participant	Reason for selection
Known to me	1 5	75-79 years, female 80-84 years, female
Known to my supervisors	2 3 4 7 18	Retired farmer, female Retired nurse, female 75-79 years, male 80-84 years, female Retired doctor, male
Contact (I knew somebody who knew the participant)	10 13 11 15	Chinese male Retired pharmacist, male 90+ years, female Māori female
Interviewed participant in previous study (2008)	8 9 14 20	80-84 years, male 90+ years, male Māori male Male with bipolar disorder
Church (advertised at older persons event at my church)	6	80-84 years, male
Otago Pacific Trust	17 19	Pacific Island female Pacific Island male
Māori studies department	12	Farmer
Artemis Natural Remedies	16	Strong distrust of prescription and non-prescription medicine

Participants were selected because they fulfilled the predetermined recruitment criteria but once the interviews began I found that the participants were diverse in other areas and these characteristics are outlined later in this chapter in section 3.4.

3.3.6. Interview schedule

An interview schedule was developed which included all of the topics which I wanted to cover in the interviews. The schedule was developed after the literature review, discussion with my thesis supervisors and attendance at the oral history workshop in 2009. The workshop was beneficial in teaching me the types of questions to ask in an oral history interview and how to ask them. The most pertinent sources were studies looking at the health experiences of the English and New Zealand working class in the twentieth century.[122, 123, 140, 188] This literature was discussed in Chapter Two (Literature Review) in section 2.4. Some questions were

based on the findings and my own experiences interviewing older people in 2008.[27] As further preparation for the interviews I interviewed two older pharmacists about their early pharmacy experiences.

The questions in the interview schedule covered participants' experiences of medicines, illness and health professionals at different stages of life. Other questions looked at aspects of participants' life story beyond their experiences of health and medicine. There were questions about their parents, place of birth, home life, schooling, marriage, children, and working life. This was done to gain greater understanding of how their medicine experiences fitted into the wider context of their lives. Discussing these areas also provided a framework for being able to talk about participants' experiences of medicines throughout the different periods of their lives. As discussed earlier in this chapter, there were changes to the questions as the interviews progressed. An example of the interview schedule that I took to each interview can be viewed in Appendix One.

3.3.7. Interviewing

Eighteen participants were interviewed in their normal place of residence. One participant was interviewed at his workplace as this was more convenient for him. Amipa was interviewed at two different church halls in Dunedin. As already mentioned, I met her through Pacific Trust Otago and she preferred her interviews to take place after two exercise activities, organised by the Trust, which are held in different venues around Dunedin.

Thirteen participants were interviewed twice and five interviewed three times. The participants who were interviewed three times were all people who had a lot to share regarding their experiences of medicines and health. Two participants were only interviewed once. One of these was Lepati, a Pacific Island male, who could not speak English and who required a translator. This is discussed in the next subsection. The second of these was John, a farmer from Ashburton, who was only in Dunedin for a short time. Because of this it was more convenient to interview him once. I had

made contact with his daughter-in-law through the Māori Studies Department when I was looking for an older Māori male to interview. When she told me I could interview her father-in-law on his visit to Dunedin I had assumed he was Māori when he was actually New Zealand European. He had expressed interest in being involved and I was keen to interview him because of his farming background and the fact that he did not marry until he was 68, characteristics which were different from my other male participants.

The interview length varied, depending on the timetable of the person I was interviewing and my assessment of how well people were coping. Some participants could talk happily for over an hour without any drop in interest or energy but others would begin to tire, or lose interest in the topic, much sooner. Their ability to cope with the interview was not necessarily related to the age of the participants and I would end the interview if I sensed that they were tiring. Even if the participants were still keen to keep talking I normally ended the interview at around ninety minutes. Anything more than this seemed too long and I could not be certain that people were still happy to proceed or if they were just being polite. There were only two interviews that ran for significantly longer than this.

If possible the second and third interview was booked within a week of the first. This meant that participants were not overburdened with more than one interview in a week but that the interviews were close enough together for participants to recall most of what was discussed at the previous interview. Some participants repeated stories from the previous interview and this was possibly due to short-term memory loss. Each interview was digitally recorded, with the permission of the participant.

Eleven of the participants were interviewed alone and seven participants were interviewed with their husband or wife present for parts or all of the interviews. On four occasions the spouse only contributed a small amount and on two occasions the spouse shared a lot during the interview. During my first interview with Amipa a community support worker from Pacific Trust Otago was present but she did not

speak during the interview. During my interview with Lepati his daughter-in-law acted as a translator.

3.3.8. Translation

Lepati is the only participant in either investigation who required a translator. He only speaks Tongan and his daughter-in-law, a community support worker from Pacific Trust Otago, agreed to translate for me. I decided that this interview was worthwhile because there are few Pacific Island men in this age range in Dunedin and it also offered an opportunity to explore the experiences of someone who does not speak English. His daughter-in-law works full-time and because of this we decided that one interview would be more convenient for her and her father-in-law.

Interviewing with a translator meant that I did not know how she was presenting my questions or how much she was rewording his responses or adding her own interpretations.[189] She herself was aware of this and also pointed out that some words and concepts cannot be directly translated between the two languages. At times when I was aware that the Tongan translation might be very different to English, I told her what I was interested in and that she could reinterpret that in a way her father would understand.

The translator was Tongan and the participant's daughter-in-law; she had a strong rapport with him and a good understanding of his cultural background. She was also able to speak about her experiences of other older Tongans in New Zealand and some of the traditional Tongan health beliefs. She had been present during one of my interviews with Amipa and had some understanding of the aims of my research. Some of the literature on translating argues that the translator's role and input should be highlighted rather than treating them as invisible in the research process.[190, 191] This literature also argues that the translator should be involved in the research process and other studies recommend that the translator be available to help with transcribing and analysis of the transcripts.[190, 191] This approach was not feasible

for this investigation because the use of a translator was not part of the original methods and the situation only arose out of necessity.

3.4. Participant characteristics: Medicines over a lifetime

The demographic characteristics of the participants in Investigation One are shown in Table 3.

Table 3: Participant characteristics – Investigation One

	Male Number	Female Number	All participants Number
Sex	**11**	**9**	**20**
Age			
75-79 years	5	1	6
80-84 years	4	4	8
>85 years	2	4	6
Median (range)	82 (75-95)	84 (78-94)	83 (75-95)
Ethnicity*			
NZ European	7	5	12
English	1	1	2
Irish	0	1	1
Māori	1	1	2
Pacific Island	1	1	2
Chinese	1	0	1
Education (highest level reached)			
Primary	2	0	2
Secondary	6	7	13
Tertiary	3	2	5
Median age for leaving school (range)	16 (10-18)	18 (15-18)	17 (10-18)
Siblings			
0	2	2	4
1 to 3	4	4	8
4 to 6	3	1	4
7 to 9	2	0	2
10 or more	0	2	2
Median (range)	2 (0-9)	3 (0-14)	2 (0-14)
Married	11	5	16
Never married	0	4	
Children			
0	2	5	7
2 to 3	2	2	4
4 to 5	5	1	6
6 or more	2	1	3
Median (range)	4 (0-8)	0 (0-8)	3 (0-8)
Current living arrangements			
Living alone	0	5	5
With spouse	10	0	10
With family	0	1	1
In rest home	1	0	1
Other (convent/with boarder/with friend)	0	3	3

*Ethnicity: self-defined by the participants

The median number of siblings in this sample seems lower than might normally be expected from a group of people born between 1915 and 1935. Demographers Pool et al. argued that in general, Pakeha* families in the first half of the twentieth century were not as large as most people now imagine they were.[193(pp46-47)] Between the 1870s and the 1940s some women had a large number of children, others had very few and in the first half of the twentieth century some women were spinsters and had no children.[193(p49)] During the Great Depression in the 1930s, the marriage rate for Pakeha aged under 25 and the fertility rate decreased until it was just under 2.1 births per women.[193(p19)] In contrast, Māori fertility is estimated to have been much higher than that of Pakeha with 5.5 births per woman between 1886 and 1921 and between six and seven births from 1921 until the 1960s.[193(p57)]

The majority of participants lived in their own homes, alone or with their spouse. According to the 2006 Census, 82% of males and 79% of females, aged 65 and over, either lived as a couple with no children in the house or lived alone.[194(p135)] David (NZE, 1934), and his wife, and Camilla (NZE, 1916) had boarders staying with them and Grace (Māori, 1920) was renting the apartment in which she lived. Amipa (Cook Islands, 1933) was living in a family member's house and according to the 2006 Census, only 3% of people aged 65 and over live in a multi-person household.[194(p135)] However, Cook Islanders and Pacific Islanders in general are far more likely than New Zealanders as a whole to have extended family living together in the same house.[195] Only one participant lived in a rest home. He was initially selected because I had interviewed him previously and for this investigation I wanted to interview a male who was at least 90 years old (there are far less males in this age range than females). When I found out he now lives in a rest home I decided I would still interview him as I had not specifically excluded people living in rest homes from this investigation. I did not aim to select any other participants who live in rest homes.

* The meaning of the Māori word "Pakeha" has changed over time and still has multiple definitions. It can be used to refer to a white-skinned non-Maori New Zealander, a non-Maori New Zealander or a non-Maori New Zealand-European. The last definition is the most commonly used in New Zealand.[192]

The 2006 census showed that only 6.9% of the 65 and over population actually live in non-private dwellings (hospitals or rest homes).[194(p135)]

The place of birth of participants, their parents and their grand-parents is shown in Table 4.

Table 4: Date of birth and place of birth – Investigation One

Name	Date of birth	Place of birth				
		Participant	Mother	Maternal grand-parents	Father	Paternal grand-parents
Ruth	1927	NZ	NZ	NZ	England	England
Miriam	1923	NZ	Orkney	Orkney	NZ	?*
Ingrid	1925	NZ	NZ	England	NZ	England
David	1934	NZ	NZ	Nth Ireland	NZ	Scotland
Evelyn	1925	England	England	England	England	England
Aaron	1926	NZ	NZ	Ireland	NZ	Shetland Is
Sister Caitlin	1926	Ireland	Ireland	Ireland	Ireland	Ireland
Denis	1926	England	England	?	England	?
Paul	1915	NZ	Australia	?	England	?
Harry	1921	NZ	China	China	China	China
Camilla	1916	NZ	NZ	Wales	NZ	Scotland
John	1932	NZ	NZ	Scotland	Scotland	Scotland
Alastair	1932	NZ	NZ	Ireland	NZ	Ireland
Henare	1927	NZ	NZ	NZ	NZ	NZ
Grace	1920	NZ	NZ	NZ	NZ	NZ
Dorothy	1925	NZ	NZ	England/ Scotland	NZ	England/ Scotland
Amipa	1933	Cook Is	Cook Is	Cook Is	Cook Is	Cook Is
Greg	1932	NZ	NZ	NZ	Australia	Australia
Lepati	1935	Tonga	Tonga	Tonga	Tonga	Tonga
Robert	1929	NZ	England	England	NZ	Ireland
*Boxes with question marks indicate that the participant did not know.						

The ethnic background of all of the New Zealand European participants was British (Northern Ireland, Scotland, Wales, England) or Irish. Between the 1860s and 1960s

the majority of New Zealanders were Pakeha of British origin.[193(p4, p56)] Stuart Grief argued that New Zealand "was established as a colony in the truest sense of the word, a place where British excess population could go without losing their national identity".[196(p8)] Although different New Zealand governments were keen to attract British settlers and non-Catholics there were still a large number of Irish Catholics who came. For example, during assisted immigrations in the 1870s more Catholic Irish migrated to New Zealand than Scottish Presbyterians and they represented about 14% of migrants in the nineteenth century.[197(p23-24)] Historians Brooking and Rabel argued that the Irish then persisted with a distinctive subculture with their separate school system until after World War II.[197(p24)] Sister Caitlin (Irish, 1926) migrated to New Zealand as part of this school system; she volunteered to come in 1955 to teach at a Catholic school.

In the late 1860s the Dunedin Chamber of Commerce invited the first organised group of Chinese to New Zealand so they could work on the Otago goldfields.[198(p161)] There was a high degree of hostility towards Chinese from British settlers and the New Zealand Government and from 1881 they were required to pay a poll-tax before entering the country (or they could enter on credit and pay the tax over time).[197, 198] After 1900 the Chinese worked mainly as laundrymen and market gardeners.[197(p26)] Harry's (Chinese, 1921) father came to New Zealand first and worked to earn sufficient money to pay the poll-tax for his wife to migrate in 1920. They both worked as market gardeners and later as fruit shop owners.

Henare (Māori, 1927) and Grace (Māori, 1920) are the only participants whose maternal and paternal grandparents (all Māori) were born in New Zealand. They were both born in Northland and only moved to Dunedin later in their lives.

Increasing numbers of Pacific Islanders migrated to New Zealand in the 1950s and 60s seeking work.[199(p11)] Amipa (Cook Islands, 1933) was born in Rarotonga in the Cook Islands. The Cook Islands comprise fifteen islands in the South Pacific Ocean with the majority of the population living on the island of Rarotonga and a much larger number of Cook Islanders living in New Zealand. Amipa was encouraged to

come to New Zealand to live and work in 1949 by an older sister and eventually all of her siblings and her parents came to New Zealand. Lepati (Tongan, 1935) was born in Tongatapu in Tonga. The Kingdom of Tonga comprises over 150 islands in the South Pacific Ocean but the majority of the population lives on the main island of Tongatapu and Lepati grew up in villages on this island. Lepati came to New Zealand in 1974 as part of a short-term work scheme organised by the New Zealand and Tongan Governments and he permanently migrated in 1986.

3.5. Methods: Medicine changes at discharge from hospital

3.5.1. Aim

The aim of this study was to explore how older people, aged 75 and over, who had recently been discharged from hospital to their own home managed any changes which were made to their medicine regimen during the stay in hospital.

3.5.2. Rationale

As in Investigation One, the intention was to explore how medicines fitted into the wider context of people's lives and how they managed and understood the changes to their medicines after discharge from hospital. Qualitative semi-structured interviews were considered the most appropriate option for this investigation because they best fitted the objective of the thesis. In comparison to Investigation One, semi-structured interviews allowed for the fact that each of the forty participants had been through similar experiences in being recently admitted to, and discharged from, Dunedin Hospital. Questions about details such as why, when and how people were admitted to hospital and when and how they were discharged were more structured. There were still open ended questions exploring people's attitudes and beliefs and the flexibility to explore new themes that arose during an interview.[172]

I interviewed forty people, aged 75 and over, who were discharged from the medical wards (8A and 8B) at Dunedin Hospital, one to two weeks after their discharge.

Recruitment took place in hospital because that was the most appropriate place to identify people who were about to be discharged and to identify people that had experienced changes to their medicines. The rationale for selecting the acute medical wards is discussed later in the chapter.

As already mentioned in this chapter, samples of between twenty and fifty people are deemed acceptable for in-depth qualitative interviews where each person is only interviewed once.[182] As this research took place in a public hospital, the ward nurses and clinical leaders needed to know in advance how many people would be recruited. A sample of forty participants was chosen because this was considered appropriate to identify and explore the main difficulties with managing medicines which are experienced by older people at discharge from Dunedin Hospital. It also allowed for a reasonable range of people with regard to demographic factors (sex, age group within the 75 and over age range, ethnicity). I considered that by the end of the fortieth interview I had reached saturation of new ideas which were beneficial to the research and aligned to the aims of the research.

Prior to commencing the interviews, a member of the ward 8A nursing staff took me on a tour of the ward and taught me about the standard admission, hospital stay, and discharge procedures. This provided an understanding of the normal ward procedures that patients would experience and an insight into how the nurses view a patient's stay in hospital. I also spoke to one of the pharmacists working on 8A about what they would normally do during their time on the ward. This gave me an understanding of how the pharmacist interacted with staff and patients on the ward and their role regarding patients' medicines. The findings from these discussions are presented in Chapter Six (Medicine changes at discharge from hospital).

3.5.3. Ethical approval

The investigation received ethical approval from the Lower South Regional Ethics Committee in December 2009 followed by site approval from the Health Research Office, of the Otago District Health Board (DHB), in January 2010. The interviews were conducted between March and August 2010.

3.5.4. Setting

Participants were recruited from the medical wards 8A and 8B, Dunedin Hospital, which serve as the inpatient areas for the Internal Medicine Service. The Dunedin Hospital website defines internal medicine as "a branch of medicine that deals with the diagnoses and non-surgical treatments of diseases in adults. Internal medicine manages patients who are not specifically being managed by a specialty service, or who have multiple medical problems".[200] An internal medicine ward was the most appropriate ward in Dunedin Hospital for recruiting people for this investigation. On an internal medical ward patients are acutely unwell and more likely to experience changes to their medicines than on a surgical ward and most of the patients on wards 8A and 8B are older people. In 2009 people aged 65 and over accounted for 12.5% of New Zealand's population but almost 35% of the total acute inpatient discharges for the country.[201] The New Zealand Ministry of Health (MOH) have defined an acute admission as one that is normally unplanned or urgent and where the patient stays in hospital for at least twenty-four hours.[202] This type of admission is common on wards 8A and 8B.

The investigation was not based in the Older People's Health wards at Dunedin Hospital because patients are normally transferred there from another part of the hospital and spend up to a week being rehabilitated and prepared for their discharge. The clinical leader of an electronic prescribing pilot scheme at Dunedin hospital selected wards 8A and 8B to test the pilot because the patients were "acutely unwell, most were elderly with multiple medications, and many patients were also unable to assist the doctor with information".[203] The electronic prescribing project

commenced in October 2010, two months after the recruiting for Investigation Two was completed.

3.5.5. Inclusion and exclusion criteria

I planned to interview people aged 75 and over who had recently been discharged from Dunedin Hospital to their own home, who were taking four or more prescription medicines on admission to hospital, and who had changes made to their medicine regimen during their stay in hospital. This is shown in Table 5.

Table 5: Inclusion and exclusion criteria – Investigation Two

Inclusion Criteria
Aged 75 and over at admission
Four or more prescription medicines at admission
Discharged to their own home
Discharged from wards 8A or 8B
Experienced change to their medicines in hospital
Exclusion Criteria
Only medicine change was the temporary addition of non-oral medicines in hospital
Discharged to a rest home
Discharged through Older People's Health
Living more than 45 minutes travel from Dunedin city

A minimum of four prescription medicines at admission was chosen as a criterion because these people would be accustomed to taking medicines regularly and this would allow me to ascertain how they coped with changes. As mentioned in the

literature review, people taking four or more medicines are also considered at greater risk of experiencing the consequences of polypharmacy.[88(p2)]

A change to participants' medicines was defined as any change between their medicines at admission and their medicines at discharge. Changes included the addition a new medicine, deletion of an existing medicine, a change of dose, or a change of dose form of an existing medicine during a patient's stay in hospital or at the time of discharge. Four participants had an antibiotic, prescribed prior to admission to hospital, which was finished in hospital. I did not count this as a change to their medicines because it was not a change instigated by the hospital staff.

People being discharged to a rest home were not interviewed. In a rest home people's medicines are managed or overseen by the staff and this study aims to investigate how older people themselves cope with changes to their medicines. People who were discharged through Older People's Health were not interviewed for the reasons listed in section 3.5.4.

Due to time and resource constraints it was not deemed feasible to interview people who lived more than forty-five minutes travel from Dunedin city.

3.5.6. Recruitment

I had originally intended to recruit patients solely from ward 8A and this had been stated in the ethical approval. After the first two visits to ward 8A it became obvious that recruiting on one ward would be too slow because there were only a small number of people each day that met the study criteria. There were a large number of people, aged 75 and over, who were taking four or more prescription medicines and who were discharged with changes to their medicines. However, many of these people were being discharged through Older People's Health or to a rest home or simply lived outside of the study area. The Charge Nurse of ward 8A suggested I extend the study to ward 8B which is also an internal medicine ward, works closely in conjunction with 8A, and has practically the same admission and discharge

procedures. The Research Office at the Otago DHB and the Lower South Regional Ethics Committee were contacted and both agreed that recruiting patients from ward 8B would still be covered by the original ethical approval.

Wards 8A and 8B were visited on the same two mornings each week (a Tuesday and Thursday) during the months March to July 2010. In total there were thirty-two visits to the 8th floor to either both wards on the same day, or to only one ward, if a Charge Nurse was unavailable.

With the help of the Charge Nurses on ward 8A and 8B, patients were identified who met the inclusion criteria. On each occasion that 8A and 8B were visited, the Charge Nurses were able to advise which patients were medically fit enough to approach about participating in the study. Some patients were deemed too unwell to approach and others too potentially difficult such as people with serious speech impediments following a stroke.

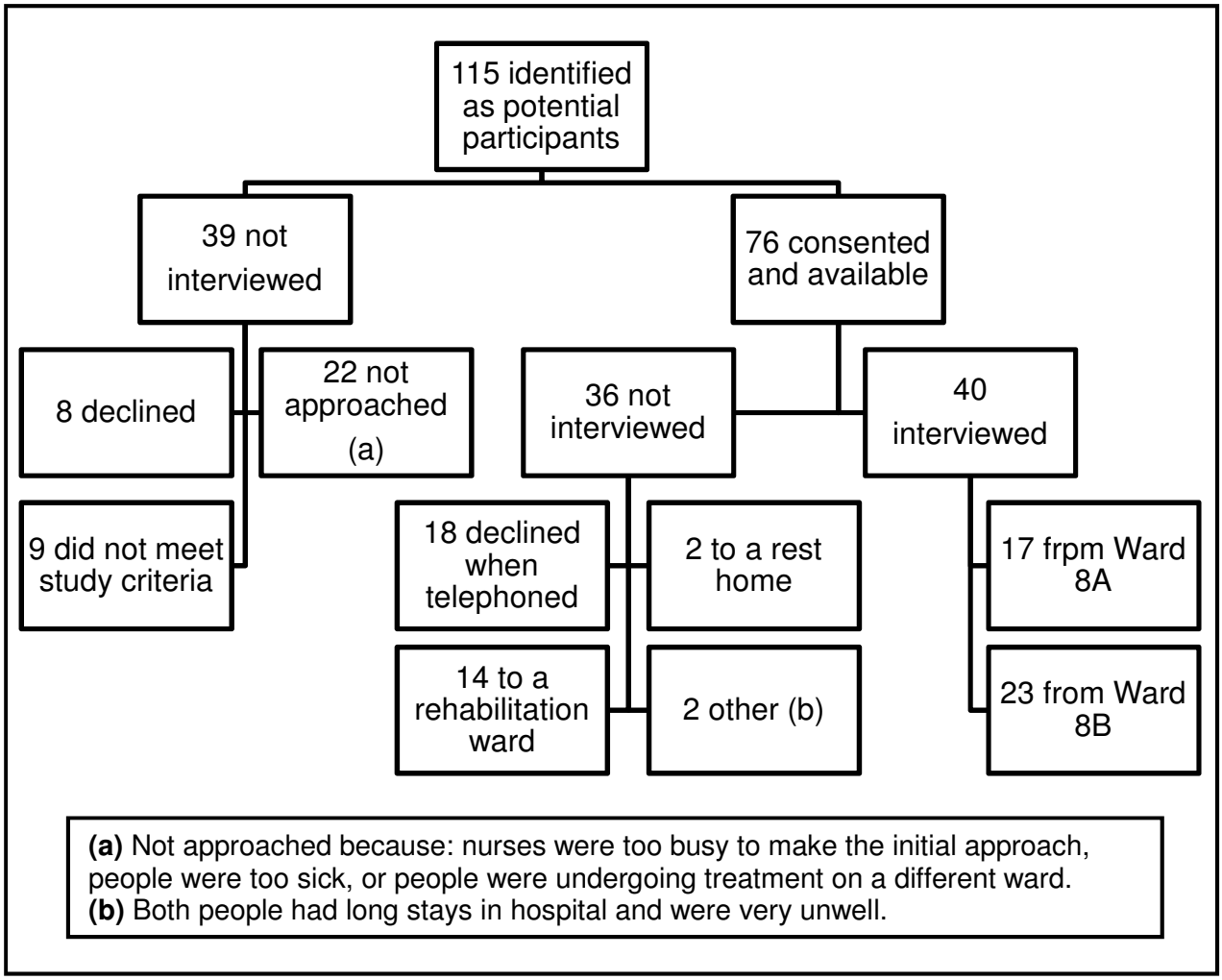
Before approaching any participants, a member of the nursing staff asked them if they consented to me talking to them about the project. The project was then explained to those patients and they were asked if they were willing to participate.

While this study was particularly interested in how people coped with changes to their medicines following hospital discharge, this topic was not made explicit in the study title or patient information. This omission was for two reasons: firstly, to avoid causing patients anxiety about their discharge and secondly, to avoid changing their discharge experience and invalidating the results.

For most participants an interview time was booked in hospital. They were then sent a letter reminding them of the interview time and informing them that they would be telephoned to ascertain if they still wanted to participate. The telephone call also provided people with the opportunity to change their interview time if it did not suit or if they were feeling unwell. Some participants said they would prefer not to book an interview time in hospital because they were either unsure of what day they would be discharged or what their routine would be like on their return home.

In total, 115 people were identified as potential participants, seventy-six people met the study criteria, and forty people were interviewed. The recruitment process is outlined in Table 6.

Table 6: Recruitment – Investigation Two



Of the 115 people initially identified as potential participants, nine people did not meet all of the study criteria after further discussion with them: four of them lived outside of the study area, three of them were only taking three prescription medicines at admission, one of them had no identifiable changes to her medicines, and one of them lived in a rest home. Of the seventy-six people who initially consented, eighteen people declined for various reasons when telephoned at home, and two had long hospital stays and were considered too ill for an interview. Sixteen people did not meet the study criteria once they left wards 8A and 8B: fourteen were

transferred to Older People's Health, a rehabilitation ward, and two were discharged to a rest home.

3.5.7. Medicine changes

It was important to gain an accurate list of the medicines people were taking on admission to hospital and the changes to those medicines on discharge. This list could then be compared with the prescription medicines the participants were taking at the time of the interview. It provided a record of the changes that had occurred, even if a participant could not remember what had been changed or was unaware that there had been any changes.

A patient's medicines on admission are normally first recorded in the Emergency Department (if the patient is seen there) and when they are admitted to the ward. Every day that a patient is in hospital the doctors outline the plan they have for the care of that patient; this plan includes any changes to their medicines. These notes are then kept on the ward at the nurse's station. With the help of the Charge Nurse of 8A or 8B I identified the details of the medicines that each participant took on admission (names, dosage forms, and dose) by looking at their medical notes. Changes to a patient's medicines, and the permanency of these changes, could also be ascertained by looking at these notes. A patient's day-to-day medicine chart, normally kept in their room, could also be checked for details about their medicines. This meant that before approaching a potential participant in hospital we knew whether or not they were taking four or more prescription medicines and whether there had been any changes to these medicines.

I did not plan to record all of the medicine changes experienced by participants during their stay in hospital. For example, some participants had medicines stopped and then restarted in hospital, were given more than one type of antibiotic, or received certain medicines via injection. Recording all of these changes was considered beyond the scope of the study because the study focussed on the perspective of older people and how they cope with any changes to their medicines

on discharge. Hence it was not crucial to plot all of the changes to the medicines within the hospital stay, even if there were multiple changes that participants could not recall. It was sufficient to know that changes had taken place and that their discharge medicines differed from those taken on admission.

3.5.8. Interview schedule

An interview schedule was developed which included all of the questions I wanted to cover in the interviews. The schedule was developed after the literature review and discussion with my thesis supervisors. The relevant literature was discussed in Chapter Two (Literature Review) in section 2.5. The interview questions explored people's experiences with medicines from the time they were admitted to hospital until their return home. Even though the aim of the study was to look at medicines at discharge, it was important not to isolate this from the entirety of participants' experiences in hospital.[155] The interview was piloted on one older woman, who had recently been discharged from Dunedin Hospital, and was modified in the light of her responses. As discussed earlier in this chapter, there were changes to the schedule as the interviews progressed. The questions covered people's experiences of medicines, admission, stay, and discharge from Dunedin Hospital and their recovery and experiences of medicines at home. An example of the interview schedule that I took to each interview can be viewed in Appendix Four.

3.5.9. Interviewing

Each interview took place in the participant's home one to two weeks after their discharge from hospital. This was considered the optimum time frame for interviewing people because it allowed them time to recover from their hospital visit but was also close enough to their stay in hospital for them to have a relatively good memory of what had happened. The majority of interviews lasted an hour or less and no interview exceeded ninety minutes. Each interview was digitally recorded, with the permission of the participant. Unlike Investigation One I did not have the

advantage of knowing that I could return to interview the participant again. The schedule was designed so all of the topics could be covered in one interview.

Twenty-six participants were interviewed alone and fourteen participants were interviewed with their husband or wife present. On five occasions the spouse either did not speak during the interview or only contributed a small amount. On eight occasions the spouse shared a lot during the interview. The spouses gave their point of view and answered questions when the participant could not remember. There was only one interview where the spouse talked more than the actual participant. In this case the man being interviewed had poor short-term memory and had all of his medicines organised and dispensed by his wife. Afterwards I discussed with my supervisors whether the interview should be included in the thesis. We decided it should be included because it provided an example of an older person living at home who was entirely reliant on their spouse to understand their hospital experience and medicine changes.

If the participant could locate their discharge summary then the medicines at discharge were recorded from this. The discharge summary could also provide information regarding medicine changes because these changes, and the reason for them, were normally recorded on the summary. All patients discharged from a New Zealand hospital are required to receive a discharge summary which is to inform their GP of their admission and the treatment they received.[204]

If participants could not locate their discharge summary then their medicines were recorded from medicine labels or from a compliance aid packed by a pharmacy. At a later date I was able to view their discharge summary by accessing their medical notes at Medical Records in Dunedin Hospital. The ethical approval I received from the Otago DHB gave me permission to access these records, provided that participants gave written consent. I did not look at the prescription forms given to participants at discharge as these were designed for a community pharmacist to view, not the patient.

I asked participants if they took any prescription medicines which were not listed on the discharge summary. I also asked participants if they took any regular non-prescription medicines. Non-prescription medicines are not recorded at admission to or discharge from wards 8A and 8B. I counted tablets, inhalers, eye drops, nasal sprays, vitamins, minerals, creams and ointments as non-prescription medicine. I did not count creams and ointments which people had purchased for cosmetic reasons. I also asked people about the occasional use of non-prescription medicines (such as cough mixtures or throat lozenges).

3.6. Participant characteristics: Medicine changes at discharge from hospital

Table 7 outlines the demographics of the forty participants who were interviewed for Investigation Two. These demographics are less detailed than those for Investigation One because Investigation Two was not an oral history and I did not ask participants the same range of questions regarding siblings, children, parents, spouses and grandparents.

Table 7: Participant characteristics – Investigation Two

	Male Number	Female Number	All participants Number
Sex	**19**	**21**	**40**
Age			
75-79 years	5	7	12
80-84 years	9	1	10
>85 years	5	13	18
Median (range)	82 (75-89)	86 (75-91)	83.5 (75-91)
Ethnicity*			
NZ European	17	17	34
English	1	2	3
Australian	0	1	1
Māori	1	1	2
Living			
Lived alone	3	13	16
With spouse	16	7	23
With a boarder	0	1	1
Education			
Secondary	11	15	26
Tertiary	4	5	9
Further Education	4	1	5
Median (range)	15 (13-18)	15 (13-18)	15 (13-18)
*Ethnicity: self-defined by the participants			

Some of these characteristics are a reflection of the demographics of Dunedin as a whole. As mentioned in the introduction to this thesis, people aged 75 and over are 6.8% of the total Dunedin population and of this group 88% are European, 0.8% are Māori, 0.1% are Pacific, 0.9% are Asian and 0.3% are Middle Eastern/Latin American/African.[70] It is unsurprising therefore that this sample of forty hospitalised participants, drawn from an original sample of 115, only included two people of Māori descent and no Asians or Pacific Islanders.

A higher proportion of females living alone are expected due to their higher life expectancy. In New Zealand there are more older women living alone than men because women are more likely to be widowed.[194(p135)] In statistics from 2008, 18.5% of males and 36.9% of females, aged 65 and over, were living alone.[194(p135)] Another possible reason is that men living alone were reluctant to go to the effort of being interviewed. It is also no surprise that none of the participants had a child or other

family member living with them as the majority of older people in New Zealand either live alone or live with a partner.[194(p134)] In statistics from 2008, 82% of males and 79% of females, aged 65 and over, either lived as a couple with no children in the house or lived alone.[194(p135)]

The sample does include a relatively high number of females aged 85 and over. People aged 85 and over have a higher rate of hospitalisation than people aged 75 to 84 so that explains why there is a higher proportion of females (thirteen) in this age range compared to those in the younger age ranges (eight).[10(p69)] However, the hospitalisation rate of men aged 85 and over is normally higher than that of women but this sample only has five men in this age range.[10(p69)] Possible reasons for this are that this study was not a randomised sample, that older men were less keen to consent to an interview or that they are sicker or less likely to be discharged home.

Table 8 shows the date of birth and place of birth for all forty participants in Investigation Two.

Table 8: Date of birth and place of birth – Investigation Two

Name	Date of birth	Place of birth
Hannah	1924	England
Owen	1931	NZ
Rachel	1924	NZ
Grant	1932	NZ
Kirk	1928	England
Walter	1929	NZ
Muriel	1935	NZ
Amelia	1919	England
Elizabeth	1930	NZ
Christopher	1927	NZ
Edward	1925	NZ
Katherine	1922	NZ
Matthew	1930	NZ
Millie	1921	NZ
Troy	1926	England
Emily	1924	NZ
James	1928	NZ
Alice	1925	NZ
Beatrice	1934	NZ
Hazel	1925	NZ
Abigail	1933	NZ
Christine	1932	Australia
Gloria	1923	NZ
Logan	1934	NZ
Caroline	1922	NZ
Heather	1931	NZ
Fiona	1923	England
Andrew	1923	NZ
Betty	1920	NZ
Liam	1931	NZ
Luke	1924	NZ
Benjamin	1921	Australia
Henry	1927	England
Charles	1935	NZ
Nicolaas	1930	Holland
Kathleen	1926	NZ
Hinewai	1931	NZ
Charlotte	1931	Ireland
Martha	1922	England
Gerald	1923	NZ

Almost 17% (16.8%) of people in Dunedin were born overseas and England is the most common birthplace for this group.[67] In this sample, there is a higher proportion of people born overseas (27%) but this reflects the national trend for people aged 65 and over with around 27% of them being born overseas with the majority of those being born in the United Kingdom or Ireland.[205(p37)]

3.7. Analysis of data for Investigations One and Two

3.7.1. Field notes

Field notes were written as soon as possible after leaving the interviewee's home and this was normally completed within hours of the interview ending. These field notes included details which could not be ascertained from the digital recording such as conversations before and after the recorder was switched on, impressions formed during the course of the interview, the interviewee's non-verbal behaviour, and the tone and context of the interview. I also wrote an outline of the main points that participants had shared. It provided the first opportunity for analysis of the information that people shared while the interview was still fresh in my mind. It meant that preliminary discussion and analysis of the data could begin before full transcribing took place. Morse et al. argued that it is important for data collection and analysis to occur concurrently in qualitative research as this allows the analysis to inform the direction of the research.[206]

The field notes were also an opportunity to review my interviewing technique: how I asked questions, the wording of questions, how much rapport I had with the participant, and any issues regarding my impact on the interview. I made extensive notes regarding these matters so that I could change and improve my interviewing skills and the interview schedules over the course of the investigations. I made a note of when I felt I had been too leading in asking a question or when I could have led more. I also recorded my thoughts regarding the influence I might have had on the

interview and the participant and how they might have influenced me and the questions I asked.

For Investigation One, the entire digital recording was listened to within a day of the interview taking place and preliminary notes were made. This provided further opportunity to write impressions of the interview and also acted as a guide for the next interview with that person.

3.7.2. Transcribing

Each interview was transcribed by me or by a technician at the School of Pharmacy or a professional typist. The typists did not know the full names or contact details of the participants. I reviewed all of the transcriptions while listening to the original digital recording to ensure that the transcriptions were accurate. I also used the transcriptions to further analyse my interviewing technique, although, this was not based on any particular methodological framework.

The transcription style used is a form of 'smooth verbatim'. Verbatim transcribing means that all words are transcribed exactly, as well as all repetitions, utterances, pauses, laughter and crying. Professional transcriptions services have differing definitions of 'smooth verbatim' but it usually involves omitting certain words and utterances.

Repetitions, stutters, false starts and most "ums" and "ahs" were omitted. These features of the oral recordings were not considered crucial for the method of analysis which would be employed. It also meant that transcribing was faster and cost less when it was transcribed by a professional typist. No attempt was made to correct the interviewees' or interviewer's grammar, sentence structure, or use of colloquialisms. This meant that the personality of their speech was retained. Quotations in this thesis are taken directly from the transcriptions and, therefore, follow the same conventions mentioned above. The written version of oral speech can be difficult to read when pauses, repetitions, and "ums" are included in quotations.[171(p280)]

Remarks such as "right", "yeah" and "okay" from the interviewer, while the interviewee was speaking, were not always transcribed unless they were directly followed by a statement or a question from the interviewer. This is because these remarks were made during the interview to encourage the interviewer without interrupting or distracting them. All other comments, where one speaker interrupts another, were transcribed.

3.7.3. Method of analysis

All of the transcriptions were imported into NVivo, a computer programme designed to aid researchers in organising, comparing and coding large amounts of qualitative data. The use of NVivo also meant that the analysis of the interviews was transparent and the coding could be checked by my supervisors.[207] NVivo was useful in organising the large amounts of qualitative data I had and a response from a participant could easily be coded under more than one heading. It was useful in analysing the data because it made it easier to identify themes common to multiple participants or themes which were only relevant to one or a few participants. With NVivo there is also the ability for the researcher to write 'annotations' or 'memos' recording insights and attach these to the relevant data. This made it easier to build up themes across the data, an advantage of NVivo which is noted by Welsh.[207] Welsh argued that NVivo is less useful in analysing themes once they have been identified and the best form of qualitative analysis is one which incorporates both electronic and manual (writing on paper) methods.[207] At times in the analysis I did write manual notes regarding the meaning of themes and how they related to each other but I also found it useful to record these in 'memos' within NVivo and keep them attached to the rest of the project.

A thematic analysis was chosen for this thesis as this best suited both investigations and also the discussion of participants' current attitudes towards their medicines. It is common for oral history interviews to be analysed with a focus on narrative. However, the interviews in Investigation One were not strictly oral histories and a

full narrative analysis would not have suited the interviews from Investigation Two or the discussion of participants' current attitudes towards their medicines. Also, thematic analysis is sometimes used to analyse oral history interviews. Oral historian Thompson points out three main ways oral history can be analysed: a single life-story narrative; a collection of stories; or a cross analysis where the argument is constructed from multiple accounts.[208(p204-205)] He also points out that a combination of different forms of analyses can be used. For this thesis I constructed the argument from across multiple accounts.

The interviews in this thesis were analysed with the general inductive approach. Thomas introduced the term in his 2006 article: A General Inductive Approach for Analyzing Qualitative Evaluation Data. He argued that many qualitative researchers were already using a general inductive approach without an explicit label being given to the strategy of analysis.[209] This approach shares much in common with Grounded Theory which is commonly used for the analysis of qualitative data. The main difference is that the General Inductive Approach does not require a strict adherence to the axial and open coding used in Grounded Theory and allows for the description of a number of important themes rather than one theory.[209]

The mains aims of the inductive approach are:

- To condense raw text data into a summary format.

- To establish clear links between research objectives and summary findings from raw data.

- To ensure these links are both transparent (able to be demonstrated to others) and defensible (justifiable given the objectives of the research).

- To develop a model or theory about underlying structure or experiences or processes evident in the text data.

The purpose of the inductive approach is to have the themes of the research emerge from the raw data through multiple readings and interpretations. This approach does

have a deductive element in that the data analysis is determined by the research objectives. For this thesis the broad objectives were to explore older people's attitudes towards, and beliefs about, their medicines and how taking medicines fits into the context of their lives. For Investigation One there was a particular focus on people's medicines experiences over a lifetime and for Investigation Two there was a particular focus on people's medicines experiences during a stay in hospital. These objectives formed the basis for the structure of the interviews and the questions that were asked. However, there were no preconceptions about what themes would emerge from the data and there were no prior assumptions or hypotheses that the data was tested against.

The interviews were coded in NVivo with the aim of finding the major themes in the data. At first codes were created for all of the different questions that participants' were asked and the answers they gave. Secondly codes were created for the broader themes that were evident from the initial coding of participants answers. The original transcriptions and the subsequent coding were read several times to identify these themes. The themes were then further analysed to reduce any overlaps and redundancies. Finally the themes were revised and refined for presentation in the thesis.

In addition to using the general inductive approach via coding in NVivo, I returned to the original transcriptions to gain a sense of the broader story that people had shared with me. This was important to do because some aspects of what people shared only made sense in the overall context of their lives. Welsh highlighted that some researchers resist the coding of qualitative data because they want to maintain the original context of the data.[207] Coding in NVivo was useful in revealing themes but that was achieved by breaking the interviews down into smaller and smaller pieces that were then compared and contrasted with each other. In Investigation One, there were certain themes that only became apparent when looking at the full span of people's lives. In Investigation Two there were certain themes that only became apparent when looking at the full span of people's experiences from before

admission to after discharge. I did not use a formal methodology for this part of the analysis, however, the thesis does include some vignettes of participants' lives.

During analysis and writing of the data I also went back to the original recordings several times to remind myself of the original tone of the interviews. This is because a transcription does not necessarily capture the emotion or the tone of the spoken word. The field notes were also useful in providing further detail, especially for issues which were not clarified by the transcription or the digital recording (such as times participants referred to something we had talked about prior to the recorder being turned on).

3.7.4. Trustworthiness

One of the issues often discussed in literature regarding qualitative research methods is the validity or trustworthiness of qualitative data and the interpretations of that data.[210] Tests of validity have long been common for quantitative research but qualitative researchers have argued about if and how they should be applied to qualitative research.[206, 211] The two investigations for this thesis meet the criteria for "trustworthiness" outlined by Lincoln and Guba in a 1986 article.[210] The criteria for credibility was met through prolonged engagement with the data: long interviews with all participants and two to three interviews with those in Investigation One; field notes were recorded and reread; transcriptions were twice-read, checked and coded. The criteria for transferability were met through quoting participants in the text and development of thick descriptive data. The criteria for dependability and confirmability were met through one of my thesis supervisors independently checking a selection of NVivo coding and interpretation. As this research was undertaken as part of a thesis and not a fully funded research project it was not practicable for my supervisors to check all of my coding and interpretation.

However, Morse et al. argued that Lincoln's and Guba's criteria were too focussed on gaining credibility once the bulk of the research was completed.[206] Morse et al. argued that verifying the reliability and validity of a qualitative research project

needs to be an essential part of the research from the outset. They refer to the importance of the investigator being responsive to the data and verification strategies such as ensuring an appropriate sample and collecting and analysing data concurrently. A specific verification strategy was not employed from the outset of this thesis. As already outlined earlier in this chapter, I did aim to be responsive to the data, to ensure that the sampling strategy fitted the aims of the research and to analyse and collect the data concurrently.

I decided not to return the results of the two investigations to participants for their comment. This is a common practice in qualitative research and is often referred to as "member checks" or "respondent validation". However, there is a debate in the qualitative literature regarding the advantages of this process. Mays and Pope argued that the researcher's account is "designed for a wide audience" and will always be different from the account of an individual participant.[212] Morse also argued that research findings are a "synthesis of multiple participants' perspectives and are more representative than the perspective of one participant."[213] Morse pointed out that research can produce findings which are not obvious to participants themselves and that this is actually the reason that people do research. Morse concluded that returning results to participants for comment does not necessarily validate the researcher's findings. These arguments convinced me that this practice was not essential for this thesis.

Barbour also argued that involving the participants in this way can demand considerable time and energy from them.[214] The participants I interviewed were all older; those in Investigation One had already been interviewed two to three times and those in Investigation Two were still recovering from their admission to hospital. I did not want to place any additional burden on them by asking them to review the results of the research. In Investigation One, I was able to clarify certain points with participants when I spoke to them at a second or third interview.

Chapter Four: Medicines over a lifetime

4.1. Aim

This chapter focuses on the results and discussion from Investigation One of this thesis. The aim of Investigation One is to explore older people's (≥75 years) experiences of medicines over a lifetime.

4.2. Introduction

This chapter first looks at the overall definition of "medicines" used in Investigation One and the definitions of the different types of medicines referred to. This is followed by an examination of the role of memory in participants' accounts. The chapter then discusses participants' experiences of medicines throughout their childhood and their working lives. It also focuses on participants' transition to taking regular prescription medicines for the first time. Finally the chapter discusses the three main themes that emerged across all of the interviews. These themes are related to how participants believe people today are too quick to access medical services and medicines in comparison to when participants were younger. Participants' attitudes towards the prescription and non-prescription medicines which they now regularly take are discussed in the next chapter. The methods and participant characteristics for Investigation One were discussed in Chapter Three (Methods) in section 3.3. and section 3.4. respectively.

This chapter shows participants were given a wide range of childhood medicines. Participants perceived these childhood medicines as different from the prescription medicines they take today. This distinction is important because most participants said they do not like taking medicine and never had to take much over the course of their lives. For some participants it was a challenge to accept the need for regular prescription medicines later in their lives and they struggled with this transition.

This chapter also shows that some of the common health beliefs of participants' childhood persisted as they aged and affected their attitudes towards their own medicines and medicines in general.

In this chapter each time a participant's name (pseudonym) is first mentioned on a new page, their ethnicity and date of birth are added in brackets; New Zealand European and Australian are abbreviated to NZE and Aust respectively. As mentioned in Chapter Two (Methods), this chapter also includes vignettes for a selected number of participants.

4.3. Results and discussion

4.3.1. Definition of medicines

The participants in this study experienced a great range of different products given for their health when they were young. This meant I needed a wide definition of medicines to capture the full breadth of people's experiences. In this investigation medicines are defined as material substances given to people as a therapy to treat or prevent illness or to treat injury.[215, 216] In their book, Social Lives of Medicines, anthropologists Whyte et al. outlined the defining characteristics of medicines.[216(p3-5)] They argued that the physical substance of medicines divides them from other therapeutic practices such as prayer and rest. They also argued that medicines are intended to heal people and have a discernible effect on disease and injury; even if a medicine is not efficacious, people only give or take it because they believe it is or might be efficacious.

The majority of products that participants mentioned fit into the above definition of medicines: they were material substances which were given to treat or prevent diseases or injuries whether they were ingested, inhaled, or applied to the skin. This included a number of foods and these are distinct from foods given for hunger.[217] Food-based remedies were those which were given for a specific purpose such as an

illness.[217] Pharmacist and social historian Crellin noted that in the late nineteenth and early twentieth century there was debate in the media and medical textbooks regarding whether products such as cod liver oil were foods or medicines.[120(p48)] Even though some participants in Investigation One did not always view such products as medicines, their parents were giving them to cure or prevent illness. It is on this basis that they must be assessed, rather than dismissing them because of doubts regarding their effectiveness as medicines.[120(p5)] This thesis does not aim to assess the efficacy of any of the medicines participants take or have taken but to explore their perceptions of these medicines.

Often, when I first asked people about medicines when they were young, participants responded by saying they had little or no medicine at all. People were referring to the medicines which are common today: prescription or non-prescription tablets. 'Home remedies' is one of the terms used in the literature regarding the medicine people took in the first half of the twentieth century.[124, 126] When I mentioned home remedies people would share about a great range of medicines: branded products which were purchased from a store or chemist, food-based products and herbal remedies. For products purchased from a store the participants did not use the term non-prescription medicines or over the counter products; they still referred to them as home remedies. In the analysis below I examine branded products and herbal remedies in their own subsections to differentiate them from other home remedies. 'Chemist' is used to denote a 'pharmacy' in most instances in this chapter because that was the common term at the time and the term participants used when speaking of the early decades of their lives.

4.3.2. Memories of medicines

Most of the participants had vivid memories of certain aspects of their childhood relating to health and medicines and some were more descriptive than others. Some participants automatically drew parallels between their early lives and current

attitudes and some were very interested in medicines and certain developments over time. Participants did not always remember everything and nor did they remember all of the exact details of certain experiences. Even with prompting from me some participants remembered better, or more, than others. People tended to have clear memories of medicines they received regularly which are not common today, especially those that had a bad taste.

It was sometimes a challenge to encourage people to talk about their everyday experiences of medicines. I could discern that some participants considered memories about cod liver oil and doctors' visits as mundane and of little interest to other people. Some participants thought they had nothing of worth to share because their family used few medicines and did not visit the doctor often. I had to remind participants that I was interested in these aspects of their lives.

Reading through this chapter might give the impression that medicines and health were central to participants' life story. However these were topics that people talked about because I asked them to. Medicines are an important part of their current lives because they perceive their health as important, because they visit their general practitioner (GP) regularly and because most participants have routines in place to ensure they take their medicine on a regular basis. This does not mean that participants define their lives by their medicines. A life history study, of a healthy group of Finnish people aged 90 and over, concluded that even though the participants used medicines every day the medicines did not "occupy a prominent place in their life stories: in contrast to what many younger people seem to believe, they were not constantly preoccupied by drugs. Medicine was a minor issue in the complexity of life".[39]

4.3.3. Childhood medicines

Some of the products participants mentioned are still used today: aspirin, Maltexo, fish oil, cough mixtures and lemon and honey to name a few. Some are not as

popular as they once were and others are not available. The list of Irish over the counter products and home remedies that Sister Caitlin (Irish, 1926) wrote in preparation for her first interview was, other than one or two medicines, very similar to what other participants born in New Zealand and England talked about. These traditions of home health, some dating back to the nineteenth century, were transported from Ireland and the United Kingdom to New Zealand and some of these remedies and practices were also common in Australia.[218, 219] This is also highlighted by some of the similarities between findings in this thesis and those from the studies of the English working classes.[41, 43, 122]

4.3.3.1. Dispensing of medicines

For the majority of participants it was their mother, or another female relative, who made most of the decisions regarding hygiene, health, medicines and accessing medical services. In the early part of the twentieth century in New Zealand there was a growing emphasis placed on the important role mothers had in ensuring the cleanliness of the home and the health of its members while most fathers were engaged in full-time work.[140] It was also not accepted that untrained parents could care for their families.[220(12)] How women should care for their families was increasingly elaborated on by advice from doctors, health manuals, the School Medical Service from 1912 and Plunket nurses from 1907.[221] The Royal New Zealand Plunket Society, founded in 1907, aimed to advocate for and improve the health and welfare of children and educate parents in how to raise children.[132, 222] Their services were free and comprised clinics and Plunket nurse visits to homes. All of this was part of a much wider trend in society, in the late nineteenth and early twentieth centuries, which emphasised the moral influence of women on their families and society in general and the importance of moral and clean homes.[220(p6-12)] The belief in the importance of keeping the home and the body clean was also linked with the cleanliness of the bowels and this is discussed later in the chapter.[140]

When participants lived with their parents they normally had to take the medicine they were given, whether they wanted to or not. Some participants succeeded in avoiding certain medicines. David (NZE, 1934) did not like the taste of Lane's Emulsion and argued with his mother over it. When I asked Paul (NZE, 1915) if he still took castor oil once he was an older child he said: "Hell no…I can assure you that castor oil stopped when I was a teenager. I would think my mother got the last lot into me round about 10 or 12 years of age".

4.3.3.2. Medicines for specific illnesses

I asked participants about their experiences of specific illness as a way to encourage them to talk about medicines but also because medicines can be closely linked with the conditions they are taken for. For some participants, talking about illnesses such as the measles triggered other memories about medicines and health.

4.3.3.2.1. Measles, mumps, chicken pox and whooping cough

Participants described these as very normal and widespread illnesses for children when they were growing up. They tended to talk about them as illnesses which people had to endure until they passed rather than something which could be treated with medicine. I often had to encourage participants to talk about them because they did not perceive them as interesting. For example when I asked David (NZE, 1934) if his family had any major episodes of illness when he was young he said: "only the ordinary old measles, and chicken pox and all those sort of things". Alastair (NZE, 1932) referred to them as the "kids' diseases". In New Zealand in the early twenty-first century these illnesses are not considered normal and by the time a child is fifteen months old they will have received vaccinations for measles, mumps, and whooping cough.[223] Beier also found that her older participants, from the Lancashire working classes, described diseases such as the measles as normal and it seemed that their families had been resigned to their inevitability.[122]

Measles was recognised as highly contagious and children were kept away from school and other children if possible. Grace (Māori, 1920) said that when one of the children got something such as measles or chicken pox, they would all get it: "when we were little, we'd all be sick in bed, covered in spots, nobody up, just my mother". Grace (Māori, 1920) and her eleven siblings shared a small number of bedrooms and there were sometimes three or four children in each bed. Aaron (NZE, 1926) shared one bedroom with two brothers and an uncle so any type of disease quickly spread through all of them. The majority of participants said they were confined to bed with measles and a few remember being kept in a darkened room. There were measles epidemics in the early twentieth century but they were far less severe than those of the nineteenth century other than a relatively high incidence of death in the 1938 epidemic.[224(p410-411)]

Some participants remembered their parents applying Calamine Lotion to soothe the skin if they had measles or chicken-pox. Amipa (Cook Islands, 1933) remembers that when she had chicken-pox, with her brothers, her mother took them to bathe in the ocean and then rubbed coconut cream all over their bodies. Ingrid (NZE, 1925) also remembers the use of salt water for chickenpox. A few participants said they had their faces bound up with a

Evelyn

Evelyn was born in Middlesex, England, in 1925. Her parents divorced when she was nine months old and from the age of two she was raised by her grandparents. She married in 1941. Her husband was in the Royal Air Force and for the remainder of World War Two she followed him around the different bases he was stationed at. At the end of the war they settled in a house on the outskirts of London and had two children. She was employed as an office worker. She and her husband came to New Zealand in 1980 because their son had already moved here.

Evelyn's grandmother used a range of home remedies and over the counter products. Many of the remedies were the same or similar to the ones experienced by participants born in New Zealand. Most of the time she preferred to look after health problems herself rather than visit the doctor. Evelyn's son had poor health as a child and always needed cod liver oil, malt, and orange juice and he was admitted to hospital a number of times. Her daughter did not need as many medicines. Evelyn started taking regular prescription medicines, when she was 70, due to an abscess at the base of her skull. She trusts her doctor and is content to take her prescription medicines. However, she prefers not to use analgesics or non-prescription medicines and believes younger people, including her own family, are sometimes too quick to use medicines.

flannel for mumps. Participants said that there was no treatment of any kind for whooping cough and that they had to endure painful coughing and choking. In the early twentieth century there was only one whooping cough epidemic in 1907.[224(p415-416)]

The majority of participants either could not remember if they were vaccinated or said they definitely were not. Evelyn (English, 1925) said she was immunised for measles but she still contracted it. It is unlikely she was immunised for measles as a child because the vaccination did not become available until the 1960s.

4.3.3.2.2. Infantile paralysis, scarlet fever, diphtheria

Participants differentiated between the common diseases such as measles and the more serious diseases such as diphtheria (bacterial infection that commonly infects the nose and throat and then produces toxins which spread through the bloodstream).[225] Two of the participants were sent to stay in the Dunedin fever hospital, a separate institution from the main Dunedin Hospital. Alastair (NZE, 1932) was sent for at least a fortnight with scarlet fever (Scarlatina: bacterial infection that starts with a fever and sore throat and then a rash develops all over the body).[226] He was not too concerned about being there because he knew his mother would visit every day. Camilla (NZE, 1916) spent six weeks at the hospital with diphtheria and

Miriam
Miriam was born in 1923 on the family farm which was twelve miles away from Gore, a small New Zealand town. She lived with her parents and three older sisters. When her father died, she and one of her sisters took over the running of the farm for the next twenty-five years. In 1991 she moved to a lifestyle block south of Dunedin.

Miriam does not recall ever going into town to visit the chemist or see the doctor and does not recall a doctor visiting their farm until shortly before her father died. She thinks her mother did buy cough mixtures and ointments at the farm from the Rawleigh's Man. Other than a few home remedies, and the products from the Rawleigh's Man, she does not think her family used many medicines during their time as farmers. Of her current medicines she appreciates her Losec but is not sure if she really needs her blood pressure medicine. She is reluctant to take any further medicines and is also very suspicious of non-prescription medicines.

she remembers both her and her mother crying when she had to go there. Neither of them could remember what medicines or treatment they received but Camilla believes the "medical part was okay" because she recovered and has never had a serious illness since.

Other participants recalled that scarlet fever and infantile paralysis were serious and contagious illnesses at the time which caused the closing of schools (Infantile paralysis: Poliomyelitis – a viral disease that can affect nerves and can lead to paralysis).[227] When Camilla was five years old she was held back from starting school for six months because of an outbreak of infantile paralysis. She remembers not being allowed to play on the streets at night and having to wear a type of "shield" over their heads and down the back of their necks. Harry's younger sister had infantile paralysis in her late teens and she was hospitalised for a few years. Miriam (NZE, 1923) only remembers one child in her area dying from polio and she referred to the disease as "cruel" and "dreadful".

Scarlet fever had been more virulent in the nineteenth century and deaths were comparatively few in the early twentieth century.[224(p343-344)] Poliomyelitis and diphtheria caused more deaths in the twentieth century.[224] The New Zealand Department of Health was given the power to close schools and cinemas and restrict the movements of children during the poliomyelitis epidemics of 1916, 1925, 1937 and 1948.[228(p110)] A vaccine for poliomyelitis was not available in New Zealand until 1956.[224(p325)] A vaccine for diphtheria was available in 1922 but it was not widely taken up until the 1940s.[224(p356-357)]

There was no cure for these diseases at the time but people did recall the use of preventive measures. Ingrid (NZE, 1925) recalls sulphur being burnt on a shovel and carried around the house during a diphtheria epidemic, a common practice at the time.[140] When Alastair (NZE, 1932) had measles his father put burning sulphur on a shovel, walked throughout the house with it and "just about killed everybody". This practice originated in England and the belief was that burning sulphur destroyed germs.[229(p1335)] It was used widely during the influenza epidemic of 1918.[230(p152-153)]

Other New Zealand sources also refer to sulphur (with treacle) being given to children as a blood purifier.[124, 140] During an outbreak of diphtheria in the 1930s, Aaron's wife was given a bag of eucalyptus to wear around her neck by her mother. Home remedies such as eucalyptus are further discussed later in the chapter.

Despite the presence of these infectious diseases participants described their upbringing as very healthy. It is possible that they have a more positive memory because they were children at the time. Also, most participants did not have any direct experience in their family of the potentially serious consequences of these epidemics. Sufferers of infantile paralysis, for example, could be severely crippled for life. The people I interviewed were those who survived some of the serious epidemics mentioned above. Their parents probably had a greater fear of some of the common infectious diseases and their use of preventive measures such as burning sulphur is evidence of this. Participants' beliefs that modern children are less healthy because of the medicines they take and the unhealthy food they eat is explored at the end of this chapter. Robert (NZE, 1929) was the only participant who described his childhood as unhealthy although he did not use that exact phrase. He pointed out that he was underweight, had a lot of asthma and had to see the doctor often. He said that his family did not have any problems with paying for this.

4.3.3.2.3. Other serious illnesses

Participants' families also used home remedies and over the counter products to treat other serious illnesses. Paul's sister had a disorder called Saint Vitus Dance (Sydenham Chorea: a neurological disorder) which caused her body to involuntarily jerk.[231] Their father was a great believer in "natural cures" and he would collect seawater, heat it up, and bathe her in it. Paul (NZE, 1915) was not sure if the cure worked but said that his sister now only has small twitches. Grace (Māori, 1920) said that "sort of pneumonia and something like that" was common amongst all of her siblings when she was growing up. She could not specify whether this was pneumonia, tuberculosis or a different respiratory disease. Up until the 1930s Māori

experienced a disproportionate level of respiratory disease, amongst other diseases, in comparison to Pakeha.[232(p359)] Grace's mother would treat them at home by putting them on a mattress in the main room of the house by the stove, rubbing them with camphorated oil and putting a poultice, which came in a tin, on their chest. The poultice was probably an over the counter product called antiphlogistine which was common at the time and referred to by a few other participants.[125] Antiphlogistine was used by nurses during the 1918 influenza epidemic to provide temporary relief for patients' chest pain.[233] The combination of treatments used by Grace's mother can be seen as a home response to the illness in comparison to going to the doctor for medicine or advice. Their family was poor and lived in the country making it difficult to access a doctor. In addition to her own family, Grace's mother also used to treat other people's sick babies which would be brought to stay with her until they were well.

It can be seen that the participants experienced treatments with remedies which are not common in New Zealand today. Most of the medicines that participants recalled were given for coughs, colds, general illnesses and as preventive measures. These are explored in the following subsections.

4.3.3.3. Over the counter products

Most of the over the counter products purchased were liquids, food-based products, inhalants or ointments. There were few tablets purchased other than aspirin which most of the participants recall being present in their homes. It was one of the only medicines from that time that the participants still take today. At the time it was mainly used as a pain relief medicine.[234] Over the counter products were purchased from stores, chemists, and the Rawleigh's Man.

Most of the participants mentioned regular visits from the Rawleigh's Man in their childhood. The Rawleigh's Man was a door-to-door salesperson who sold medicines and kitchen products such as vanilla essence. The medicines he sold were mainly ointments and liquids. Participants could remember him coming into the house with

a case full of products once or twice a year. Aaron (NZE, 1926) thought that the Rawleigh's Man was more or less the chemist for a lot of people. He said that over time the Rawleigh's Man became less popular because people could go to the chemist and get a wider range of products or get a prescription from the doctor. Conversely, David's (NZE, 1934) family could not even afford Rawleigh's products and his mother normally turned them away without buying anything.

Calamine Lotion was commonly used for rashes, sunburn and, as already mentioned, measles and chicken pox. For cuts, grazes, or infections such as ringworm parents would apply Dettol, iodine, Mercurochrome (a skin antiseptic), gentian violet (an antiseptic dye for the skin) or an ointment from the Rawleigh's Man. The active ingredient in Mercurochrome was mercury and this product is not readily available in New Zealand today, probably because of unease regarding mercury poisoning. Gentian violet is still available in New Zealand but the Dermatological Society argues that there is little clinical trial evidence supporting its effectiveness or long-term safety and they recommend the use of antibiotics or other modern medicines.[235] Paul (NZE, 1915) said his mother used Jeyes fluid to treat his foot when he cut it open with an axe. Jeyes fluid is a disinfectant designed for outdoor use (clearing drains and cleaning sheds, greenhouses and decks) but was also inhaled, added to bathwater or applied to the skin as a remedy.[236, 237] David's family could not afford products such as Mercurochrome or gentian violet so his father used condy's crystals (potassium permanganate), mixed in warm water, which he thinks his father received during his time in the New Zealand Army during World War II. Condy's crystals were commonly used as an antiseptic.

The products people were given also reflect some of the dominant health beliefs that existed at the time, especially in the areas of "strengthening" children and constipation. These two subjects are discussed in the subsections below.

4.3.3.3.1. "Building up"

Almost all of the New Zealand European participants referred to medicines which were given to "strengthen" or "build people up". Many over the counter products were purposefully marketed as products which would strengthen people. Sometimes these medicines were given when the participants were ill and other times they were given them daily at certain times of the year. Some of the most common over the counter products for "building up" mentioned by participants born in New Zealand were cod liver oil, Lane's Emulsion and malt. Cod liver oil and malt had been common ingredients in health products since the nineteenth century. Kariol, produced by the Karitane Products Society and one of the main products recommended by Plunket nurses in New Zealand for babies, was made from dextrose (now known as glucose), vegetable oil and cod liver oil.[132(p92)] Lane's Emulsion was effectively a local version of emulsions available in England and America that were designed to make cod liver oil more palatable.[238] Some products combined malt and cod liver oil. An example of some of the advertisements for Maltexo (a malt syrup) and Lane's Emulsion can be seen in Figure 2 on the next page.

Figure 2: Maltexo and Lane's Emulsion advertisements

(Clockwise from top-left: ca. 1940, ca. 1940, 1927, ca. 1936; National Library of New Zealand: Matapihi online database)



Alastair (NZE, 1932) remembers his mother starting to give them Lane's Emulsion, Maltexo or Benger's Food (a powder which was mixed with milk) in autumn to help build up resistance for winter. When winter was approaching he used to think that, unfortunately, it would not be long until he would be given Lane's Emulsion. Alastair and David (NZE, 1934) referred to the use of Lane's Emulsion to build children up after they had a cold or a couple of colds in a row. Robert even recalls cod liver oil being given by his mother to treat his asthma. Paul (NZE, 1915) said that if you were "off your food or you were a bit bedraggled…and if you were a bit like dragging your feet type a malt was considered". John's (NZE, 1932) sister grew thinner and thinner between six and eight years of age and the doctor recommended she take Maltexo. Maltexo is a product which is still used in New Zealand today but is less popular. The advertisement in Figure 3 below, from a 1928 edition of New Zealand Truth, emphasises the strengthening qualities of Maltexo. It also highlights that Maltexo is a natural product.

Figure 3: Maltexo advertisement

(New Zealand Truth, issue 1175, June 7 1928, p.12)



A STURDY YOUNG FELLOW.

There he goes now, the very picture of health—cheeks rosy, eyes bright, agleam with pleasure—such a strong, sturdy little chap.

Mother knows what makes him so fit and well—"Maltexo with Cod Liver Oil," the great tonic food.

There's nothing to rival "Maltexo" for building up children. It makes them strong and healthy, builds up bone and muscle. This is the time to give the youngsters "Maltexo." Help them to ward off the ills and chills that always lurk around during the cold winter months.

In hundreds of New Zealand homes "Maltexo" is a standard winter tonic. It is Nature's very own food. No drugs or chemicals, nothing but the concentrated essence of prime barley malt. It's very pleasant to take, too; children are eager to have it.

In 1lb. and 2lb. jars and 7lb. tins for family use. "Maltexo with Cod Liver Oil" for those with weak chests and lungs. All chemists and stores.*

The description of Maltexo today, on the company website, is more muted: "A spoonful each day is a great way to boost general well-being and combat the trials of winter".[239] The concept of strengthening was not just practised in the home. Alastair (NZE, 1932) remembers that malt products were a part of social security and they were recommended by the doctors who "dished it out like the bucket full". He was referring to the 1938 Social Security Act passed by the New Zealand Government and this is discussed in the subsection on home remedies. Henare (Māori, 1927) was a prefect at his school (native school) and one of his jobs was to give his classmates,

who were lined up outside the classroom, a daily teaspoon of cod liver oil from a jug. The children disliked the taste of it and most of them spat it out afterwards. Henare (Māori, 1927) said that it was an attempt to improve the nutrition and health of Māori children. The school abandoned the idea eventually and introduced powered milk instead, followed by the purchase of a fishing net which he and some of the other children used to go fishing. He also remembers District Health Nurses visiting the school. At the time Native Schools were seen as important in efforts to improve the health of Māori children.[240(p199-200)] This included the giving of health advice or dispensing of medicines by teachers and visits from District Health Nurses.[240(p199-204)]

The participants born in England and Ireland shared similar experiences of medicines given for "strengthening". Sister Caitlin (Irish, 1926) was brought up on a small farm in County Kerry and said that there were a variety of tonics, "pick me ups", which were common when she was growing up in Ireland. During her time at the convent if Sister Caitlin was ill one of the Sisters would purchase a tonic, a "pick me up", and often this was cod liver oil. Evelyn (English, 1925) said that when her husband was growing up in England his mother gave him cod liver oil and malt because he was so thin.

When she was growing up in the Cook Islands Amipa's (Cook Islands, 1933) mother gave her cod liver oil or castor oil whenever she was feeling unwell. She did not mind the taste of the cod liver oil but disliked the castor oil; she would be unhappy whenever she saw her mother getting the spoon out. Amipa's parents, born in the Cook Islands, had been trained as Presbyterian missionaries and she said because of this, they were not keen on the traditional "island medicines". Ethnobotanist Whistler argued that the missionaries sought to suppress the practice of herbal medicine because they were concerned about its links with the pre-Christian religious beliefs of the Cook Islands.[241] Later in the chapter it is shown that Amipa's parents still used some Cook Island remedies.

Amipa
Amipa was born on the Island of Rarotonga, in the Cook Islands, in 1933. She had yellow fever when she was born and was not expected to live. As a result of this she lived with her grandmother for the first 5 years of her life until her grandmother died. She then lived with her parents who were missionaries. She had nine sisters and five brothers. She came to New Zealand when she was 15. Over the years she has worked as a domestic helper and also as a worker in a woollen mill, limeworks and timber mill. She married and had four children. She eventually returned to Rarotonga with her family. Her children returned to New Zealand and she followed them after her husband died.

During her childhood her mother tended to be suspicious of local home remedies and preferred to use castor oil and cod liver oil. During her working years in New Zealand she took few medicines. When she was 24 and carrying her first child, her doctor recommended that she take iron tablets. She was very reluctant to take them but her doctor encouraged her to. She currently takes two asthma inhalers and is very reluctant to take any further medicines. There have been times when her doctor prescribed something and she did not take it.

Many of the medicines mentioned in this subsection, and the next, contained vitamins which were often emphasised in the advertising of these products. However, cod liver oil had been a popular remedy before the discovery that it contained vitamin A and D.[237(p116)] Some participants were aware of the existence of vitamins when they were growing up but none of them recalled being given any vitamin tablets. John (NZE, 1932) recalls that before World War II vitamins "swept in" and that "vitamin As, Bs and Cs were unknown to us. We didn't know. And suddenly you had to get your vitamins". He recalls nurses visiting his primary school and encouraging them to eat foods such as apples that they were instructed to eat with the skin on. Crellin argued that it was not until the 1950s and 60s that there was a transition from using general tonics for strengthening the body as a whole to the use of vitamins.[120(p152)] Vitamins were promoted as ingredients in a variety of tonics but over time these tonics were replaced in common usage by a variety of vitamin preparations.[237(p237)]

Crellin argued that strengthening was an important health concept in the early twentieth century in England, America and Canada.[120(pp51-58)] It was part of a belief system, carried over from the nineteenth century, which highlighted the importance of fortifying, strengthening and revitalising the energy of the body. Weakness was

considered a basic medical problem. In Milne's 1928 book, The House at Pooh Corner, the character Roo had his strengthening medicine, Extract of Malt, for breakfast every morning.[242]

Although participants did not directly refer to tuberculosis or any similar diseases, some of the medicines they were given were recognised as treatments for these conditions. Tonics such as cod liver oil were seen as treatments (but not cures) and could be given to strengthen people suffering from tuberculosis or as a preventive measure to build resistance in children.[120(p67), 237(p233), 243] It is possible that participants' parents gave these medicines to guard against the common cold as well as more serious conditions such as tuberculosis.

A belief in strengthening still exists today but it is focussed on the importance of vitamins and the immune system. Vuckovic and Nichter pointed out that parents in the United States of American give vitamins to their children to "ensure health and prevent illness" and that people see vitamins as "insurance against environmental hazards, life stresses, and compromised immune systems".[244] A 2006 study, of 549 New Zealand European children aged three and a half years, found that 24% were taking daily dietary supplements (multivitamins, vitamin C, iron supplements, halibut oil) and 39% were taking them weekly.[245] A limitation of this study is that half of the participants were born weighing less than, or equal to, the sex-specific 10th percentile for gestational age. The participants were also from one ethnicity and Māori and Pacific Island children use relatively less dietary supplements.[80] Despite these limitations the study shows that the use of dietary supplements for New Zealand European children is common.

4.3.3.3.2. Laxatives

Many of the home remedies were designed to remedy constipation and participants testified to the effectiveness and thoroughness of these laxatives. Medicines given for constipation included castor oil (from the seeds of the castor oil plant), Epsom Salts (mineral compound of magnesium and sulphur), and a variety of products

containing plants such as senna, cascara and, especially, figs (Syrup of Figs, Figsens, and Califig). All three of these plants are known for their purgative qualities. Some participants said that if they went a day or more without having a bowel motion they would be given a laxative.

Sometimes participants were also given a laxative if they had a "tummy ache" or seemed ill or "off colour". Alastair (NZE, 1932) said that once a month he was given a laxative to have a "clean out" regardless of whether he was constipated or not. Camilla's (NZE, 1916) aunt told each of her eight children, as they left home: "Read your Bible and keep your bowels open". Evelyn (English, 1925) commented that during her youth in England people thought that everything stemmed from constipation. Ingrid (NZE, 1925) said that her family used castor oil sparingly but other families used it all of the time. She remembers one family that gave their children castor oil for everything from "gastric upsets" to cuts and bruises because the idea was to give them a "good clear out". Ingrid (NZE, 1925) thought the idea of clearing people out was logical but that being given castor oil that often was a "bit drastic". Henare (Māori, 1927) remembers his parents boiling flax for constipation but does not think it was given regularly. Māori crushed the roots of harakeke and korari (flax) for constipation.[84] A few participants also believed that laxatives were used as a form of punishment. David (NZE, 1934) joked that his mother gave him and his brother castor oil, if they had raided an orchard and eaten green fruit, to "clean you out of your sins". Of course, castor oil was also given in this situation because unripe fruit can upset the stomach.

Crellin considered laxatives as part of the health beliefs of the period between 1900 and 1950.[120(p85)] At the time people believed that to be healthy the bowels had to be clean and people had to have regular motions. Constipation was perceived as something which caused ill health. This was linked to the belief that dirt left to collect in the home could be a source for disease and waste stored in the body was the same.[221(p298)] Laxatives were also given for a range of illnesses besides constipation.[120(p85)] The School Medical Service and popular health manuals in New

Zealand reinforced the importance of having regular bowel motions.[140, 222(p133)] Dunedin doctors, in books and public talks, advocated the importance of keeping the bowels active.[221(p297)] Interviews conducted as part of the Caversham Project also found that children at the time were regularly given laxative products.[140] Pharmacist and historian Whorton argued that "The 1920s and '30s were the golden age of purgation as literally hundreds of brands of bowel cleansers competed for consumer dollars with lurid advertisements such as the Cascarets warning of the dangers of "Bowel Bloat"".[246]

Most of the participants who were given laxatives did not have fond memories of them because of the effect they had and the taste. Some participants physically cringed when describing them. Paul (NZE, 1915) said he has probably forgotten some of the remedies his mother used but he would never forget castor oil: "That bloody blue bottle of castor oil, it's as glaring in my memory now as it was eighty or ninety years ago". Aaron (NZE, 1926) said that most of the medicines he had for his bowels, such as senna and Syrup of Figs, tasted "nasty". He said that in his youth, if something tasted nasty it was good and if it did not taste nasty then it was not so effective. David (NZE, 1934) said that usually you told your Mum you went to toilet at school, even if you did not, so you could avoid being given Epsom Salts for constipation. David said that he had a fear of medicine and did not like taking it.

These examples show that participants had a negative view of a lot of the medicines they were given regularly as children because of the taste or the laxative effect. They had no choice but to take them because they were administered by their parents. In comparison people did not refer to any of their current prescription medicines, which were mostly in tablet form, as having a bad taste. Modern prescription tablets are formulated to disguise the taste of the active ingredients whenever possible and this is perceived as an important factor in people's willingness to take their medicines.[247]

4.3.3.4. Home remedies

Home remedies, even more than over the counter products, are evidence of the self-sufficiency of families at the time and their use of products that were available in the home or which could be purchased for a low cost. A Reckitt's Blue Bag was a bag that was placed with clothes when they were being washed to whiten them and this was also placed on bee stings. The main ingredients were synthetic ultramarine (a blue pigment) and sodium bicarbonate (baking soda), a common home remedy for bee stings and other skin irritations.[248(p59), 237(p82)] The milk from thistles was used for warts, dock leaves were rubbed on stings, and lemon and honey was given for colds. Miriam (NZE, 1923) also remembers her mother heating a small calico bag of salt and placing it on her ear to cure earache. She laughed when she told me this story and said it might have just been an old wives tale because she was not sure if it worked or not. It is probable that participants' parents purchased the raw ingredients, to make some home remedies, from the chemist as this was still common in the early twentieth century.[249(p63)] Home remedies could also be recommended by doctors. Alastair (NZE, 1932) remembers the doctor telling his mother once, when she had taken him to consult the doctor about his eating, that he was very healthy but that it would not hurt for them to give him a little bit of beer.

Home remedies for preventing ill health were also common. Ruth (NZE, 1927) remembers her mother mixing up sulphur and malt in winter and giving the children a daily spoonful to ward off colds. She said that she can still taste it. Miriam (NZE, 1923) lived on a farm in Southland, twelve to fourteen miles from the nearest town. She remembers that whenever her mother, or the children, went to town they would have a teaspoon of sugar with three or four drops of eucalyptus on it to ward off colds. She said that her mother came from Orkney and that there were no medicines or penicillin in those days. In Orkney when the doctor visited the first thing he would ask for was a spoon of sugar so he could put some eucalyptus on it and it was a practice that her mother carried on with in New Zealand. Aaron (NZE, 1926) said that a lot of people put eucalyptus on their handkerchief as a preventive measure

because "in those days if you got anything you suffered". He believed that the reason they suffered is because a lot of people could not afford to go to the doctor or the chemist.

Camphor placed in a bag around people's necks was a preventive remedy which three of the participants mentioned and Camilla's (NZE, 1916) mother gave this to her children just before the start of spring every year. This was also a preventive measure which people had used during the 1918 influenza epidemic.[230(p152)] The use of these preventive measures, alongside the burning of sulphur, shows that parents were possibly fearful of influenza and other serious respiratory diseases in addition to the diseases already mentioned such as diphtheria.

One of the most common home remedies participants mentioned were poultices made from bread, mustard or soap combined with sugar. These were most often applied to boils, which were common at the time, but could also be applied to other types of skin infections. The obvious advantage of these poultices is that the main ingredient was inexpensive and already present in the house.

The interviews suggest that some of the participants whose families were poorer used a greater range of home remedies than those whose families could afford to go to the doctor more often. Participants also referred to the Great Depression of the 1930s and the

Harry
Harry was born in Christchurch, New Zealand, in 1921. His parents had come to New Zealand from China in 1920 and moved from place to place working as market gardeners. Harry and his younger brother were sent back to China, to his grandparents' village, for six years during the Great Depression. His parents wanted them to avoid the hardship of the Depression but also saw it as an opportunity for them to learn more about their Chinese heritage. Not long after Harry returned to New Zealand he started work as an assistant at a fruit-shop and moved out of home to live above the shop. He eventually owned his own fruit-shop and worked there until he retired. He married in 1948 and had four children.

He started taking regular prescription medicine, when he was 69, for his thyroid. He trusted the doctor, accepted that he had to take them and has disciplined himself to take them regularly. Other than Tiger Balm his wife and he do not use any Chinese medicines. He says this is because they grew up in New Zealand and tended to go to the doctor and get western medicines if they or their children were unwell. He accepts his prescription medicines as a part of his normal daily routine.

financial strain it caused on their families. Aaron's (NZE, 1926) father worked for the Dunedin City Corporation doing public works on roads (such as cutting and clearing roadside grass) and Aaron said he physically wore himself out by working long hours. Aaron's family was very poor and could not afford to attend the doctor or buy a lot of over the counter products. As a result they used a great range of home remedies: ginger for indigestion, garlic as a tonic and an antiseptic, urine for chilblains, and manuka honey for wounds. The use of garlic as a tonic and ginger for indigestion are centuries old remedies, recognised in different parts of the world, and the use of manuka has been well recognised in New Zealand for a long time.[250(p209,211), 85(p289)] Grace (Māori, 1920) remembers that her family could not always afford to buy food but they were able to supplement their diet with traditional Māori foods such as eels. She said that she cannot look at or eat an eel now. Camilla (NZE, 1916) has vivid memories of long lines of people marching through the main street and stones being thrown through the windows of one of the big grocery stores. Her family struggled during the Great Depression but her father kept his job as a salesman for a soft drink company. Harry (Chinese, 1921) and his younger brother were sent back to China for

Aaron

Aaron was born in Dunedin in 1926. His father had seven children from his first marriage and then three from his second. When his father's sister died, her three children moved in with them as well. By the time Tim was growing up some of the older children were moving out of home. Aaron said their family was very poor and struggled to make enough money to clothe and feed all of the children during the Great Depression. At the time his father worked long hours doing public works on roads for the Dunedin City Corporation. Aaron married in 1952. He worked as a firefighter for his entire working career.

In his youth, Aaron's mother used a great range of over the counter products and home remedies. They could not afford to go to the doctor very often but his parents were also wary of taking prescription medicines. Aaron believes the reduced cost of visiting the doctor and free medicines, which were introduced as part of the Social Security Act 1938, saved his family. He took a regular medicine for hayfever from an early age. When he had to start taking more regular prescription medicines he was suspicious of them and did not always take them. However, it did not take him long to decide that they were necessary. He has experienced side-effects from medicines in the past and would rather not take so many of them. However, he trusts his doctor and believes he would have difficulty functioning without his medicines.

six years during the Great Depression although his parents also saw it as an opportunity for them to learn more about their Chinese heritage. Harry said that before social security and free medicines people could not afford to buy medicines so they would go to people such as the Chinese herbalists and buy products from the Rawleigh's Man. That is not to say that all of the participants struggled and Alastair (NZE, 1932) and Greg (NZE, 1932) recall that their fathers (office worker and a lead burner at an engineering workshop) kept their jobs and their families did okay. Alastair's mother also had money from her parents which they were able to draw on.

Of course, some families such as David's (NZE, 1934) were poor even after the end of the Great Depression. He compared his childhood to that of his own children:

> And you had to be the kind of the doctor, the nurse and everything, therefore you had your own kind of remedies that you would learn from your Mum, that you treated your kids with. Whereas we got into this supposedly more learned age…and we had the money to send someone to the doctor.

The social security that people referred to was the Social Security Pharmaceutical (Supplies) Benefits introduced in May 1941 and the Social Security (Medical Benefits) Regulations 1941. The first provided for free medicines with a prescription from a registered doctor and the second provided doctors' visits free of charge to the patient. [251(p19, 27)] However, the Social Security Amendment Act 1949 allowed doctors to charge patients a fee.[251(p27)] These benefits were part of the Social Security Act 1938. It was this Act that Prime Minister Michael Joseph Savage referred to at a Labour Party Conference in 1938 when he said that New Zealanders would have social security "from the cradle to the grave".[232(p358)] Historian King described the Social Security Act as the Labour Government's crowning achievement which was highly valued at the time because of the recent experiences of the Great Depression.[232(p358)] The number of prescription medicines being dispensed by pharmacies increased after 1941 but at the same time demand for health advice from pharmacists may have decreased because people could afford to go to the doctor.[252(p37)] Aaron (NZE, 1926)

thinks the free medicines probably "saved" his family at the time even though his parents were still suspicious about prescription medicines.

The home remedies referred to in this chapter are more than just a historical list of treatments. They represent the belief in sorting out medical complaints at home. Home remedies were used because, even with the over the counter products mentioned above, families could not always afford to buy branded products and there was not the range of medicines that are available today. Home remedies for health were only one part of a much wider trend of self-sufficiency where families made their own products, such as products for cleaning, instead of purchasing ready-made products from stores. A few participants recalled their mothers making soap at home. Miriam's (NZE, 1923) mother used to heat a stone in the oven and then wrap it in paper or a sock to keep the children's hands warm on the walk to school. A few participants recalled Aunt Daisy, a radio broadcaster, and her daily morning show where she talked about handy hints for cleaning and health, recipes and listeners' contributions. There were also a series of Aunt Daisy books with handy hints. Alastair (NZE, 1932) remembers customers coming into his pharmacy with recipes for health remedies they had heard from Aunt Daisy's radio show. Booklets produced by medicine companies included advertisements for their over the counter products alongside health advice, cooking recipes and handy hints for cleaning.[253, 254] The reasons why people used a range of home remedies are similar to the reasons why people did not visit the doctor often and this belief in self-sufficiency is further discussed as a theme later in the chapter.

4.3.3.5. Herbal medicines

Most of the New Zealand European participants said their families did not use herbal remedies other than the previously mentioned dock leaves and thistles, although David's (NZE, 1934) wife remembers her father boiling up horehound weed for his arthritis; he used to bottle it and have some every morning. These were remedies that

again exhibited the belief in self-sufficiency and the use of products, and plants, instead of going to the doctor.

Some of the participants had a few experiences regarding herbal medicines. During his time in his grandparents' village in China Harry (Chinese, 1921) recalls that there were many herbal medicines, as well as ointments and cough mixtures, but he cannot remember many details about them. In Dunedin his mother worked for a Chinese herbalist but he does not remember her giving him any of the remedies. He did not live at home once he returned from China so he was not long under his mother's influence. Harry left home to work at a fruit shop; at the time it was common for fruit shop owners to provide accommodation for Chinese employees. Grace (Māori, 1920) did not think her mother knew any Māori medicine and that she tended to do things the "Anglican" way. She said that her mother "was a Māori but she…leaned more to the, not to the Māori side, to the other side". She used western remedies such as castor oil, poultices and camphorated oil. Grace does remember her mother boiling blue gum leaves to "open the pores" on the skin (blue gum: a type of eucalyptus).

Amipa's (Cook Islands, 1933) mother did not normally believe in traditional Cook Island medicine and one example of this is explored in greater depth here because it illustrates the interplay between western and traditional ideas of health in the Pacific Islands. When Amipa was twelve years old she was very sick and her mother took her to see Dr Tom Davis who told them that he could not help and that she needed "island medicine". Her mother was surprised by this. She took Amipa to her aunty, a practitioner of island medicine, who gave her something to drink which she then had to vomit out. After 1900 the government medical service in the Cook Islands was run by qualified doctors from the United Kingdom, Australia and New Zealand and over time this extended to the training of Cook Islanders as medical staff.[255(p67)] Dr Tom Davis was born, and spent his childhood, in the Cook Islands, attended high school and medical school in New Zealand and then returned to the Cook Islands to work.[256] Whistler argued that many of the Cook Island medicines were for ailments affecting infants that people believed could not be treated with western

medicines.[83(p102)] According to Whistler, it was common for western-trained Cook Island doctors to "direct the parents of ailing infants to consult native healers".[83(p102)] Amipa also remembers a grass or weed used to put on sores, cuts or mosquito bites and leaves from a special tree which were picked, boiled and then added to a bath for her mother after she gave birth. Amipa's parents would arrange for a massage when she was in pain, a common practice in the Cook Islands. Although Amipa's mother preferred the use of western remedies and health practitioners she still used some local remedies. In the Cook Islands in general, both western and traditional medicines are commonly used by people.[83(p89)]

Three of the participants grew up with a great range of herbal medicines and each of them was from a different ethnic background: New Zealand European, Māori and Polynesian. The experiences of each of these three participants are explored in greater depth here because their use of herbal medicines was different from most other participants.

Henare's (Māori, 1927) parents gathered and prepared their own herbs and were avid practitioners of Rongoā Māori, the traditional Māori healing practices which included the use of herbal medicines.[84] Henare was brought up in an isolated Māori community in a place called Te Hapua which is in the far north of New Zealand. There was no chemist, doctor or even a Māori tohunga (traditional Māori healer) and the closest town which had a doctor was Kaitaia. Kaitaia is ninety minutes' drive from Te Hapua today but in his childhood Henare said the trip could take up to two days because people did not have cars, the roads were not sealed, and there was an estuary to cross. His family did not use any cod liver oil or any other over the counter products. He did mention two practices which were western remedies: putting cobwebs into wounds and applying bread poultices. On the whole, the New Zealand European participants did not mention any Māori remedies except for Aaron who mentioned manuka honey and Paul who mentioned puha (a green vegetable which is native to New Zealand).

Henare could not remember all of the remedies they used but he does recall the use of boiled kumarahou and kawakawa for the blood, boiled flax for constipation and a herbal poultice for drawing a boil out. Henare's parents told the children not to touch a certain plant outside their house because it was the one they used for boils. According to pharmacist Williams, kumarahou was used internally for a range of illnesses such as colds and bronchitis and kawakawa was used as an aphrodisiac and a blood purifier. Both of these plants are common in the far north of New Zealand.[257(p32, 32)] Williams was a pharmacist in Kaikohe (which today is two and a half hours drive south of Te Hapua) in the 1930s and found that his Māori customers still practised Māori medicine and visited tohunga.[257(p11-13)] Henare said that the sacred things to do with the body were under the authority of the father and the wife would support him. His parents would pray when they were mixing the herbs together. He did not consider the use of these herbs as medicine and he told me several times that he did not have much medicine in his life until he was older and had to start taking it for diabetes.

Even though Henare (1927) and Grace (1920) are both Māori, with Māori parents and grandparents, their medicine experiences were different in that Henare was brought up in a more traditional Māori settlement while Grace was brought up with mostly western remedies. Henare, although born in New Zealand, had an upbringing quite different from New Zealand European participants. Henare was born while his family were travelling to their kumara (sweet potato) patch; the soil and conditions were not right to have their kumara close to their home. His father delivered him and cut the umbilical cord with the sharp edge of a smashed glass bottle. Grace assumes she was born "in the grass" outside her home and delivered by her father because that is what happened with all of her younger siblings. In 1920, 35% of non-Māori had their babies in hospital, in 1930 it was 68% and by 1938 it was 87%.[258] In contrast, in 1937 just under 17% of Māori women gave birth in hospital and this rose to just under 50% by 1947.[258] It was not unusual for Māori men to deliver babies and

traditionally (pre-European) birthing took place outside in the open for Māori who were not related to a chief.[258]

Lepati (Tongan, 1935) grew up being given Tongan herbal medicines. Lepati lived with his aunty during his youth who was a traditional Tongan healer, a kau faito'o, and who taught him about Tongan medicines. The use of these medicines was a common and accepted practice at the time. The majority of kau faito'o were women, their practices were normally passed down from generation to generation and they were respected in Tongan society.[83(p42)] They were not professionals who were paid money for their ability but practised part-time and they did receive gifts in exchange for their services. Whistler argued that because the healing arts were seen as a gift from God it would be "considered a breach of both religious and cultural etiquette for a faito'o to expect payment for the services rendered, but exchange of gifts is an integral part of Tongan culture".[83(p43)] Lepati's aunty and his family in general, were also comfortable with using western medicines alongside the traditional Tongan medicine or resorting to them if the Tongan medicine had not been effective. Capstick et al. argued that in the Pacific Islands there is an acceptance of both western and traditional medicines.[82] In some cases western medicines are perceived as effective in curing western diseases and the same is true for traditional medicines and diseases. In other cases western medicines are resorted to when traditional cures have not been effective or the two are used in parallel. Capstick et al. and Whistler argued that in Tonga there has been a convergence of western and traditional beliefs regarding health.[82, 83(p41)]

David (NZE, 1934) grew up on the outskirts of Gore, a country town in Southland. His father was a truck driver and David said his wages were low for all of his life. His family were extremely poor and could not afford to go to the doctor or buy medicines. His mother had a great knowledge of herbal remedies which he thinks she had learned from her Scottish parents. David could not remember all of the details regarding these remedies and he said his mother never taught him about them. There was a concoction she made, perhaps from dock leaves and Canadian

Thistle, which she heated up and made his brother inhale for blocked sinuses. They used to pick rosehips which his mother gave to his sister for good health and ergot which he thinks was for "flu's and things". His mother also had her own concoction for rubbing on their chests, instead of using Vicks. Ergot is a fungus which grows on grasses such as cocksfoot. It can be toxic to humans but has also been used as a herbal medicine for a variety of reasons and in pharmaceutical medicines.[259] Rose hips are known as a source of vitamin C and during World War II people in England were encouraged to pick rose hips as there was a shortage of imported citrus fruit.[250(p164)] Even though David's family lived on the edge of a New Zealand town which had stores, a chemist and a doctor they administered their own health care.

All three of the participants mentioned above believed, and still believe, that the herbal medicines they were given were effective. For Lepati (Tongan, 1935) and Henare (Māori, 1927) the use of these herbal medicines was a common and accepted practice in the environments in which they grew up. Their family lives took place away from most of the influences of British medicines and health care. The use of herbal medicines is very different from taking modern prescription medicines and this was reflected in the way David (NZE, 1934) and Henare (Māori, 1927) said that they had taken few "medicines" (prescription medicines) over the course of their lives. Their initial reluctance to accept regular prescription medicines is discussed later in the chapter.

4.3.3.6. Chemists, doctors and prescription medicines

As already mentioned, families could not always access the doctor or chemist because of issues of cost and distance. Even some participants who lived in suburbs outside of the Dunedin city centre said it was not always easy to visit the chemist or doctor because their family did not own a car and they would have to walk and catch a tram to get there. Before 1941 most prescription medicines in New Zealand were paid for in full for by the customer unless they were a member of a Friendly Society.

4.3.3.6.1. Chemists

Families purchased over the counter medicines from the chemist but most participants did not have a strong memory of the stores. This is possibly because they did not visit the chemist often or because their parents went without them. Most of the over the counter medicines could also be purchased at stores or at home if the Rawleigh's Man visited. Ruth's, Ingrid's and Alastair's fathers (painter/wall-paperers and office worker) belonged to a Friendly Society lodge and received discounts on their medicines; their families were able to visit the chemist more often. Workers who were members of a Friendly Society lodge in New Zealand could benefit from doctors' visits and prescription medicines at a reduced price from a Friendly Society Dispensary or from a chemist which had been asked to dispense for the lodge. [140, 249(p75-76)] This was possible because the dispensaries were owned by combined lodges which levied a small fee from a large number of members and benefitted from wholesalers' mass production concessions.[249(p75-76)] In the 1920s and 1930s, when Friendly Societies were at their most popular, membership was around 11% of the population.[260(p205)] Ingrid (NZE, 1925) recalled that the lodge scheme was very good for her family and that it was the only way "ordinary people with not much money managed". Ruth (NZE, 1927) and Ingrid (NZE, 1925) remember the counters, the big display bottles and the chemist stepping into the back of the store to mix a medicine. When medicines and visiting the doctor became free in 1941 there was no need to belong to a Friendly Society to receive medical and pharmaceutical benefits and membership declined.[249, 260(p204-205)]

David (NZE, 1934), Paul (NZE, 1915) and Aaron (NZE, 1926) said their families could not afford to go to the chemist and Miriam (NZE, 1923) and Grace (Māori, 1920) said they lived too far away from the closest chemist. The two Pacific Island participants do not remember visiting a chemist and Amipa (Cook Islands, 1933) was not sure if there even was one in Rarotonga. In Ireland Sister Caitlin's (Irish, 1926) parents went in the pony and trap to town to purchase goods such as medicines but she never went with them to a chemist or a store to buy a tonic. During her childhood in

England Evelyn (English, 1925) said that her grandmother would try and avoid going to the chemist because it was expensive and "nine times out of ten" she knew how to treat you. She lived in Middlesex on the outskirts of London. In the United Kingdom the National Insurance Act 1911 provided medical services to manual workers earning less than 160 pounds a year but, with the exception of a maternity provision, this did not provide for women and children.[42(p25)] The establishment of the National Health Service (NHS) in 1948 introduced free hospital and doctors' visits and free prescription medicines.[42(26-27)] Ireland was still a part of the United Kingdom when the National Insurance Act 1911 was passed but was a republic by the time the NHS was established. The 1947 and 1953 Health Acts in Ireland implemented subsidised health care for people on lower incomes but not universal health care free of charge.[261, 262(p248-249)]

4.3.3.6.2. Doctors

Most participants said that they did not visit the doctor very often and some said they never had contact with a doctor in their youth. The doctor also visited people's houses if they were very sick and two participants recall the doctor taking their sisters' tonsils out on the kitchen table. Miriam (NZE, 1923) is sure that she never visited a doctor or saw a doctor in the house until she was much older and her father was dying. The only time Amipa (Cook Islands, 1933) remembers seeing the doctor in her youth in Rarotonga was the time, already mentioned in this chapter, he recommended she take "island medicine". Grace (Māori, 1920) said that her family did not see the doctor often because of the cost and the fact that they lived a long way from the nearest doctor in town:

> I can't remember what they did to cope with, but they coped. And everybody was the same, you know? In that era. Nobody was running to the doctor for something, and that. You've gotta be very serious to, you've got to be nearly dead, virtually, to be carted off to the doctor, or have the doctor come and see you.

Sister Caitlin (Irish, 1926) said that in Ireland it was common to buy a tonic, whether it was one the family had used previously or one recommended by a neighbour, and

"hope for the best" instead of going to the doctor. Participants said that it was not normal to "run to the doctor" when they were growing up and this is discussed later in the chapter. Historian Brookes argued that in the southern suburbs of Dunedin, up until the 1930s, it was normal for people to look to family and neighbours for health advice and support in times of sickness and death because of the cost of accessing a doctor.[140]

Paul (NZE, 1915) argued that the doctors did not have any worthwhile medicines when he was growing up in the 1920s (a decade earlier than most of the other participants) and that they were only recommending the same products people were already using such as Maltexo and Lane's Emulsion. He said that instead of going to the doctor, people would to talk to their neighbours about different cures: "medication was sort of well known amongst the different ones and they all had their own ideas of how to cure". This again supports the view of Brookes that working class people looked to their neighbours, not doctors, for health advice.[140] The next subsection discusses the relatively small range of prescription medicines that were available from doctors at the time. Greg (NZE, 1932), who worked his whole life as a medical doctor, also said that there was not much doctors could do to help people when he was young and if someone had pneumonia then all the doctor could do was sit with them. Henare (Māori, 1927) said his mother used a mustard poultice for skin problems such as boils because there was nothing else available at the time. He said today "you'd be off to the doctor to get an antibiotic or something wouldn't you?"

Despite not seeing the doctor much, participants said that doctors were respected and their instructions were followed. Several participants emphasised that they did see the doctor if their parents thought an illness was serious. Alastair (NZE, 1932) said that a doctor was "God almighty in those days yeah, and a person was looked up to a lot too". Alastair's father was a member of a lodge and his family could afford to visit the doctor and his mother would take him if she had not been able to cure him at home. He remembers being intimidated by the doctor in a white coat.

Participants' comments also highlight that some people in their parents' generation, especially men, did not necessarily trust doctors and the medicines they prescribed. A number of participants referred to how their fathers would never take a medicine or visit the doctor. It is difficult to separate this view from the issue of cost and the belief in self-reliance because all three were inextricably linked. David (NZE, 1934) said that they could not afford to go to the doctor but he also thinks that part of this was the fact that his father hated going to the doctor. He does not think his father ever went to the doctor except for the time he crushed his thumb. One time Camilla's (NZE, 1916) mother arranged for the doctor to come to the house to see her father but he still left for work as usual and the doctor was upset that he had done so. She thinks her father did not like the idea that he needed a doctor whereas her mother had great faith in the medical profession.

These attitudes may relate to historian Belgrave's argument that it was not until the 1880s that the public confidence in doctors was sufficient for them to practice full-time.[263(p145-146)] He also argued that by the end of the nineteenth century, even though there was a growing trust in the "ability of science to effect cures", people were willing to visit a wide range of "irregular practitioners".[264] Participants' parents, mostly born at the turn of the century or earlier, could have shared in these attitudes. In the late nineteenth century the practice of home health solutions was even more common than in the early twentieth century.[133] However, most participants said that doctors were trusted and respected even if their families could not afford to, or did not see the need to, visit them often. The next chapter shows that most participants have a high degree of trust in their doctors.

John's (NZE, 1932) and Dorothy's (NZE, 1925) families had reason to distrust doctors because both experienced a death in the family which occurred when people were under medical care. Dorothy's father died in hospital under anaesthetic. She did not specifically blame the doctor involved but mentioned that her mother had wanted a more recognised and experienced GP to perform the operation but he was unavailable at the time. John said his grandmother was "mildly diabetic" and she

went into a "diabetic state" when in hospital in 1941 to have a toe removed; she was given a sedative and died of a "diabetic coma". John said it is surprising that she died in this manner when she was in hospital surrounded by nurses and doctors: "you can see how much confidence that gives you in the medical profession". However, his mother trusted the doctor and when he was young the doctor visited him several times at their farm.

4.3.3.6.3. Prescription medicines

Participants had little contact with the doctor which meant they also had little contact with prescription medicines. Most participants could not remember much about any medicines from the doctor unless it was a product familiar to them such as malt or Lane's Emulsion. This is understandable because these interactions were negotiated between their parents (most likely their mother) and the doctors and as a child their role was very passive. Most medicines prescribed by the doctor would have been only for a short period. This meant that doctors, and what they prescribed, were not as large a part of their experiences as the various home remedies and over the counter products given to them regularly by their parents. Of course, even if I had been able to interview the participants' parents I still might have discovered little about prescription medicines. According to Roger, one of the older pharmacists I interviewed to provide background information, it was common for doctors to stipulate that only the pharmacist was to know what went into the medicine. Often a patient only received a bottle that might say: 'The Tablet, take 1 daily.'

There were few prescription medicines available during participants' childhood. Cooper pointed out in 1977 that 95% of the medicines available at that time were unknown in 1950 and that in 1920, six medicines accounted for over 60% of the prescriptions written.[265] In the 1930s there were still only a limited range of products available and only a few synthetic compounds, such as aspirin and barbiturates, were available.[251(p24)] Loudon and Drury argued that prior to 1950 there were only twenty-five medicines and vaccines available to doctors which might be judged

effective if they were subjected to a randomised trial.[266(p100)] When Roger started working as a pharmacist in the early 1950s he said that pharmacists were still making about 70 percent of everything they dispensed.

It is also clear from participants' responses that the use of over the counter products and home remedies, and the belief in strengthening and laxatives, did not end when medicines and doctors' visits became free in 1941. This is probably because the uptake of doctors and prescription medicines would have been a gradual process and also because, as mentioned above, there were still relatively few prescription medicines available. Roger said that even after World War II people still came to the pharmacy, to buy products over the counter, without having seen the doctor first because the doctor was expensive. By this time doctors had started to charge patients again.

4.3.3.7. Alternative medicines

Some of the medicines mentioned in this chapter would be considered 'alternative' in New Zealand today but they were common, and accepted by parents, in households at the time these participants were growing up. The term 'alternative medicine' was not common in the early decades of the twentieth century but the practice of quackery was and some participants did refer to this. The Oxford online dictionary defines a quack as "a person who dishonestly claims to have special knowledge and skill in some field, typically medicine".[215]

The question of whether a product could be considered as a form of quackery is complicated. In England in 1914 a government appointed Select Committee condemned many patent medicines as quackery but at least thirty of these remedies were included in the British Pharmacopeia which was administered by the medical profession.[216] In a 1980 thesis on quackery Gray argued that the increasing demand for Lane's Emulsion in New Zealand, after the passing of the 1908 Quackery Prevention Act, was evidence of the failure of legislation to curb the popularity of quackery.[267(p75)] Ingrid (NZE, 1925) referred to the fact that Lane's Emulsion was

considered a trusted medicine: "Much to my horror…Because I hated it so much". She said that her mother did not give her a lot of medicines and there was no quackery being practised. She referred to quackery as:

> People doing outlandish things with trying all sorts of odd medicines or people also being made their medicines imposed on other people that were really not medically sound. Some families got dosed with things all the time, and people trying everything out, but we weren't really like that at all.

Ruth (NZE, 1927) also talked of how her parents kept Lane's Emulsion in the house but that they did not believe in quackery. She said that quacks were around making money and that they would have a bottle of stuff that was for every ailment under the sun. Lane's Emulsion, because it was accepted by people as an effective remedy for colds and winter ills, was not considered a quack remedy.

Some participants referred to some of their mother's remedies as being "old wives' tales", indicating that they were not sure how trustworthy they were. Aaron's (NZE, 1926) wife thought the eucalyptus her mother gave her must have worked as a protection against infantile paralysis because she, and the other children with eucalyptus, did not contract the disease. Aaron was not convinced; he pointed out that he did not wear eucalyptus and also did not contract the illness. Sister Caitlin (Irish, 1926) said that in Ireland you would have a cabbage leaf put on your head for a headache. As soon as she told me this I had to force myself not to laugh but she laughed herself and said she was not sure how effective that practice was. Conversely David (NZE, 1934) said that his mother was very academic and was not a "witch doctor" because if she discovered something was an old wives' tale she would "drop it and pick up the new".

These examples show participants did make some distinction between medicines which were trustworthy and those that were not. Despite their mostly positive views of the older over the counter products, most of the participants in Investigation One, along with those from Investigation Two, were not keen on using modern non-prescription medicines. This is discussed in the next chapter.

4.3.3.8. Low medicine use

Even though all of the participants said they took few medicines, Miriam (NZE, 1923), Harry (Chinese, 1921) and Dorothy (NZE, 1925) reported the lowest use of medicines. Harry said his family did not use medicine much, other than Tiger Balm and the odd cough mixture, but he admitted that he has trouble remembering certain things that far back in his life. Miriam lived in the country and only remembers visiting the dentist at the nearest town but never the chemist or the doctor. She said her family was very healthy and hardy and only used a few remedies such as Rawleigh's products and eucalyptus. Dorothy said that other than a cold-pack for mumps her family never used any medicines or home remedies. She said that people did not run to the doctor for small health matters when she was young and they were not "dosing themselves up" with medicines. This is the same thing that many other New Zealand European participants had said but their families did use a range of different medicines whereas her family did not. She told me that this was normal for all families at the time and was surprised that I had not already heard that from the other participants I had interviewed. She is the only participant who was not

Dorothy
Dorothy was born in Dunedin in 1925. Her father died during surgery in 1933. When her mother developed Parkinson's disease Dorothy stopped working as a nurse to look after her; she nursed her mother for twenty years until her death. She has lived on a 7 acre piece of land south of Dunedin since 1963; the land has been fully organic for all of that time. She believes that she came into the world as someone who was interested in being organic. She married in 1967; her husband worked for the Reserves Department.

Unlike most other participants, she said that her family did not use any medicines other than a cold pack for mumps when she was growing up. In 1963 she became extremely ill and lost one third of her body weight; she believes this was due to a neighbouring farmer spraying gorse on their boundary line with Tordon (2-4-5-T). From that point onwards she has had issues with her health. She found that she had Multiple Chemical Sensitivity which does not have widespread recognition from health professionals. She discovered over time that her health improved if she only ate meat, fruit and vegetables from her own land. She only sees a doctor every five years to renew her driver's license. There have been times when she was unwell that she did not go to the doctor to avoid being prescribed anything. If she was prescribed anything, she would probably choose not to take it.

taking any prescription medicines at the time of the interview and she purposefully avoids visiting doctors because she does not want them to prescribe her anything. I was curious to know whether there was a link between her current attitudes and her upbringing but she said that she has always had the same attitudes towards medicines and it was not related to anything her parents taught her. However, there probably was a link between her beliefs and the fact that her parents did not use, or give her, many medicines.

4.3.4. Medicines during working life

Many of the New Zealand European participants still lived at home once they finished school and started work and did not leave home until they were married. In terms of medicines and health, participants talked about these years as a time when they were still living under their parent's roof but were not necessarily subject to their decisions about medicines or other matters. Participants might still have some of the same medicines and remedies mentioned earlier but they could also avoid having to take medicines that they did not like. Eight of the participants left home after they finished high school. These participants began their working lives outside of their parents' influence and did not have to take medicines which they disliked, such as laxatives. A few participants said they still used some of the same over the counter products and home remedies they had been given by their parents.

The majority of participants did not take many medicines during their working lives other than occasional pain relief, headache relief, hay fever relief, cough mixtures and antibiotics. Most of the participants who did take regular prescription medicines at some point in their working lives only had to take them for short or set periods of time. Participants also had little contact with doctors, pharmacists and hospitals. Participants could not recall much regarding these incidences of taking medicine and it was difficult to encourage them to talk about medicines during these decades of their lives. It was hard for people to remember all of the details of a medicine they

only experienced once or twice over a long time. Participants also considered some of their experiences very mundane such as taking an aspirin for a headache. However, this lack of regular medicines is an important factor when considering participants' transition to regular medicine taking which is discussed in a later section.

Amipa (Cook Islands, 1933) and David (NZE, 1934) had some experiences of regular medicines during their working lives. When Amipa was twenty-four and carrying her first child her doctor discovered she was short of iron and gave her a bottle of iron tablets to take. At first she did not like having to take them but the doctor told her she had to if she wanted to live and she wanted her son to live. It was the first time in her life that she had to take a regular prescription tablet. In this example the stern warning from her doctor meant that she did take the tablets but as she grew older she still did not like taking medicine and did not always take what doctors prescribed her.

When David was at teachers' college in his mid-40s he contracted pneumonia and had a collapsed lung. He believes it happened during the time when penicillin was first used and he was given ten injections over the course of ten days. From then on he believes that he had a weak chest and was badly affected whenever he experienced a cold. He thinks he must have had antibiotics for a bad cold just about every year of his life since then. He said that at the time antibiotics were highly appreciated and that it was "unbelievable what you could do with them". This experience of taking antibiotics annually had little bearing on his general attitude towards medicine and he was very reluctant when he had to start taking regular prescription medicine later in life.

Four participants talked at length about experiences of medicines during their working lives. The first of these was John (NZE, 1932) who talked about the medicines he took for back pain and hay fever, both of which were linked to his work as a farmer. Denis (English, 1926) and Paul (NZE, 1915) talked about their medicine experiences related to World War II and Robert (NZE, 1929) talked about his experiences of having bipolar disorder. Each of the four individuals is discussed in

depth here as their experiences regarding medicines during their working lives were very different from all of the other participants. Their experiences also provide an opportunity to focus more on the importance of older people's life stories in relation to their current attitudes towards medicines.

4.3.4.1. Back pain and hay fever

John (NZE, 1932) said that he and other farmers would sometimes take selenium when they were giving it to the sheep: "But if you took some it definitely gave you a buzz, you would definitely feel better for it". He said that farmers did not talk about it because it would have been frowned on and it happened before selenium was officially marketed to humans. He said that it was not a hallucinatory drug but it was a boost and days later you would realise how much better you felt.

John injured his back while working on the farm when he was 35. His doctor told him he would have to put up with it and that it would get better. It did get better but he is still having treatment for it, just over forty years later. One medicine from his doctor he described as "a bottle with a felt, like a big felt pen and you could rub it onto your back" and it eased the pain almost straight away. When he returned to the doctor for more he was told it might make him lose his eyesight and that he could not have it again. Then his doctor gave him a tablet which was "marvellous" and also made his back pain go away. Then his doctor told him he could not have it any more because it would kill him if he had a stomach ulcer. When Voltaren® (diclofenac) became available he took that until his "stomach rebelled" and he had to stop taking it. If he has it now his stomach becomes sore straight away. John was happy to take the different medicines for his back because he wanted to relieve the pain and was annoyed that certain medicines which had been effective became unavailable over time. Even with the side effect from Voltaren® he did not stop taking it immediately but he eventually decided that the sore stomach was worse than the sore back.

John also experienced similar problems with side effects from his hay fever medicines. He started taking Phenergan® (promethazine; an antihistamine tablet) when he was at school; it would make him very sleepy so he tended to take it at night. Another hay fever tablet he was given did not make him sleepy but gave him "tummy ache" so he had to decide what was worse: "Tummy ache or being around dozy all of the time or putting up with sneezing". Sedation is a known side effect of Phenergan® and it was not until the 1980s that non-sedative antihistamines were discovered.[268] He could not remember the name of the other tablet but stomach pain is a known side effect of some antihistamines.[269] At some point in the early 1950s John's doctor gave him a Benzedrine inhaler (a nasal decongestant) which he found "marvellous" because a couple of "squirts" in each nostril cleared his nasal passages. He said that it was discovered Benzedrine was an ingredient for making the illegal drug "P" and he was not able to buy it. The Benzedrine inhaler, containing amphetamine, became available in the United States in the early 1930s and within years there was concern regarding misuse of the medicine.[270] Over time amphetamines became widely used as recreational drugs and in New Zealand the street name for methamphetamines (one of the amphetamine group of medicines) is "P". In New Zealand methamphetamines have been illegal to possess since 1975 and amphetamines are prescription only medicines.[271]

Although the experiences mentioned above did involve taking regular medicine, participants did not consider it to be the same as when they had to take a daily prescription medicine. John (NZE, 1932), David (NZE, 1934), and Amipa (Cook Islands, 1933) all described having to adjust to having to take prescription medicine later in their life. The participants who took regular and permanent hay fever medicines from their youth (Aaron and John) did not perceive these to be the same as the prescription medicines they started taking later in life. They did not give a specific reason for this. They may not have perceived hay fever as a serious illness in comparison to their other health problems especially as hay fever medicines could be purchased over the counter.

4.3.4.2. World War II

The two participants who fought in World War II had different experiences of medicines than the other participants. Denis (English, 1926) left school at age 13 but then left home, without the permission of his mother, to join the Merchant Navy (United Kingdom). The ships he worked on had their own doctors and when they were travelling through the tropics they had to take quinine because of the danger of malaria and dengue fever. He remembers taking liquid quinine to begin with which tasted terrible but this was eventually replaced by a quinine tablet.

Denis was captured by the Japanese and imprisoned in prisoner of war camps around Singapore. In the camps he had dengue fever, dysentery and tropical ringworm. He said that the Japanese would not give them any medical supplies and the only thing they had was iodine. Robson et al. argued that prisoners of war in the Far East suffered from lack of food, medical supplies and medicines and exposure to tropical infections.[272] Denis said the prisoner of war doctors made the rest of their medicines out of anything that was handy such as coconuts, bamboo shoots, palm oil grass and other things he cannot remember. The doctors also bred maggots to put on tropical ulcers. For his dengue fever he was given a paste which he thinks was a mixture of grass, palm oil and other products. He said that their biggest problems were hygiene and malnutrition and he remembers eating snails boiled in water because the doctors said they were nutritious. After the war, on the ship taking him from Singapore back to Liverpool, he and the other prisoners of war were given six or seven tablets regularly by the Red Cross which he thinks may have been vitamins.

Denis said that he was fortunate not to have suffered any long-term effects from being a prisoner of war. He said that his current attitude towards health is quite different from during and after his time as a prisoner. He said that then, when he was sick, he would try and get over it, not worry about it and not complain. This attitude during a time of war was echoed by Evelyn (English, 1925). She said that during the war in England people did not have time to worry about their health: “We were more worried about bombs knocking our houses down or shrapnel going into

people and things like that and our husbands and that being away at the front". Evelyn (English, 1925) married at age 16, earlier than all of the other participants, and left home to travel with her husband who served in the Royal Air Force (aerial division of the British Armed Forces) during World War II. Denis (English, 1926) said that now he starts complaining if he gets a sore leg. However, I could discern from his answers to other questions that he is still not keen on the idea of complaining and taking medicines for pain. This could be linked to his experiences during the war, although, other participants who did not fight in the war shared similar views regarding pain and medicines. He said that when he was a prisoner of war he had to have a good sense of humour and look on the bright side because if you did not "you was down under [dead]". Although he experienced health problems during his time as a prisoner of war, they were not long-term conditions and once he settled in New Zealand in 1947 he was taking no regular medicines.

Paul (NZE, 1915) was in the New Zealand Army during WWII and he remembers being given "number nines" which were for constipation and were common when soldiers said they were feeling "off colour". He said that he had always been a person of nervous disposition even though he did not show it outwardly. During the war he was physically steady when under shellfire but his stomach was churning. When he came back from the war he either could not sleep at all or would wake up violently. He is not sure whether he was dreaming about being in the war or not. At the same time he was working very long hours and becoming increasingly short tempered with his wife and children. His doctor at the time prescribed him medicine for his "nerves" [anxiety]. The medicine he takes now is called lorazepam but he is not certain what it was when he first started. It is difficult to ascertain exactly what medicine he was originally given for his anxiety and he thinks it started when he was aged between 36 and 40. It could have been a barbiturate or a "minor tranquiliser" which were common medicines for anxiety in the 1950s or, if he was mistaken about the age he started on the medicine, it could have been a benzodiazepine which first became available in the early 1960s.[273, 274] To begin with his doctor gave him a strong

dose but he found that they were making him sleepy in the daytime. Paul (NZE, 1915) mentioned this to his pharmacist who said the tablets were too strong and his doctor gave him a lesser dose. Once this was sorted out he felt great relief from taking them and was happy to continue with them. At first he only took one tablet at night but as time went on he found he needed to take two tablets, which his doctor was very unhappy about, and then three tablets. Every doctor he has ever been involved with has always tried to cut down the number he takes, including the doctor at the rest home he is now in. He told the doctor that he has been taking them for so long he does not know whether he needs them or not but he feels it is better for him to take them and sleep well at night. Before coming into the rest home he promised his GP that he would never take more than three of these tablets (lorazepam) at night.

Paul was so desperate for relief that he was happy to start taking a regular prescription medicine even though he was still young and had never taken a regular medicine previously. The initial side effect was not sufficient to keep him from taking them permanently. His doctors were probably concerned he was taking three lorazepam a night because it is a benzodiazepine and these medicines have been linked with risks of dependence, cognitive impairment and falls in older people.[275] They are medicines which have attracted a large amount of adverse publicity.[274] Participants in a 1995 New Zealand study, of people taking benzodiazepines, said that their GPs would occasionally challenge them to stop or reduce the medicine.[276] If they saw a new GP they would be confronted regarding their use of the medicine.

Robert (NZE, 1929) has been taking regular sleeping tablets for the last forty years of his life and it is likely that he originally took benzodiazepines (he cannot remember the name of the medicine). His use of this medicine is closely linked to his experiences with having a bipolar disorder and this is discussed in the next subsection.

4.3.4.3. Bipolar

In 1953, aged 23, Robert (NZE, 1929) had what he termed a "breakdown" while working as a surveyor in Christchurch; he cannot remember exactly what happened but knows he was picked up by the police. He was sent to Sunnyside, a psychiatric hospital, and told he had schizophrenia and that he might be very unwell for the rest of his life. At the time patients with schizophrenia were commonly hospitalised for long periods of time.[277] His father had him transferred to Ashburn Hall, a private psychiatric hospital in Dunedin, under the care of a doctor who said that he would have Robert well within six months.

At both hospitals he received electric shock treatment and insulin shock therapy. Insulin shock therapy consisted of injecting patients with large doses of insulin to produce diabetic comas and was common in the treatment of schizophrenia in the 1940s and 50s.[278] Robert said that the electric shock treatment he used to receive in the 1950s was different from today where you are given a muscle relaxant: "Those days they didn't. I think they just about have you strapped down and yeah you hear them yelling and calling out". Robert said he does believe in the procedure because he has seen the difference it has made to some people. There was only one time in his life when he told a doctor that he did not want shock treatment at that particular time. For himself he did not think it affected him "either way" and he said it was "just something they used to do, and wasn't that bad".

Robert had another major breakdown twelve or fourteen years later and from then until now he has had numerous stays in psychiatric hospitals or wards. It was not until he was around the age of 36 that a doctor told him he suffered from a bipolar disorder. He was grateful to know exactly what he had: "better the devil you know than the devil you don't".

He started taking sleeping tablets in his early 40s and has been taking them every night from then until now. He believes that the sleeping tablets are an important form of relief for his bipolar:

> that's the trouble with psychiatric illness, if you feel depressed or you're fighting something, like if you're going to get angry or something like that, I believe each time, having a good sleep helps you no end. I think it's better than the doctor lots of times. But if you're lying awake, and I used to experience this prior to you know, taking, the sleeping pills when I first started. Tossing and turning, and you'd feel when you'd get up in the morning, you'd be worse than what you were when you went to bed. I think that people with psychiatric illness, they do play an important role in their health and general recovery in the long run.

He believes that some people should be encouraged to refrain from taking sleeping tablets but that it would be wrong to do that for "psychiatric people". He referred to instances in the past when there has been some tension with doctors and pharmacists regarding his use of sleeping tablets.

Having sufficient sleep is important for people with bipolar and sleeplessness can trigger a manic episode.[279, 280] The use of sleeping tablets is common amongst people with bipolar although often people use them only when needed.[281] Although Robert cannot remember the name of his original sleeping tablets he now takes zopiclone, a nonbenzodiazepine. Long-term users of sleeping tablets, both benzodiazepines and the newer nonbenzodiazepines, can be at risk of dependency, neuropsychological issues and other adverse effects.[275, 282] The next chapter discusses how some people are very reluctant to use sleeping tablets while others believe they are a necessity. Robert (NZE, 1929) perceives them as integral in controlling his bipolar and he was already a regular user before he started taking medicines, such as sodium valproate (a mood stabiliser), later in his life. The attitudes of Robert and Paul (NZE, 1915) are in contrast to most other participants who said they were reluctant to take medicines for sleep and anxiety because of concerns about addiction. Their experiences show that some older people may have different experiences regarding medicines for mental health during the middle decades of their lives.

4.3.4.4. Medicines given to children

I asked participants about the medicines they gave to their children with the aim of exploring what they themselves believed about medicines and health and whether

they maintained the same attitudes as their parents. Eleven of the participants had children and had to administer medicines to them. This was a process mostly overseen by mothers. When I was interviewing male participants, their wives often answered a lot of the questions.

Participants did not give their children the same wide range of home remedies and over the counter products they had had as children, but some remedies were still used. With the majority of participants there was not the same emphasis on giving medicines for constipation and a few said they had not wanted to give their children the same medicines, which tasted bad and had a strong laxative effect, that their parents had given them. Participants still used home remedies such as the blue bag and eucalyptus and over the counter products like castor oil, cod liver oil, Lane's Emulsion, Maltexo and Epsom Salts for their children. There was still a belief in giving children tonics to "build them up". Denis (English, 1926) was a great believer in Lane's Emulsion and he gave it to his son because when he was asleep he kept banging his head on the pillow. Denis thinks it was a nervous disorder. He is not sure if Lane's Emulsion did cure his son but he said that his son was still alive. Evelyn (English, 1925) still lived on the outskirts of London after the war and the government paid for babies to have cod liver oil and orange juice if parents visited their local clinic. She thinks it was because of rationing during the war and the fact that many mothers may have been undernourished when they gave birth. The cod liver oil and orange juice were part of the rationing introduced by the Ministry of Food during the war and they were designed to provide for the nutritional needs of children.[138, 283] After the end of the war, the NHS continued to provide these products. These two products were also important in New Zealand during World War II. During the war there was a shortage of oranges (considered an important source of vitamin C for children and a preventive measure against scurvy) and information and recipes regarding alternatives were circulated to mothers.[284(p23-24)] The vitamin D content (in the cod liver oil) of Kariol and commercial malt and cod liver oil products was increased to prevent rickets.[284(p22)] In 1940 and 1941 there was a shortage of cod

liver oil being shipped to New Zealand and as a result a New Zealand industry was started.[284(p22)] Consequently in the late 1940s New Zealand was one of the countries which sent cod liver oil to Europe for children with rickets.[285(p205)] The official sanction that cod liver oil received shows its importance and recognition as a health product at the time.

In this period doctors still recommended over the counter products. Amipa (Cook Islands, 1933) said that she never gave her children any over the counter products but a doctor in Oamaru used to recommend giving a mixture which she thinks was cod liver oil mixed in golden syrup and could be purchased from the chemist. Ruth's (NZE, 1927) daughter had bronchitis and the doctor recommended she inhale Friar's Balsam, a common remedy for providing relief for people with bronchitis.[286, 287]

The participants who had been given a lot of herbal medicines in their youth did not continue this practice with their children except for Lepati (Tongan, 1935) who had his children in Tonga and continued to use the same remedies he had learnt about as a child. David's (NZE, 1934) mother had not taught him about the herbal medicines she used and he was able to afford over the counter and prescription medicines for his children. Henare's (Māori, 1927) wife said their children were very healthy and had no need for over the counter products or herbal medicines. Henare did give his daughters shark skin to chew on when they were cutting their teeth and this was an old Māori remedy.

Two of the participants emphasised that they closely followed all of the advice given to them by Plunket. Plunket recommended that Harry's (Chinese, 1921) wife regularly give their children cod liver oil in their milk. Plunket also recommended goat's milk and sheep's brains as special foods for their son who had eczema. She said they trusted Plunket's advice and always did what the Plunket nurse told them.

While some participants said that they still believed in the older home remedies and over the counter products their parents had utilised, the times had changed and those medicines were no longer as common. One difference from their own youth

was that participants could more easily access doctors for their children's health and did so if they were in doubt. Evelyn (English, 1925) believed the remedies her grandmother gave her were more like "natural medicines" and they were effective. However she did not give them to her own children because they went to the doctor more often (it was free in England by then) and her son was born with a serious physical ailment that could not be treated with "natural things".

Participants mentioned that prescription medicines and antibiotics were available as their children grew up. David (NZE, 1934) said that they "grabbed hold of the penicillins and things, because they were sort of instant cures, unbelievable what you could do with the stuff". Then over time they found that penicillin was not curing their children the same way it had in the past and they believed that they had lost their own immunity. He feels that eventually they became wiser and became more reluctant to use antibiotics unless it was really necessary. He said it was "hard" not to use antibiotics when a child was in real pain.

Many people I have talked to, who are the right age to be children of participants in this thesis, said that they remember medicines and remedies such as cod liver oil, Lane's Emulsion and camphor. Some people were surprised when I called these "old" remedies because they remember them from their youth. Even though the number of prescription medicines available was increasing exponentially during the period participants were having children (1940s to 1950s)[252(p36-37)] some of the older medicine practices clearly still persisted.

During this period participants had a high degree of trust in their doctors. They said that they only took their children to the doctor when it was essential to but they trusted the doctor's advice when they did. Some participants said it was cheaper and easier for them to take their children to the doctor compared to when they were young.

4.3.5. Transition to taking regular medicines

This section looks at participants' experiences of having to take regular daily prescription medicines. This is significant because it represents a change from people only having to take occasional prescription medicines to having to take them all of the time. This contrasts with the middle years of their lives when they took little medicine and their youth when they mainly took home remedies and over the counter products, not prescription tablets. The next chapter discusses how participants in both investigations do not like taking regular prescription medicines but take them because they believe it is necessary for their health. Camilla (NZE, 1916) had only started to take regular prescription medicine for the first time shortly before her first interview and this is discussed in the next chapter because it involves her recent experiences.

4.3.5.1. Importance of symptoms

Some participants were sufficiently convinced by the seriousness of their medical condition that they needed to commit to taking prescription medicine. Ruth (NZE, 1927) started taking tamoxifen for breast cancer at age 60. She said she knew of three people who had their breast removed, were prescribed tamoxifen, had the medicine discontinued five years later and were dead within eighteen months. She did not want the same to happen to her; she wanted to live because she had children and grandchildren she wanted to spend time with. John (NZE, 1932) was 60 years old when his doctor telephoned at 4pm on Christmas Eve to say that his blood test was serious, he needed to start on tablets immediately or he would get liver damage and he had to drop everything to go into Geraldine to get the prescription. John said that when your doctor rings you in this manner on Christmas Eve you do not argue or resist and you realise that you have to take the medicine. Ingrid (NZE, 1925) started taking blood pressure medicine twenty years ago after her mother died, of cardiac problems, and the doctor advised all of their family to get their blood pressure checked. She hated having to start taking the medicine but was prepared to do it

because she could see that it was needed. She has always seen it as a precautionary measure to ensure she does not have the same health problems as her mother did. Initially the medicine affected her adversely and the doctors had to change it until they found one that worked. She found the side effects distressing but they did not cause her to stop taking the medicines altogether; she believed that she had to take them. As already mentioned, Robert (NZE, 1929) started taking sleeping tablets forty years ago as a result of having a bipolar disorder. He said that when he started on them they were one of the only forms of relief for people with a psychiatric illness because they provided anxiety free sleep.

These participants disliked the idea of taking regular medicines but they were willing to take them to avoid death or a serious health complication. The next chapter also shows how participants in both investigations are willing to keep taking their prescription medicines today because they believe they are good for their health. Ruth (NZE, 1927) and John (NZE, 1932) trusted their doctors and accepted their judgement that regular medicines were necessary. Ruth said that she had faith in her doctor and that: "They don't prescribe these things for nothing; that has always been my philosophy – you get on with life". This trust in doctors is referred to again at the end of this section.

4.3.5.2. Struggle with transition

Some participants struggled initially with the transition to taking regular medicines. Sister Caitlin (Irish, 1926) hated having to take a prescription medicine for the first time (four years ago) because she had never had to do it previously and it was very hard to become accustomed to swallowing it. David (NZE, 1934) started taking prescription medicines around the age of 50 and had his first heart operation at 53. Before the operation he had to take an increasing number of tablets; he hated it and at first he purposefully did not take all of them. He believes that your attitude towards taking regular medicine is influenced by your parents and his father would not have taken a tablet for anything. Having grown up with very little recourse to

medicines, doctors, or chemists he did not like having to take a regular medicine for the first time. Also, as a rugby player and coach he had always been a fit and active person. By the time he started to realise he needed the medicine he was only taking three tablets and by the time he was 55 he decided he would have to take it or die. Even though David struggled with the transition more than the participants mentioned above he, like they, realised that his condition was serious enough that he needed to take them.

Aaron (NZE, 1926) also resisted having to take regular prescription medicines for the first time. He had started taking regular medicine for hay fever and rhinitis since his 20s and they had been a relief for him. When he was retired from work and starting to take more and more medicine he was suspicious of it because his parents were suspicious of medicines and believed people were "drugging" themselves. He said that this attitude was handed down to children and that if you told children for long enough they absorbed it. He purposefully did not take all of his medicines. He gradually felt that he did need to take the medicine because he decided if you were sick enough, you were glad to get some relief.

Amipa (Cook Islands, 1933) does not like taking medicines because she never had to for most of her life and she has not always taken the medicines prescribed by her doctor. One time her daughter contacted her doctor and said that she had not been taking the medicines; the doctor said that she had to take them for her own good health.

These examples, especially the participants who said they were influenced by their parents, exhibit the importance of people's past experiences regarding their attitudes towards medicines.

4.3.5.3. Retired medical professionals

The retired health professionals that I interviewed were also able to draw on experiences of having to prescribe and dispense medicines when it came to their

attitudes towards the regular use of prescription medicines. This was different from the experiences of other participants. Greg (NZE, 1932; doctor) was resistant to taking medicine because of his previous experiences and some of the adverse effects of medicines he had seen. He was not as easily convinced by the advice of other doctors that he needed to take medicines because he himself was a doctor.

Ingrid (NZE, 1925; nurse) does not like taking medicine but is unsure if her experiences as a nurse have influenced her or not. Sometimes during her nursing career she had been unsure about the number of medicines that she was administering to patients but it was not her place to question this at the time. She also wondered whether having had so much experience of sick people meant that she did not want to see herself that way: "No, I don't know. It's a bit ironic really that you dish so many out that you don't want to take them yourself. I think it's something to do with that role [of being a nurse]".

Greg

Greg was born in Dunedin in 1932. His father worked as a lead-burner and his mother as a typist; he had one younger sister. He attended Waitaki Boys' High School which he described as very "Spartan". For example, they would swim every morning in summer and in winter they could have a warm shower but it had to be followed with a cold one. He feels it prepared him well for life; at one point he worked at a hospital in the middle of the Boston ghetto and he was able to handle it. He attended medical school and worked as a doctor for his entire working career. He married when he was 29 and had three children.

He remembers being given cod liver oil and rosehip syrup during World War II but does not recall being given many other medicines in his youth. He first started taking regular prescription medicines for Parkinson's disease but he stopped taking them because he thought they were not helping him. He was eventually convinced by a medical colleague that he needed to take the medicines regularly to give them an opportunity to work.

Alastair (NZE, 1932; pharmacist) realised he had to take medicines and he just accepted it. His body was telling him there was something wrong with it and his doctor was doing his best to put it right; Alastair needed to play his part and take the medicine. His experiences as a pharmacist had convinced him of the importance of having to take the medicines the doctor prescribed. Over the years he had seen people decline to take the medicines prescribed for them and then their health deteriorated.

4.3.5.4. Trusting doctors

Grace (Māori, 1920), Harry (Chinese, 1921), Henare (Māori, 1927) and Evelyn (English, 1925) said they did not worry about starting to take medicine because when the doctor said they needed it they knew they just had to take it. Henare said that he did not believe in taking medicines and this had affected his daughters who "thought twice" when they had to start taking regular medicines. When his doctor said he needed it to control his diabetes he accepted that he had to take it. Again this shows that participants trusted their doctors' recommendations regarding medicine and, on the whole, accepted that if the doctor prescribed something then it was necessary. Lepati's (Tongan, 1935) family were accepting of western medicines and traditional Tongan medicine. They respected the knowledge of western medicine because it was from overseas and were willing to use it if the Tongan medicines were not working. For him, there was not a difficult transition from taking no medicine to having to take regular prescription medicine. He was accustomed to both systems of medicine in his youth and is happy to use both now he is older and accept the regular use of prescription medicines.

This section highlights that the transition to taking regular prescription medicine was not an easy time for some participants. At that stage of their lives they were not accustomed to taking medicines and it was not the routine that participants in these investigations say it has become in their current lives. For some participants, the influence of their parents and upbringing also made it difficult for them to accept the need for prescription medicine. That participants were eventually able to overcome this resistance and accept the need for their medicines is evidence for their current willingness to take the medicines they are prescribed. Participants came to believe that their medicines were necessary and overseas studies argue that this is an important belief in people's decision to take medicines.[111, 288] Horne highlighted that people are willing to accept medicines for treatment if they perceive them as necessary and this perception outweighs any concerns they have about the medicines.[111]

This transition to taking regular prescription medicines is a topic which would benefit from further research because current and future middle aged people may also struggle with the need to accept medicines. Most qualitative studies focus on older people's attitudes towards medicines or people's attitudes towards medicines for a specific chronic illness rather than on the experiences of people having to take regular prescription medicines for the first time. Overseas quantitative studies have found that long-term adherence by middle aged people to newly prescribed medicines is poor.[289] A qualitative study by Townsend et al. found that middle aged participants with multiple morbidities had a strong aversion to their prescription medicines and sometimes stopped or minimised their medicines use.[290] A study by Park et al., of participants aged 34 to 84, found that middle aged participants who were working and had a busy lifestyle, had more problems with properly managing their medicines than older participants.[291]

4.3.6. Themes

The discussion so far in this chapter has been based on the different aspects of people's lives which were talked about during the interviews and has followed a chronological order. The following sections examine the main themes from all of the areas which have been discussed and are based on participants' attitudes towards medicines in general. The next chapter discusses participants' attitudes towards their own regular prescription and non-prescription medicines that they were taking at the time of the interview.

All three of the following themes have an element where participants compare the past to the present. This was partially instigated by me because the interviews covered the full span of people's lives and because at times I asked people if attitudes towards health and medicines had changed since they were children. Even taking this into account, participants were often keen to explain ideas by making a comparison between their childhood and today. The overall themes were related to

how people today are either too quick to resort to medicines or use too much of it. These sections show that participants' current attitudes towards medicines reflect their earlier life experiences and further highlight why they dislike taking medicine.

4.3.6.1. Self-sufficiency

It has already been discussed in this chapter that participants used a wide range of home remedies because they could not access the doctor due to barriers of cost or distance. On this basis families were forced to be self-sufficient in the area of health. Self-sufficiency was a necessity for poor families during the Great Depression and in World War II it was actively encouraged.[292(p27, 42)] Participants' families also seemed to have a strong belief in being self-sufficient regardless of challenges in accessing doctors and medicines. Participants emphasised that their families tried something at home first or something out of an Aunt Daisy book, before going to the doctor. When Camilla (NZE, 1916) was explaining why her parents did not go to the doctor or chemist often she said that it was too expensive and "people relied on themselves to a greater extent; they were more self sufficient". She then went on to talk about how they were self sufficient in terms of food with their vegetable garden and how there were no welfare handouts. Other participants also talked about the self-sufficiency of growing your own fruit and vegetables. Ruth (NZE, 1927) argued that people had more common sense when she was younger and that practices for health and cooking were passed down from generation to generation. She believes that today information is not passed on because children leave home early and some become single parents. She said that the modern pharmacies are very good but people "haven't a clue" and will go straight to the doctor or chemist. Brookes referred to one of her oral history informants, born in 1909, who had diphtheria as a child.[221(p299)] Her mother refused to let her go to hospital and kept her at home with a smock over her body, a cap over her hair, a shovel of burning sulphur in the room and a sheet with Jeyes fluid on it over the door.

David (NZE, 1934) said that you were not allowed to have a sick day from work and that meant people had to try and sort out problems such as warts as quickly as possible. David said that his family could not afford to access health care but as one of the youngest people in this investigation, born in 1934, he would have spent much of his youth in the era after the advent of free medicines and doctors' visits. Were his parents simply reluctant to access free health care because they preferred self-sufficiency or, as already mentioned, because of their distrust of doctors and prescription medicines?

Even though participants did not like the taste of many of the home remedies from their youth and were not always convinced of their efficacy, they viewed them differently from modern prescription medicines. This is possibly because they viewed them as more natural. Britten argued that people believe a wide range of modern medicines are unnatural because they are manufactured.[293(p50)] Aaron's (NZE, 1926) family was too poor to visit the doctor but he clearly indicated that his father was a "great believer in natural things" and preferred the use of Epsom Salts and salt baths over visiting the doctor for medicines. When his father was older and in a rest home he refused to take his medicines; he used to hide them and ask his son to smuggle them out of the home. This example again raises the idea, already discussed earlier in the chapter, that participants' parents did not always trust doctors and prescription medicines. This also could be a reason why families preferred the use of over the counter products and home remedies; they were medicines which were common and accepted and which they had probably received from their own parents. It could also be linked to beliefs regarding self-help and mutual aid which historian Roberts discusses in her study of the English working class and their attitudes towards welfare between 1890 and 1940.[294] Roberts argued that because of the strength of the "self-help mores" families attempted to help themselves out of financial trouble and disliked the idea of being aided by the state.[294(p206, 215)] Families also had a strong belief in the mutual aid provided by families and next-door neighbours.[294(p206-207)] Following on from this idea of self-sufficiency is the belief

expressed by participants that sometimes pain and illness was something which needed to be endured.

4.3.6.2. Reliance on medicines and "running to the doctor"

Participants talked about the importance in their youth of not complaining about illness. Sister Caitlin (Irish, 1926) and Denis (English, 1926) said that they never heard the word "stress" when they were young. Denis said that: "When I came home from the prisoner of war camp, no such thing as stress. We had to get on with it". Miriam (NZE, 1923) had a very sore shoulder once during her working life as a farmer. She just put up with the pain for a few years until she went to a specialist who told her it was a torn tendon. Sister Caitlin said that at her boarding school you were not encouraged to complain about being unwell unless you were very sick. Ruth (NZE, 1927) said that they were taught to "soldier on" when she was young unless they were very sick and they were not "molly-coddled". People of all ages make decisions based on their symptoms regarding whether they will seek to ignore an illness or pain, take a medicine for it, access a health professional or treat it in some other way.[293(p25-27)] However many of the participants in this investigation believed that people today use medicines too readily and this belief stemmed from their earlier life experiences.

David (NZE, 1934) was collecting wood in the forest with his father and brother when he tore a hole in his cheek on a piece of barbed wire; he said he could stick his tongue out through the hole. The three of them finished loading all of the wood into the truck and then drove back to the house so that his mother could take him to see the doctor. This story illustrates the attitude towards pain and injury at the time. Even though he had sustained a serious injury, the job at hand was still completed before returning home to allow him to attend the doctor with his mother. This idea of enduring pain and illness is closely linked to participants' belief that people today are too quick to run to the doctor.

Participants argued that people today are too quick to resort to the use of medicines. Aaron (NZE, 1926) sometimes thinks that perhaps people are too much into "drugs" these days:

> I think a lot of the medicine, it helps a great deal, but I think that most of the getting well when you've got something wrong with you is in the mind. It all depends how willing you are to get up and try to get on with things without sort of making a fuss. You can lie there and wallow in self pity and you won't get better for ages.

Participants also said that people were always "running to the doctor" these days in comparison to when they were young and that this was not a good thing. When they were young they either let an illness run its course or their parents treated it at home. Grace (Māori, 1920) joked that people go to the Emergency Department for a cut finger now. Some participants were careful not to criticise other people's practices and beliefs. They referred to the fact that people ran to the doctor too often but then added that perhaps some people were unwell and had to go to the doctor more. A few participants felt that their children were too quick to take their grandchildren to the doctors or let them off school. Alastair's (NZE, 1932) wife said that they hardly had any medicine when she was young: "Today they take a medicine if they sneeze". Dorothy:

> People were sort of, fairly tough in those days, weren't' they? You look at the people who have flu and things these days, and tummy bugs, and then they give you all these pharmaceuticals for flu, everybody getting flu injections to stop you getting it, and that kind of thing. It's only a money making thing.

Denis (English, 1926) said that some people rely on the doctor too much without thinking things out for themselves and that in his opinion recovering from illness is a case of "mind over matter". Two other participants also referred to the importance of "mind over matter". This reflects findings in Blaxter's intergenerational study of lay perceptions of health in London. The grandmothers in that study "acknowledged that drugs, in particular, were more effective nowadays" but preferred for themselves to use "mind over matter" models of cure.[188(p157)] Older Irish participants (aged 69 and over) in a 2002 qualitative study emphasised that they did not use

medical services unnecessarily.[261] They felt that younger people accessed medical services excessively and that people were too quick to "run to the doctor".

The next chapter explores how, even though participants accepted the need for their regular prescription medicines, they preferred not to take medicines for relieving pain. This is possibly linked to their experiences growing up when people, children included, were expected to "soldier on". Another reason people gave for why they did not need to "run to the doctor" in their youth was the belief that their daily diets and activities were healthier than those experienced by children today. This is discussed in the next section.

4.3.6.3. Healthy food and environment

Participants regularly talked about the importance of healthy food and a healthy environment. At first I thought this line of discussion was no more than an interesting distraction from the main topic of medicines. As the interviews progressed I realised that in participants' memories there was a link between medicines and health and food and the environment. Sometimes this link was expressed explicitly when people said that they had better health when they were younger because they ate healthier food and spent more time playing outside. Participants compared their healthier diets to the junk food and packaged food that children eat today which they believe is detrimental to their health. When I asked Ruth (NZE, 1927) if her family went to the chemist often she said no because in those days people were hardy: "And I don't know if it's because of people are more molly-coddled nowadays; processed food, not the ordinary porridges and plenty green vege; some kids won't even eat veges and eat McDonalds and chips and it's not a good diet". A few participants referred to the fact that fish and chips were the only takeaway available when they were young and that they did not buy it very often. Participants talked about their healthy diets as a reason for why they did not need a lot of medicines. This attitude is echoed in the next chapter with participants saying

they prefer to gain their vitamins and minerals from healthy food rather than from tablets.

A comparison between medicines and food at the time was more apt because a lot of the over the counter products were food-based such as Maltexo, Benger's Food, Milo, and Ovaltine. For example Miriam (NZE, 1923) told me that she did not have Maltexo when she was young but that she always had porridge every morning of her life. She believes that it is very healthy and "sticks to your ribs all day". A close friend of hers, who was living with her, had been very unwell and not eating his porridge but she was very encouraged and less concerned on the first day he had porridge again.

Historian Beattie argued that in late nineteenth and early twentieth century New Zealand people perceived a strong link between good health, good morals and a healthy environment.[295] The New Zealand Department of Health emphasised the value of fresh air and sunlight and was a proponent of open air schools and health camps.[228(p108)] Many people believed in the health benefits of sea breezes and Brookes argued that in Dunedin this was the reason "health-conscious families" left the inner city to live in suburbs by the sea.[221(p289)] In the early twentieth century mothers ensured their children's health through cleanliness, healthy food, regular bowel motions and fresh air which was supplied by opening the windows in houses and outside activities.[221(p295)] The belief in the importance of a healthy outdoor lifestyle is reflected in the experiences of participants. Greg (NZE, 1932) attended a boys' high school which had dormitories open to the weather, cold showers and early morning runs. When she was eight years old Ingrid (NZE, 1925) was sent to stay with family in Alexandra to help cure her bronchitis (this was an area where the warm/dry climate was considered conducive in aiding people with respiratory problems). After World War II Denis's (English, 1926) doctor sent him to a tuberculosis hospital, with wards open to the outside air, but he thinks it was smoking which caused his respiratory problems. Paul's (NZE, 1915) son was disinterested in food so when he was six or seven he was sent to a health camp for two or three months. It was

common at the time for parents to send their children to these camps if they had poor eating habits.[128] Evelyn (English, 1925) feels that her son's health suffered from them not having a garden when he was very young because they were "open air" people. The link between this and medicines is less clear but is evident in participants' references to these themes when I asked them about medicines. They perceived that because of their good health in their youth, largely a product of a good outdoor lifestyle and good food, they did not need many medicines.

It is questionable whether children and people in general were healthier when participants were younger. New Zealand's infant mortality rate did decrease significantly in the late nineteenth and early twentieth centuries.[224(176-178)] However, the child mortality rate and maternal mortality rate dropped significantly in most developed countries from the end of the 1930s onwards.[296, 297] The severity of some infectious diseases was waning but deaths from diseases such as poliomyelitis and diphtheria were still common in the early decades of the twentieth century. There were also concerns regarding the nutritional health of New Zealand children and this was one of the factors behind the introduction of the school milk ration in 1937.[228, 284, 298(p141-147)] However, it is possible that the childhood diets of participants were healthier in some respects because they ate little junk food or foods with high amounts of sugar and preservatives. A British study of the nutrient intake of four year old children in 1950 compared with the 1990s found that "due to post-war austerity" the nutrient intake in 1950 was arguably better than in the 1990s although the intake of fat was higher.[138] There is not an equivalent New Zealand study. Regardless of the facts, most participants perceived their upbringing as healthier in a number of ways and this is evident in their attitudes towards medicines. Participants' attitudes in this area may also be another way of emphasising that modern medicines are unnatural in comparison to the natural practices of healthy eating and exercise.[293(p50)]

4.4. Conclusion

This chapter shows that participants' life experiences do shape their beliefs about medicines. The last three sections of this chapter show that when talking about their current beliefs regarding medicines they made constant references to their earlier lives. Most participants had little experience of prescription medicines in their youth or working years and their parents believed that most health problems could be solved with home remedies or with medicines purchased over the counter. They did not consider the medicines from their youth as equivalent to modern prescription medicines and this meant that some struggled with accepting the need for regular prescription medicines in their lives. Participants were able to overcome this because they came to believe that their medicines were necessary. Their past experiences did not constrain them from making pragmatic decisions regarding their medicines. This is vividly illustrated by John (NZE, 1932) who could not argue with the necessity of taking medicines when his doctor telephoned him on Christmas Eve and instructed him to visit the chemist as soon as possible. Overseas studies show that when it comes to taking medicines people weigh up their past experiences and beliefs regarding harmful effects with their trust in doctors and beliefs in the positive effects.[111, 288]

However, there is a difference in participants' responses regarding their views of their own prescription medicines, which they believe are necessary, and modern prescription medicines in general. Participants believe that people are too quick to "run to the doctor" and accept medicines as good for their health. This is evidence of a certain tension in participants' attitudes towards medicines where they have both negative and positive views of them. This tension is further discussed as a theme at the end of the next chapter.

Many of the medicines mentioned in this chapter can be described as preventive measures. In Beier's study of the Lancashire working class she argued that: "As far as both family and community were concerned, an ounce of prevention was worth a

pound of cure".[41] She said that before World War II antibiotics and commercially prepared vitamins were not available and people took tonics and laxatives to prevent illness. The same beliefs and practices were transported to New Zealand. The medicines that participants in Investigation One took, therefore, are not merely a random and meaningless list of products but an insight into how New Zealand families viewed ill health and their responses to it.

Overall, it seems that participants grew up with a greater respect for doctors than for prescription medicines. Most participants' parents could not always afford the doctor and did not always see the need for their help but doctors were still trusted and respected. Participants thought that younger people accessed doctors too quickly and too often but did not question the expertise of doctors. The next chapter shows that participants believe their medicines are necessary because they regard them as good for their health, they trust their doctors and they are not overly concerned about possible adverse effects.

Chapter Five: Attitudes towards regular medicines

5.1. Aim

This chapter discusses findings from both investigations and aims to explore all sixty participants' attitudes towards their regular prescription and non-prescription medicines. This chapter provides a link between the past experiences of participants in Investigation One, explored in Chapter Four (Medicines over a lifetime), and the experiences of participants in Investigation Two of changes to their regular medicines during their most recent admission to hospital, explored in Chapter Six (Medicine changes at discharge from hospital).

5.2. Introduction

This chapter starts with an analysis of the prescription medicines that participants took and then examines their attitudes towards those medicines. It then discusses medicines that people had different attitudes towards other than their regular prescription medicines: sleeping tablets, antibiotics and pain relief medicines. This is followed by an examination of participants' beliefs regarding the effectiveness of their medicines and their attitudes towards side effects. The chapter next looks at participants' perceptions of non-prescription medicines. It then examines participants' medicine taking practices. Finally this chapter discusses the main three themes that were apparent from participants' discussions of their attitudes towards their medicines: their trust in doctors, their willingness to take their medicines and the tension, regarding positive and negative attitudes, towards their medicines. The experiences of participants from Investigation Two, regarding changes to their medicines, are discussed in the next chapter as they need to be positioned in the context of people's journey through the hospital system. The findings for this chapter were drawn from Investigations One and Two; the methods for these investigations

can be found in Chapter Three (Methods) in sections 3.3. and 3.5. The participant characteristics for these investigations can be found in the same chapter in sections 3.4. and 3.6.

Looking at the issue of adherence was not a focus of this thesis. However, it is still an issue which continues to interest health professionals and researchers in medicine and pharmacy. Some of the evidence from the participants in this chapter shows their willingness to try and take their medicines because they trust their doctors and they believe the medicine is good for their health. This is referred to several times in this chapter but is fully explored at the end of the chapter in the section which looks at participants' willingness to take medicines. This chapter also shows that there is a tension between positive and negative attitudes in the way participants discuss their medicines. Participants believe their prescription medicines are necessary but would rather not take them and are more suspicious of certain medicines such as those for pain relief.

In this chapter each time a participant's name is first mentioned on each new page, their ethnicity and the number of prescription medicines they were taking at the time of the interview is added in brackets; New Zealand European and Australian are abbreviated to NZE and Aust respectively. For brevity, the terms 'Study 1' and 'Study 2' indicate whether the person was a participant in Investigations One or Two.

5.3. Results and discussion

5.3.1. Prescription medicines

Tables 9 to 15 provide an overview of how many, and what type of, prescription medicines participants in Investigations One and Two were taking. The medicines from the two investigations are analysed separately because each investigation had different recruitment procedures and inclusion criteria. At the end of the section the

results from the two investigations will be compared. All percentages in the tables have been rounded to the nearest whole number.

5.3.1.1. Investigation One

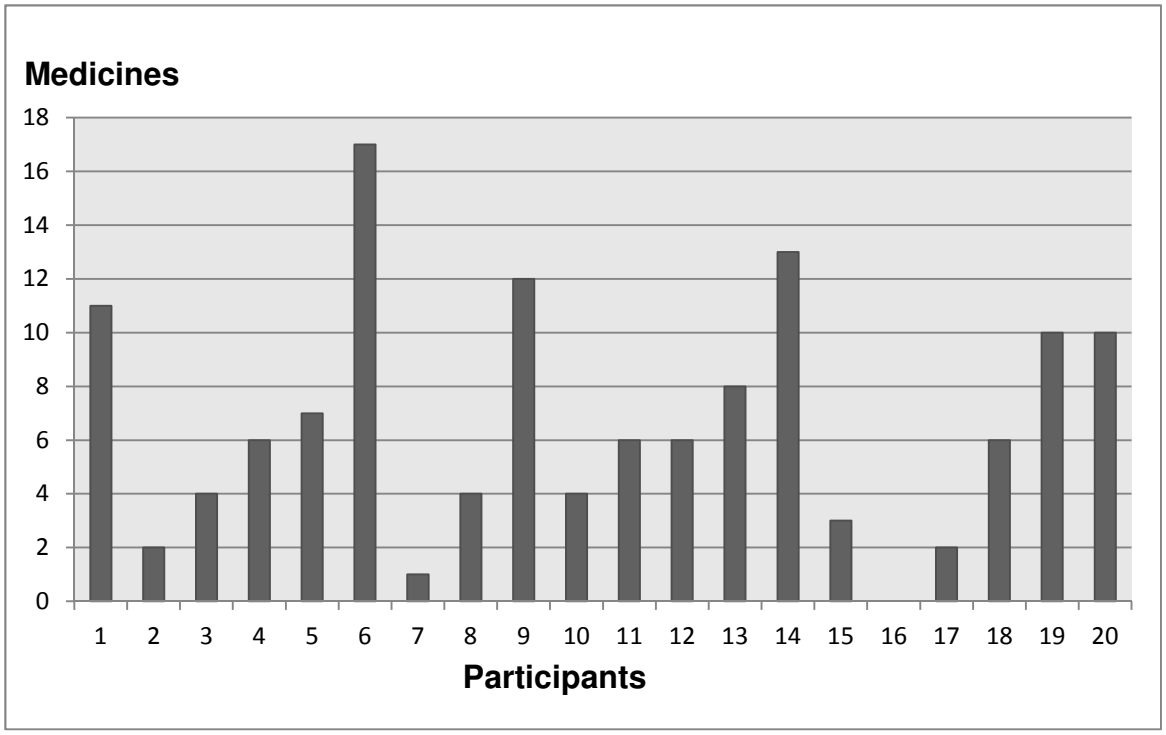
Table 9 shows the number, median and range of prescription medicines taken by participants in Investigation One.

Table 9: Number of prescription medicines – Investigation One

	ALL (n=20)	MALE (n=11)	FEMALE (n=9)
Prescription Medicines	132	96	36
Median (range)	6 (0-17)	8 (4-17)	3 (0-11)

The median number of medicines is six (range: zero to fifteen) and is similar to the median of seven prescription medicines recorded by Kairuz et al. in a 2008 New Zealand pilot study of thirty-one older people aged 65 and over.[26] Overall the male participants took a higher number of medicines than the female participants, even once the slightly higher number of male participants is taken into account. No valid statistical conclusions can be drawn from this as participants were purposefully selected. Martin et al., in a 2002 New Zealand study looking at the computerised records of 139,359 general practice patients aged 65 and over, found that on average the men received less prescription items per year than women.[25] Table 10 shows the number of prescription medicines that each participant in Investigation One took.

Table 10: Number of prescription medicines per participant - Investigation One



There is some variation in the number of prescription medicines taken by participants, including one person who does not take any regular prescription medicines. This is important for this investigation because participants' life experiences and their current attitudes towards medicines might be related to the number of medicines they now take. This might show a more typical range of prescription medicines (with some people taking a few and others taking a higher number) for a sample of people aged 75 and over, than those recently discharged from hospital in Investigation Two.

Table 11 shows the Anatomical Therapeutic Chemical (ATC) codes for the medicines taken by participants in Investigation One. The ATC classification system divides medicines into different groups based on the organ or system in the body in which they act and their therapeutic, pharmacological and chemical properties.[299] ATC codes for generic and branded medicines are the same and the system allows for international comparisons.

Table 11: Prescription medicines by Anatomical Therapeutic Chemical classification – Investigation One

ATC Category	Number of medicines
Cardiovascular	44
Nervous system	37
Alimentary tract and metabolism	17
Respiratory system	10
Blood and blood forming organs	6
Sensory organs	6
Musculo-skeletal	5
Hormones (not insulin/sex hormones)	3
Various	2
Antineoplastic and immunodulating	1
Dermatologicals	1

Table 11 shows that just over 74% of the prescription medicines in Investigation One were for the cardiovascular system, nervous system or the alimentary tract. This is similar to findings by Tordoff et al. where almost 80% of the medicines recorded were for the cardiovascular system, nervous system or the alimentary tract.[27] The top ATC codes here are also very similar to those recorded by Martin et al.[25]

Table 12 shows the top five prescription medicines taken by participants in Investigation One.

Table 12: Top 5 prescription medicines – Investigation One

Name of medicine	Number
Aspirin	13
Paracetamol	11
Simvastatin	7
Metoprolol	6
Cilazapril	6
Total (33% of all medicines)	43

These are the same as the five most prescribed medicines found by Tordoff et al.[27] Kairuz et al. found that the three most prescribed medicines were aspirin, omeprazole, and simvastatin.[26]

5.3.1.2. Investigation Two

Participants in Investigation Two experienced changes to their medicines and Tables 13 to 15 show their medicines before and after discharge from hospital. However, this chapter focuses on the regular medicines participants were taking before they were admitted to hospital. It was logical to include a partial analysis of participants' medicines after discharge here rather than having to duplicate all of the following tables in Chapter Six (Medicine changes at discharge from hospital). A more detailed summary of the medicines changes themselves, how people managed them and people's attitudes towards them can be found in that chapter.

Table 13 shows the median number of prescription medicines taken by participants in Investigation Two.

Table 13: Number of prescription medicines – Investigation Two

	ALL (n=40)	MALE (n=19)	FEMALE (n=21)
Prescription medicines listed at admission	389	190	199
Median (range)	9 (4-17)	9 (5-16)	9 (4-17)
Prescription medicines listed at discharge	459	228	231
Median (range)	10 (4-20)	13 (7-18)	9 (4-20)

The median number of medicines on admission is nine (range: four to seventeen) and is similar to that of patients of the same age admitted to a general medical ward in an Auckland study (8.7 medicines) but more than those in the two previously mentioned New Zealand studies.[26, 27, 142] This may reflect the fact that patients on these wards are normally acutely unwell and taking multiple medicines.[203] In Investigation Two some participants were prescribed short-term medicines such as a course of antibiotics, increasing the number of medicines they were taking immediately after discharge.

One of the inclusion criteria for Investigation Two was that people took four or more prescription medicines at admission to hospital. This number was chosen in order to explore how people, who were already accustomed to taking multiple medicines, coped with changes to those medicines. This could have resulted in the high number of medicines recorded. However, the median at admission, nine medicines, is more than twice the inclusion criteria. Only three people out of 115 who were selected as potential participants in the study period were taking less than four prescription medicines but met all of the other study criteria and only one experienced no changes to their medicines. The ward 8A pharmacist, who I interviewed as part of Investigation Two, says she would consider carrying out a medicine reconciliation for anyone taking four or five regular prescription medicines. She says that on ward 8A there are a large number of people taking this number of medicines and, due to

time constraints, she has to prioritise who she decides to do a medicine reconciliation for. In hospital a medicine reconciliation consists of gathering a complete list of a patient's medicines, allergies and adverse medicine reactions from at least two different sources.[300(p6)] This is then compared to the medicines patients are taking in hospital and any discrepancies are noted. The aim of a reconciliation is to reduce medicines errors caused by incomplete documentation.[300(p4)]

For all these reasons it seems unlikely that the high median number of medicines is only a result of the inclusion criteria. However, it is possible that all studies which exclude people who are not taking any prescription medicines return a disproportionate average. Martin et al. found that between 12% and 25% of the older participants in their sample were prescribed no medicines during the year.[25]

Table 14 shows the ATC codes for the medicines taken by participants in Investigation Two.

Table 14: Prescription medicines by Anatomical Therapeutic Chemical classification – Investigation Two

Listed at admission			Listed at discharge	
ATC category	**Number of medicines**		**ATC category**	**Number of medicines**
Cardiovascular	146		**Cardiovascular**	146
Nervous system	79		**Nervous system**	100
Alimentary tract and metabolism	73		**Alimentary tract and metabolism**	100
Blood and blood forming organs	21		**Respiratory system**	22
Respiratory system	20		**Blood and blood forming organs**	22
Musculo-skeletal	16		**Anti-infectives for systemic use**	22
Hormones (not insulin/sex hormones)	12		**Hormones (not insulin/sex hormones)**	17
Genito-urinary system and sex hormones	7		**Musculo-skeletal**	14
Anti-infectives for systemic use	5		**Genito-urinary system and sex hormones**	6
Sensory organs	5		**Dermatologicals**	4
Dermatologicals	3		**Sensory organs**	3
Antineoplastic and immunodulating	2		**Antineoplastic and immunodulating**	2
			Various	1

Almost 80% of prescription medicines, at admission and discharge, were for the cardiovascular system, nervous system or the alimentary tract. This is the same as recorded by Tordoff et al. and in slight contrast to a 2006 Swiss study of 400 hospitalised heart failure patients (median age: 79) which found the four most common ATC groups were: cardiovascular; alimentary tract and metabolism; blood and blood-forming organs; and nervous system.[27, 301] There was an increase in the number of medicines prescribed for the nervous system (mainly paracetamol), for the alimentary tract and metabolism (mainly laxatives and vitamin D), and anti-infectives (mainly antibiotics). Seventeen people were prescribed a short-term

antibiotic on discharge (seven of the eight participants with a lower respiratory tract infection were discharged on an antibiotic).

Table 15 shows the top ten medicines that participants took at admission and discharge.

Table 15: Top 10 prescription medicines – Investigation Two

Admission			Discharge	
Name of medicine	**Number**		**Name of medicine**	**Number**
Simvastatin	22		**Aspirin**	28
Aspirin	21		**Paracetamol**	26
Metoprolol	20		**Simvastatin**	24
Frusemide	19		**Metoprolol**	21
Paracetamol	16		**Cholecalciferol**	19
Cilazapril	15		**Frusemide**	18
Omeprazole	15		**Cilazapril**	18
Cholecalciferol	12		**Omeprazole**	17
Warfarin	11		**Prednisone**	12
Calcium Carbonate	10		**Laxsol**	12
Total (represents 41% of all prescription medicines)	161		**Total (represents 42% of all prescription medicines)**	195

The top five prescription medicines at admission were simvastatin, aspirin, metoprolol, frusemide, and paracetamol. The top five prescription medicines at discharge were aspirin, paracetamol, simvastatin, metoprolol, and cholecalciferol. Paracetamol is a medicine which is commonly prescribed at discharge because it is a low cost medicine with relatively few side effects. Cholecalciferol was prescribed for some participants at discharge but more often people were taking it prior to coming into hospital, did not have it recorded at admission and had it recorded on their

discharge summary. It was probably missed at admission as it is only taken once a month. The top five medicines are almost identical to those in Investigation One, and similar to those recorded by Tordoff et al.[27]

5.3.1.3. Investigations One and Two

The relatively high median number of medicines in both investigations means that all of these participants are at potential risk of experiencing the consequences of polypharmacy.[87] The median number of medicines taken by participants in Investigation One is lower than that of Investigation Two. However, it is still significant in relation to polypharmacy. The hospital pharmacist who I interviewed for Investigation Two said that she assumes that any patients taking four or more prescription medicines are at risk of the consequences of polypharmacy (e.g. errors in their medicines list) and are, therefore, candidates for a review of the medicines they are taking. In Investigation One, 75% of the participants were taking four or more prescription medicines and 25% were taking ten or more.

Participants in Investigation Two have an even greater potential for polypharmacy. An American study of unnecessary medicine use at hospital discharge, with 384 frail older people aged 65 and over, found that four of every ten participants at discharge were taking at least one unnecessary medicine.[87] The study concluded that participants who had multiple prescribers and who were taking nine or more prescription medicines at admission were at a higher risk of unnecessary medicine use and should be targeted for intervention.

The top five ATC codes and top five prescription medicines were almost the same in both investigations, though there were only twenty people in Investigation One and forty people in Investigation Two and participants were not randomised. This shows that regardless of the sample size and the number of medicines that older people take, there are certain prescription medicines and conditions which are common across this age range. For example, cardiovascular medicines were the most common group in both investigations but on average participants in Investigation Two took

higher numbers of them. Participants in Investigation One took an average of 2.2 cardiovascular medicines and in Investigation Two they took an average of 3.7 at admission to hospital.

5.3.2. Attitudes towards taking medicines

All of the participants in Investigations One and Two, who were taking prescription medicines, said that they always attempted to take their medicines. There are many reasons why people do not take their medicines such as forgetting, a lack of information and purposefully choosing not to take them.[302] Overseas and New Zealand studies focussing on older people have found varying rates of nonadherence.[26, 27, 94] Participants in the two investigations said that they forget to take one or more of their medicines sometimes and there were a couple of instances where there was a specific medicine that people chose not to take. David (NZE, 6 meds, Study 1) said that he sometimes forgets to take his medicines but remembers later in the day because he feels unwell as a result of not taking them. Luke (NZE, 17 meds, Study 2) often forgets, or does not get around to, taking his medicine at the right time until he is reminded by his wife. Hannah (NZE, 14 meds, Study 2) said that because she is 86 she is apt to forget about her medicine so she worries about her evening medicine until she has taken it. Logan (Māori, 16 meds, Study 2) said that he sometimes, depending on how he feels, forgets his night medicines and takes them later than he normally would. Benjamin (NZE, 12 meds, Study 2) forgets to take his medicine if his wife does not put it out for him. But his wife said that he always takes it if she remembers to put it out. In the two investigations I did not aim to assess exactly how many people forgot to take their medicines or how often but the majority of participants said they remembered to take their medicines all of the time or most of the time.

There was a range of views when it came to participants' feelings about taking their medicines. The responses show that the participants in these investigations were

willing to take their medicine and adhere to the instructions from their doctors. This is discussed further at the end of this section and as a general theme at the end of this chapter.

5.3.2.1. Medicine as a necessity

The majority of participants said that they did not like taking medicine but took it because they had to or because they believed it was beneficial for them. Some of them had a positive view of the medicines themselves, even if they did not like having to take them. Henry (NZE, 9 meds, Study 2) said that he is quite relaxed about taking his medicines and Ruth (NZE, 11 meds, Study 1) said that she does not worry about taking her medicine. When asked how she feels about taking medicine Ruth replied:

> Alright because it is keeping me here. I can't understand people: ah I don't want to take it. Right, you can die if you want to. That's my opinion yeah. If you have got high blood pressure and you don't take it you are going to go bang or have a good stroke. No thank you.

She said she has the same attitude when she goes to hospital; her aim is to get better and get out of there as quick as she can. Aspects of her life such as spending time with her children and grandchildren provide her with reasons to keep taking her medicines.

Most participants seemed more resigned to the fact that they had to take medicine. This was especially true of participants in Investigation Two in comparison to participants in Investigation One. These participants were taking a higher median number of prescription medicines and, therefore, might be more expected to have a negative view about their medicines.

Martha (NZE, 15 meds, Study 2) said that: "I don't like taking it, but I have to and that's all there is to it. It's just one of those things you put up with. It doesn't worry me in a way. I would rather not take it, but if I have to I will do, and that's all there is to it". Betty (NZE, 10 meds, Study 2) said:

> I don't like it but, as I said, there's no point in being like that because if you've got to take pills you've got to take them. Lots of people when they're younger they don't – they've got an aversion to pills, but they all have to take them in the finish.

Harry (Chinese, 4 meds, Study 1) said that he just takes his medicines if he thinks they are doing him some good: "you just discipline yourself to do it". He pointed out that on the label for one of his medicines it says: "Do not stop taking this medicine". Ingrid (NZE, 4 meds, Study 1) said that she is fortunate that there are medicines which will deal with her needs but: "I don't want to overdo it. I don't want to be dependent on something, but then again if you have a need you've got to be dependent on it so you just have to accept that and be grateful".

All of the participants mentioned above said they take their medicines even though they do not like having to. A Swedish study of older people (65 and over) by Moen et al. found that the older people in their study only took their medicines because they had to and that they would rather not take anything.[112] A Scottish study of middle aged people by Townsend et al. found that the participants in their study did not like having to take medicine even though they believed it was necessary to take it.[290] Benson and Britten explored the reasons why people choose to take or not take their medicines.[288] They found that their participants balanced their reservations towards taking medicines in general with reasons to take them such as positive experiences with doctors, perceived benefits of the medicines, and consideration of pragmatic issues such as the absence of practical alternatives. Participants in the investigations for this thesis believed their medicines were beneficial for their health and they trusted their doctors' opinions regarding medicines. These issues are discussed later in the chapter. Participants' responses also show that they have to overcome their own attitudes to take the medicine; it is not something that they find natural. This is further evidence of participants' willingness to adhere to their medicine regimen.

A small number of participants also had difficulty swallowing their medicines and this, coupled with the fact that they do not like taking medicines, meant that taking medicine was a very uncomfortable experience for them. Alice (NZE, 17 meds, Study

2) has trouble with swallowing all tablets; she crushes them and eats them with chocolate. She described the act of swallowing medicines as "horrible" and the process takes her a long time every day. Gloria (NZE, 8 meds, Study 2) has great difficulty swallowing her tablets and sometimes they make her "heave". Practical problems with swallowing can be a serious impediment to people successfully taking their medicines. A study in England of primary care patients and carers found that 68% of the 477 participants, who had problems with swallowing, opened their capsules or crushed their tablets while 64% did not take their medicines as prescribed.[303] This practice is problematic because if the medicine is a controlled release formulation the full daily dose is released all at once and can cause adverse effects.[303]

A small number of people said they neither liked nor disliked their medicine but it was just something that they did. Nicolaas (NZE, 15 meds, Study 2) said that he does not care about his medicine and he just takes them every day. Beatrice (NZE, 19 meds, Study 2) said that she has become used to taking medicines because she has been doing it for years: "it's sort of part of my life now, and I just don't think about it". Grace (Māori, 2 meds, Study 1) does not feel anything about her medicine; she just takes them because she has to and does not give them any more thought. She was surprised that I even asked her questions about her feelings regarding medicines. She did not think that there could be any response to my question which would be different from her own. She perceived her medicines as a normal part of everyday life and this reflects the findings from a qualitative New Zealand study of people aged 65 and over.[103]

5.3.2.2. Acceptance of medicines

Participants from Investigation One who had originally struggled with having to take regular prescription medicine were now willing to accept it. David (NZE, 6 meds, Study 1) had hated having to take regular medicines when he first had a heart attack and resisted taking them. Now it does not worry him and he feels he is at the

stage where he cannot live without them. He always tries to take them but does forget and then wonders why he is feeling ill until he realises that he did not take his medicine. When Aaron (NZE, 17 meds, Study 1) first started taking regular medicines he was very suspicious of them because that was the attitude he had inherited from his parents. Now he feels his medicines are a lifesaver because in a lot of cases the doctor has said to him that he had no alternative and needed to take the medicine. For example he takes his stroke medicine and kidney medicine because he does not want to have a stroke or kidney troubles again. He said that it is tough to take that many medicines because sometimes you get side effects but he believes he has to accept that otherwise he would be the one who suffered if he did not take them. His mother did not take her medicines in the rest home and he described her as "her own worst enemy". As already mentioned, people are willing to accept the need for medicines and the risks/costs associated with them if they believe the medicine is necessary.[304] In research on people with asthma Horne and Weinman also found that people's perception of the illness was important in their attitude towards medicines.[305] People who perceived their asthma as a chronic illness with negative consequences (opposed to a cyclical illness) were more likely to take their medicines. Many participants in Investigation One and Two referred to their medicines as necessary treatments for long-term illness. Most participants accepted, or were convinced by their doctor, that they would need to keep taking their medicines.

Some participants in Investigation Two shared similar experiences of medicines over their lifetime to participants in Investigation One. They talked about not having to take medicines for most of their lives until they were much older and started experiencing serious health problems. Luke (NZE, 17 meds, Study 2) talked about how he has become accustomed to taking medicines over the years but that he did not like it when he first had to start taking regular medicines. He said that when he was growing up during the Great Depression his mother could not afford to give him medicine but she did give him "old school" remedies such as cod liver oil and castor oil. Charles (NZE, 15 meds, Study 2) also recalls being given cod liver oil and

Maltexo when he was young and between the ages of 15 and 50 he does not think he took medicines for anything. He is willing to accept his current prescription medicines: "I think it's just one of the things about growing older, it's – you either do what you're told, or they dig a hole for you". To begin with Rachel (NZE, 6 meds, Study 2) hated having to take regular medicines and decided not to take them some days: "but it didn't work, because then I had these funny turns, and dizziness, and that sort of thing, so I accept the fact that I've got to take them, and they keep me fine". Kathleen (NZE, 15 meds, Study 2) had to start having regular aspirin, and other medicines, twelve years ago after she had a "hiccup" with her heart. Before that she only took the odd medicine for headaches or other similar complaints. The doctor told her that if she stopped taking her heart medicines she could end up having another heart attack so that made her realise she needed to keep taking her medicine.

These examples echo the findings from the previous chapter regarding the transition people make from taking no medicine to having to take it on a regular basis. It shows that even though older people might be reluctant when they first start taking regular medicines that they eventually come to believe the medicine is beneficial for their health. For the participants mentioned above, this was sufficient to outweigh their earlier experiences and attitudes towards medicine. The importance to older people of believing that their medicine is good for their health is discussed later in this chapter.

Camilla (NZE, 6 meds, Study 1) is the only participant who only recently started taking regular prescription medicines and for this reason her experiences are explored in greater depth here. Her medicines were prescribed in hospital, for a fall sustained a fortnight before the interview, and are for pain relief, treating a vitamin D deficiency and preventing osteoporosis. She did not like having to take them and had been rather proud of reaching her age (94) without needing any regular medicines. She said that taking them "went against the grain". She realises that medicines have kept people living for longer but is happy that up until recently she

has been able to bypass taking them. She believes that if people eat healthy food they should not need any "extras" such as prescription and non-prescription medicines. She was clearly still adjusting to the idea that she might have to keep taking regular medicine and she was not sure what all of the medicines were for and whether or not she would have to keep taking them. She did not know if the medicines improved her health because she had only been taking them for a short time. She also said that some days she forgot to take them and it is probable that she does not have a set medicine taking routine yet. She also jokingly said that the "doctor knows best", referring to her mother's attitude when she was growing up; her mother always did what the doctor said. She said that she would keep taking the new medicines if her doctor told her she had to. However, her father did not like going to the doctor and did not believe that you had to do what the doctor said. At times during the interviews she alluded to the fact that she shared this attitude. It may be that she was experiencing the same struggle with accepting the need for regular medicine that some of the other participants had been through at a much earlier age. At the time of the interview she was not convinced that all of her medicines were necessary and she only mentioned her medicine for bones as one that she might need to keep taking.

5.3.2.3. General dislike of medicines

Even though participants said that they took their medicines because they realised they had to it was often discernible from the way that some participants talked about their medicines, how much they disliked taking them. Aaron (NZE, 17 meds, Study 1) knows that he is taking a lot of medicine and at one point, when we were discussing exactly what he takes, he remarked that: "I just take about everything that is going". Logan (Māori, 16 meds, Study 2) said that he had "miles of the bloody things, just got to take it…" Examples such as these were telling because they often occurred at times when we were not specifically talking about people's attitudes towards their medicines. Often they occurred when we were going through the list of current medicines people took and they saw the list of those medicines or all of the

physical medicines themselves. Many of the participants in Investigation Two were aware they were taking a large number of medicines and made negative remarks in relation to this. One participant joked that he had more medicines than his pharmacist had in his store. Another participant said that if you shook him he would rattle because of all the medicines he took.

Participants might also have been embarrassed at the large numbers of medicines I could see they were taking. It shows that participants did have some unease regarding their medicines and that there is a tension in people's attitudes towards their medicines. Participants believed they had to take their medicines but did not like taking them. Britten highlighted that studies in England have shown that people of different ages have a general aversion to taking their medicines.[293(p50)] Moen et al. also found that the participants had "coexisting accounts of positive and negative attitudes to and experiences of being users of multiple medicines".[112] Participants were positive because they believed the medicines were good for their health but negative because they were aware of doctors' limited knowledge regarding treatment of older people with multiple medicines and diseases. Moen et al. argued that their participants' positive attitudes deviated from previous studies looking at lay perceptions of medicines while their negative attitudes confirmed previous results. This tension is further discussed as a general theme at the end of this chapter.

Some participants used much stronger language when describing how they did not like taking medicine. These tended to be participants from Investigation Two, possibly because overall they were taking a higher number of prescription medicines than participants in Investigation One. Hazel (NZE, 9 meds, Study 2) said that she hates taking medicines since she has started taking a large number every day. She also hates having to take medicines because she has been healthy for all her life. Charlotte (NZE, 13 meds, Study 2) says that she hates taking medicine. She was unhappy when she visited her general practitioner (GP) the day before the interview because he started her on a new medicine which the hospital recommended.

> I never like taking tablets but normally I've only been on four, and I could cope with that, but now I seem to be creeping up a bit, with – and I don't know, and then there's some you've got to take with food, and some, you know, before, so I'm not really good at taking tablets.

Denis's wife said that she still hates taking medicines, they are a nuisance and she would rather not take any at all. The attitude of these participants shows how challenging it is for them to take their medicines in comparison with participants who said they simply swallow their medicines without too much thought.

Charlotte alluded to how the increasing number of medicines she takes has added to her anxiety and other participants also talked about this. Muriel (NZE, 21 meds, Study 2) said that she takes her medicines but she is bewildered by them all now that she takes so many. Before admission to hospital she was taking eighteen medicines and this was increased to twenty-one by the time she was discharged. She does not mind going to hospital every now and again because it means her medicines are reviewed. This is a telling comment because, as the next chapter shows, the majority of participants in Investigation Two were not keen on being admitted to hospital and were pleased when they were discharged. That chapter explores how Muriel was confused about the changes to her medicines after being discharged from hospital. In her case this confusion had started before she was admitted to hospital. An increased number of hospitalisations for older people often results in an increased number of medicines and this issue is further explored in the next chapter.[2]

All of the participants mentioned above were taking what would be considered a high number of prescription medicines and this increased their uneasiness. It is understandable that for people who do not like having to take medicines at all, an increasing number can be a cause for more concern. A few participants said that in the past they had asked their doctors if they could reduce the number of medicines they were taking. Sometimes Edward (NZE, 11 meds, Study 2) asks his GP if all of his medicines are necessary and his doctor will say yes. Moen et al. found that some of their older participants had consulted their doctors regarding their concerns about medicines and succeeded in reducing the amount they were taking.[112] Their

participants were also worried about the increased risk of adverse effects with increasing numbers of medicines. Evelyn (English, 7 meds, Study 1) had often said to herself that she would stop taking her medicines and see what happened. When her husband was dying at home she sometimes forgot to take her medicines and she definitely did feel bad the next day. Studies have found that if people purposefully stop taking a medicine they are more likely to resume taking it if their symptoms worsen; if they feel the same or better then they have less incentive to start taking the medicine again.[293(p53)]

However, Nicolaas (NZE, 15 meds, Study 2) and Beatrice (NZE, 19 meds, Study 2) were not concerned at all about the high number of medicines they were taking. This shows that people's anxieties regarding their medicines cannot simply be predicted based on the number of medicines they are taking. For example, studies have found that a large number of medicines are not necessarily a predictor of nonadherence in older people.[91, 306] Ruth (NZE, 11 meds, Study 1) said she did not think anything about having to take multiple medicines because she thinks these things happen as people get older. She said that some people go through life without having to take any medicines and others have to take a large number.

Negative attitudes towards medicines can lead to nonadherence.[111, 288] However, as already discussed people weigh their negative and positive views and most participants in these investigations said their medicines were necessary. A few of the participants in Investigation One would be very reluctant to take a new medicine and their doctor would need to convince them that it was necessary. Dorothy (NZE, 0 meds, Study 1) has an extreme dislike of medicines and would probably choose not to take a regular prescription medicine if it was prescribed for her. Some participants mentioned unease regarding side effects and this is explored later in the chapter. It is possible that people who purposefully did not take their medicines would have been less likely to agree to participate in Investigation Two. Participants may also have given me the answers that they considered socially acceptable when talking about

taking their medicines. The topic of adherence is further discussed later in the chapter.

5.3.3. Dislike of taking certain medicines

Some participants said they were very hesitant to take medicines such as sleeping tablets, warfarin and antidepressants. Participants were reluctant to become dependent on sleeping pills and antidepressants. Participants disliked warfarin because they were aware of the problems related with it: side effects, interactions with other medicines and the fact that its effect needs regular monitoring.[307] Participants in Investigation One were wary of antibiotics and participants from both investigations said they tried to avoid taking pain relief medicines. Participants' attitudes to these medicines were different to how they viewed their other regular prescription medicines. Participants did not perceive these medicines as necessary and this meant their concerns regarding possible side effects were greater than any benefits they perceived in taking the medicines.

5.3.3.1. Sleeping tablets and antidepressants

Long-term users of sleeping tablets (both benzodiazepines and the newer nonbenzodiazepines) can be at risk of dependency, neuropsychological issues and other adverse effects.[275, 282] James (NZE, 17 meds, Study 2) has sleeping tablets that he takes if he needs to. He does not want to keep taking a lot of medicines and he does not like taking sleeping tablets and would prefer to fall asleep naturally. If he thinks he will feel asleep without any problems then he does not take a tablet. Betty (NZE, 10 meds, Study 2) said that she has an aversion to sleeping tablets. Sometimes she thinks they might be a good idea but she is not keen on taking them. During his stay in hospital Logan (Māori, 16 meds, Study 2) was asked if he wanted sleeping tablets because he was up for most of the night but he told them he did not want them. He was also prescribed an antidepressant at discharge which he was unhappy about. He

told the doctors in hospital that he did not want or need to take it and he said the same thing when he took the hospital script to the pharmacy. The pharmacist said that he had to dispense it so Logan (Māori, 16 meds, Study 2) brought it home and threw it away. He also went to the trouble of using an ink pen to cross out the antidepressant on his discharge summary: "If I have got to take those damn things, I may as well bloody go on methadone or some bloody stupid thing like that". His strong reaction against the antidepressant did not extend to his other medicines which he believed were necessary. This was the same for other participants who disliked a certain medicine or medicines. Other participants also indicated that they were not keen on the idea of having to take antidepressants. Studies have found that older people can be reluctant to take antidepressants for a variety of reasons including a fear of dependence and reluctance to view their depression as a medical illness requiring the use of medicines.[45, 308]

In contrast, participants who had been taking sleeping tablets for a long time felt they were necessary. Robert (NZE, 10 meds, Study 1) has been taking them for forty years as a result of having bipolar and perceives them as essential. Elizabeth (NZE, 13 meds, Study 2) has been taking sleeping tablets for thirty-five years and she recounted an experience from a fortnight before the interview where the practice nurse forgot to send her prescription for sleeping tablets through to the pharmacy. She said it was "terrible" and she could not sleep all night. Older people who have been taking them long-term for insomnia can be very reluctant to discontinue them.[275]

5.3.3.2. Antibiotics

Participants from Investigation One referred to antibiotics as being remarkable medicines when they first became available after World War II. John (NZE, 6 meds, Study 1) described them as the "magic bullet, you took penicillin for everything, magic". Over time some of the participants became more suspicious of antibiotics. Denis (English, 4 meds, Study 1) said that he has a "feeling" against antibiotics and

he would not go out of his way to take them because he feels that the less medicine you take the better. He said that it was best if you only took medicine if you are sick or to keep you going. Aaron (NZE, 17 meds, Study 1) said that the older remedies were not as effective as the medicine we have today but he felt that we have become too reliant on them: "They are finding out now of course that you can become sensitised to things can't you?" Paul (NZE, 12 meds, Study 1) believes that medicines have kept him alive but he is not sure if the younger generations will receive the same benefits from medicines and reach the same age he has. He believes that when he was younger people had a better immune system and the body fought illness on its own. Now he thinks the immune system has been pushed aside by antibiotics and other medicines. He also pointed out that people are becoming immune to antibiotics which means they are not protected by medicines or their own immune system. David (NZE, 6 meds, Study 1) also referred to how antibiotics became less effective over time and how his own children had lost their own immunity. He believes his generation had better immunity because they lived a lot more "dirty" and he referred to how you "skinned your rabbit with your pocket knife and then you stirred your cup of tea with it and then you take a splinter out of your hand with it".

Crellin argued that in America and Britain in the late 1940s and early 1950s antibiotics were extremely popular and people were keen to have them prescribed, despite the growing warnings regarding antibiotic resistance.[120(177-180)] Antibiotic resistance is now a well documented phenomenon and it is something which the participants in Investigation One had heard about.[309] Participants are justified in their belief that antibiotics should not be used unless they are necessary.[310, 311] However, some participants were slightly confused as to the nature of antibiotic resistance; they described it as people becoming immune to the antibiotics rather than as bacteria becoming resistant to the antibiotics. Participants' suspicions regarding antibiotics reinforces their attitude that medicine is acceptable to take provided it is necessary and safe.

With participants in Investigation Two I spent more time talking about their attitudes towards their medicine changes and their journey through hospital rather than their wider views of prescription medicines. This meant I did not capture their general attitudes towards the use of medicines such as antibiotics. None of the participants in Investigation One were taking an antibiotic at the time of the interview whereas in Investigation Two, four people had been taking antibiotics prior to their admission to hospital and eighteen people were prescribed antibiotics at discharge. The next chapter discusses how participants from Investigation Two are willing to accept medicine changes, including the addition of antibiotics, mainly due to the trust they have in doctors. It is possible that they too are suspicious of the use of antibiotics today. Charles (NZE, 9 meds, Study 2) is suspicious of antibiotics even though he was willing to accept the ones prescribed in hospital:

> And it's the same, I've always believed that every time you take antibiotics you are wrecking your own immune system, so I've always tried not to take them unless I really needed them, and – but, I mean, I took them at the hospital, and I've taken them this time. But I'll be glad to be off them and be clear.

It is likely that participants from Investigation One would also accept the necessity of antibiotics if prescribed in hospital or by their GP because they too place a lot of trust in the expertise and advice of doctors. They were expressing their suspicion of antibiotics in general rather than arguing that they would refuse to take them if prescribed. The same can be said for their belief that many people are too quick to "run to the doctor" for medicines they do not necessarily need. This explains how people can be positive about the prescription medicine they have to take but suspicious of medicines in general. Their attitudes can also be linked to the period in which they grew up, the attitudes of their parents and the health beliefs that were prevalent at the time.

5.3.3.3. Pain relief medicines

The medicines for pain relief discussed in this subsection are both prescription and non-prescription medicines. In Investigation One and Two the most common form of pain relief prescribed by doctors and purchased by people over the counter was paracetamol. Paracetamol is common in New Zealand because it is relatively safe with few side effects and interactions and is a low cost medicine. Some participants' purchased their own paracetamol from the chemist or supermarket and others had it prescribed by the doctor. The standard instructions for paracetamol are to take one to two tablets at a time. They can be taken every four hours with a maximum of eight tablets in a twenty-four hour period.[312] Doctors normally recommend that patients with chronic pain keep taking two tablets every four hours to six hours, with a maximum of eight tablets in twenty-four hours, because this significantly increases the effectiveness of paracetamol in relieving strong pain.[313]

Some participants were told by their doctors that they had to have paracetamol or a stronger pain medicine at, or close to, the maximum daily dose and these people tended to follow the doctors instructions. Most participants had it prescribed on an as-needed basis and tended to take as few as possible.

Some participants would not take paracetamol for what they judged as mild pain. Emily (NZE, 10 meds, Study 2) said that she takes paracetamol if "the pain gets sore". Martha's (NZE, 15 meds, Study 2) doctor recommended she take paracetamol for the pain from her pleurisy: "So, I take paracetamol if I can't stand it, but I won't take it unless I have to...I won't take painkillers unless I can't stand the pain". She only takes the medicine if the pain has reached a point where she cannot tolerate it, implying that there are certain levels of pain which she is willing to endure. She said she was warned by an incident where her sister-in-law was given a penicillin injection by her doctor every fortnight, whether she needed it or not, and then she could not have a heart operation because they were unable to give her penicillin. Martha described her sister-in-law's doctor as possibly being a drug addict himself. It was not clear exactly why her sister-in-law received this treatment but fortnightly

penicillin injections are given to people suffering from rheumatic fever. Regardless of what actually took place, for Martha (NZE, 15 meds, Study 2) this incident highlighted the danger of taking unnecessary medicines. Even before that incident she said that she never took medicine unless she had to.

Grant (NZE, 19 meds, Study 2) said that he is not a "medicine man" and he will go without it if he can. His wife takes a paracetamol when she is in pain but he puts up with the pain. He does have sleeping tablets which he takes sometimes and this shows that people can have different attitudes to different medicines. This depends on how necessary they think the medicine is and their perception of the symptom or illness. Grant is willing to endure pain but at times is willing to take sleeping tablets to ensure he sleeps well. Participants did not like taking pain relief and some would only take it for very strong pain or unbearable pain. This is different from how people treated their other prescription medicines which they aimed to take on a regular basis.

Some participants were only willing to take one paracetamol intermittently. Caroline (NZE, 9 meds, Study 2) had been given paracetamol regularly when she was in hospital but since her discharge she has been taking one in the morning to try and help the pain and one at night if she is sore. She feels she does not need them as much when she is at home and has other ways of easing the pain such as utilising a soft pillow. Miriam (NZE, 2 meds, Study 1) said that when she gets a sore back she might take one paracetamol in a day but she has noticed that it does not make any difference. She said that perhaps she should continue taking them and give them a chance to work but she has never been in the habit of taking them and previously has been lucky enough not to need them. Miriam, along with a few other participants, did not seem to have a great amount of faith in the effectiveness of paracetamol, even though they were not taking them at the recommended dose.

As has been discussed in this section, participants do not like taking prescription medicine and would rather not take any medicine. Because medicine such as paracetamol is often prescribed on an as-needed basis, this gives people the

opportunity not to take it, without contravening instructions from their doctor. For example, Abigail (NZE, 20 meds, Study 2) was told by the doctors in hospital that she might be taking too much medicine (on fifteen medicines at admission) but they decided not to stop any. When she came home she decided herself that she could reduce the number of medicines she took so she stopped taking her paracetamol which she had been taking four times a day. Denis (English, 4 meds, Study 1) said that the less medicine you can take the better you will be. He said that he only takes medicine if he is sick or to keep himself going: "I mean we get aches and pains and I said even a sore back or sore leg and the wife got sore legs or something like that but we put up with it".

Overseas studies have also found that older people can be very reluctant to take pain relief medicines. A 2006 American study of older (67 and over) osteoarthritis patients found that participants were adherent to their other medicines but purposefully did not take their pain medicines as prescribed; they took lower doses and less frequently than prescribed, even though they were experiencing pain.[44] The study also found that some of these participants were willing to take regular non-prescription medicine, even though they did not want to take pain medicines. The study concluded, therefore, that participants' dislike of taking additional medicine was not the only reason they did not take their pain medicine. A 2001 Canadian study of fifty older people, aged 60 and over and experiencing musculoskeletal pain, found that the majority of participants utilised medicines as a last resort for managing pain.[314] The participants employed a range of other strategies for managing their pain such as ignoring the pain, distraction, exercise and rest. Many of the participants focussed on the negative aspects of pain medicine such as side effects and interactions with other medicines. Studies have also found that older people describe their pain as part of the ageing process and something which could not be alleviated by medicines.[314, 315(p109)] This view was also expressed by some of the participants in both investigations in this thesis who described pain as a natural part of ageing and not something which they should complain about.

The findings from Investigations One and Two show a link between participant's current views towards pain relief and their experiences when growing up. Participants grew up at a time when the current range of medicines for alleviating pain were not available but also in a period when people were expected not to complain about being in pain. A number of participants referred to how, when they were young, people just worked on despite experiencing pain and it was not something that they were encouraged to complain about or seek to alleviate. This acceptance of pain combined with older people's reluctance to take medicine provides a strong reason for not taking medicines for pain relief. Helme et al. referred to studies which argued older people can under-report their pain due to stoicism.[315(p109)] They concluded that these claims are not necessarily substantiated by "empirical studies" and that the effect of stoicism on older people's reporting of pain is difficult to estimate. Hua-Hie, however, found that attitudes such as stoicism were significant factors in older people's lower report of chronic pain.[316] Participants in Investigation One also expressed stoicism in their attitudes to prescription medicines in general when they said that younger people were too quick to resort to the use of medicines and access health services when they were ill.

A later section in this chapter demonstrates that most participants in both investigations were also reluctant to take non-prescription medicine because they did not want to take any more medicine than necessary. This was especially true for participants in Investigation Two who were taking a high number of prescription medicines.

5.3.3.4. Addiction

When I asked Henry (NZE, 9 meds, Study 2) about his use of pain relief medicines he said that he did not normally take paracetamol but since being discharged he had been taking six a day: "We don't normally bother with them. I'm not a hypochondriac or anything". I reassured Henry that I was not implying he was a hypochondriac but I was just trying to find out about the different medicines that he

took. His reaction showed that he considered choosing to take an extra six tablets a day for pain could be construed as being a hypochondriac and he was very defensive about this topic. When I asked Troy (English, 13 meds, Study 2) how he felt about having to take medicine he said: "Well, its' part of life, if something's wrong with you, I don't go round and buy medicines, round the back of the street or whatever". As I went through the different medicines that Christine (Aust, 14 meds, Study 2) took (tablets, sprays, creams etc) she commented that she must sound like a drug addict. She said that she thinks "oh" when she looks at all of the medicines she has to take but she knows that they all have a purpose. Her response shows her unrest about taking that many medicines. It might also show her embarrassment about showing me the extent of her medicine use. Her perception of a drug addict is someone who takes a large number of medicines for no medical purposes.

These three participants did not want me to consider them as hypochondriacs or drug addicts. Other participants also wanted to assure me that they only took medicines which were prescribed and necessary. Lumme-Sandt et al. argued that their study participants (250 people aged 90 and over) always found the need to explain their medicine use and did not want anyone to suspect that they used them unnecessarily.[39]

5.3.4. Medicines and health

As mentioned already in this chapter, many participants said they were willing to take their medicines because they believed they were good for their health. Some participants referred to how their medicines improved their health regarding certain symptoms and illnesses while others talked about medicines being good for their health in general. This was reinforced in participants' answers to the question: do you think your medicines improve your health? There was a range of views in response to this question but they can be summarised in a few broad categories. Some participants thought that the medicine improved their health, some thought

that it did not improve their health but maintained it, and others thought that the medicine was keeping them alive. There were a small number of people who did not know if their medicine was improving their health but took it because they had been instructed to by their doctor.

5.3.4.1. Medicines improve health

Over half of the participants did believe that their medicines improved their health. Kathleen (NZE, 15 meds, Study 2) said: "I think if I hadn't been taking them I would have had...some sort of hiccup again, and that's twelve years with nothing, that's a good long time". Christine (Aust, 14 meds, Study 2) said that the medicines must have improved her health because they have lowered her blood pressure and have helped with her iron levels; she does not think she would be nearly as energetic if she was not having them. Owen (NZE, 18 meds, Study 2) thinks that his medicines improve his health because they make him a lot freer of pain. David (NZE, 6 meds, Study 1) is adamant that his medicines improve his health and that he would not have the same quality of life without them. Aaron (NZE, 17 meds, Study 1) believes his medicines improve his health: "I don't think I could exist very well at all [without the medicines]. You see when I wake up in the morning, I can hardly walk".

Some participants said that they would not be alive without their medicines. For example Gerald (NZE, 11 meds, Study 2) said: "Well, if I wasn't taking medicine, I wouldn't be here, yeah". It is easily understandable how this would be a strong motivating factor for older people to take their medicine, regardless of how much they previously or currently dislike having to take medicine. Horne pointed out that people can believe a medicine is effective but not perceive a need for it.[304(p140)] The participants mentioned above believed their medicines were efficacious and necessary for them to take.

Some participants said they would not go as far as saying that their medicines improved their health but did believe that it maintained or helped their health. In this sense the wording of my question could be interpreted in two different ways. I

wanted to know whether people thought their medicines improved their "ill health" but some people understood this to mean: do your medicines improve your "good" health. Edward (NZE, 11 meds, Study 2) said: "Ah well I don't know about improved, it certainly maintained it, I'd have to say that yes. I think so". Evelyn (English, 7 meds, Study 1) does not think that the medicines improve her health but that they keep it from getting worse and keep certain things under control. Denis (English, 4 meds, Study 1) said that his medicines are good for him but does not know if they improve his health. Fiona (English, 12 meds, Study 2) said that her medicines have definitely helped with the symptoms but she thought that saying they improved her health was going a bit far: "I mean, is anything known to improve the poor old heart?" Horne argued that people can accept the necessity of a medicine, even if they think it is only moderately effective, if they believe it is the best treatment available.[304(p140)]

John (NZE, 6 meds, Study 1) believes his medicines are good for his health. He referred to the funerals of people he has been to who had not been taking medicine. One of his school friends died at aged 42 but if he had known he had cholesterol problems, and the medicine was available, he might still be alive. He also knows people who have chosen not to take their medicine and he does not think that is a sensible attitude.

Although participants distinguished between whether medicines actually improved, aided or maintained their health the majority of them thought their medicines were good for their health (improved their ill health) in some way. This shows why participants were willing to take their medicines even though they do not like having to. Horne and Weinman, in a quantitative study of people with chronic illness, found that participants' beliefs about their medicines were a greater deciding factor, than socio-demographic and clinical factors, in whether or not they took them.[111] If people believed their medicines were necessary, and this belief outweighed any concerns about adverse effects, they were more likely to take their medicine. It has also been found that people who believe they are ill are willing to take a large number of

prescribed medicines to maintain or improve their health.[91] The majority of participants in both investigations for this thesis believed their medicines were necessary and were not overly concerned with adverse effects (this is discussed later in the chapter). However, this acceptance of a medicine's health benefits is closely aligned with the trust that participants had in their doctor's judgement.

5.3.4.2. Medicines do not improve health

There were only a small number of instances where participants said that particular medicines were not good for health at all. Grant (NZE, 19 meds, Study 2) thinks his current medicines are good for his health. However, during a stay in hospital the previous year he believes he was worse off because of the amount of medicines he was given: "you know you had all these pills going into you, and all mixed up, and all that, and I felt better when I came out". Dorothy (NZE, 0 meds, Study 1) does not take any prescription medicine and is determined to avoid having to take any. Recently she was told by her doctor that she has high cholesterol but she replied: "well I haven't got cholesterol phobia". The doctor did not offer her a statin but she would not take it even if her doctor did prescribe them. She said that she has always had high cholesterol and believes that people are taking too much prescription medicine because much of it is unnecessary. During the interviews she repeatedly pointed out that every medicine has a side effect. The Health Belief Model predicts that people will take action, such as the use of medicines, to treat or control health conditions if they believe they are susceptible to the condition and if they believe the condition to have serious consequences. People also have to believe that the course of action will be beneficial and that its benefits outweigh the costs.[317] Dorothy does not believe that her high cholesterol is a serious health condition and even if she did, she does not believe that the benefits of medicines sufficiently outweigh the costs.

5.3.4.3. Not sure if medicines are good for health

Some participants were not sure if their medicines improved their health or not. Katherine (NZE, 8 meds, Study 2) said she did not mind taking medicines as long as they helped but she did not know if her medicines were good for her health or not. She assumed that they must be good for her health otherwise the doctors would not give them to her, an assumption made by a number of participants. Emily (NZE, 10 meds, Study 2) believed that her medicines improved her health to a degree but she could not be certain because she did not know what she took the medicine for. Emily's attitudes and experiences are further discussed in the next chapter. Betty (NZE, 10 meds, Study 2) supposed that some of her medicines were doing their job but she was not certain. She then went on to say that her medicines were necessary but was also uncertain about that. A few other participants also said they sometimes wondered if all of their medicines were necessary. Walter (NZE, 7 meds, Study 2) said that his medicines are supposed to stop his health from getting any worse; he takes them and hopes that they will improve his health: "A lot of them when taken, they're supposed to stop you from having heart attacks, and strokes and all the rest of it, but doesn't seem to always work". He was referring to the fact that despite taking his medicines he had been admitted to hospital with a transient ischemic attach (mini-stroke). Grace (Māori, 3 meds, Study 1) is happy to accept her medicines even though she does not really know if they improve her health; she is not interested in having any additional information from her doctor.

These participants were less certain about the benefits of their medicine but they all said that they always took their medicine. Some of them exhibit a great amount of trust in their doctors in assuming that because they have prescribed the medicine, it must be good for them. In comparison to the participants who thought their medicines did improve their health, they could not discern any marked difference in their symptoms after taking the medicine. They could not use symptomatic relief as a way to judge the effectiveness of the medicine. The importance of participants' beliefs regarding their symptoms is discussed later in the chapter.

Harry (Chinese, 4 meds, Study 1) does not know if his medicines are improving his health and said the problem is that his age is catching up with him. He is not concerned by this and takes each day as it comes. He did say it was sad to get older and lose a lot of his friends. Some participants referred to the possibility of dying in the near future and were pragmatic in their attitudes towards it. This is discussed in section 5.3.4.5.

5.3.4.4. Health beliefs

Health beliefs are an important issue in participants' attitudes towards their medicines and their judgement of whether or not they are necessary. Health beliefs are also a part of people's wider views in life. For example, the last chapter discussed how participants thought younger people were too quick to access medicines and how this was different from when they were growing up.

People were more positive if they believed that a medicine, or medicines, had made a discernible difference to their health. Miriam (NZE, 2 meds, Study 1) is not keen to take more than the two prescription medicines that she is on and does not like taking medicine. She appreciates the Losec® (omeprazole) because she was unable to bend before she started taking it and has found that it is a big help to her. It has noticeably relived an annoying symptom and this has given her a very positive view of it: "it's like the American Express Card, I wouldn't go to work without it". Miriam also takes her blood pressure medicine but does not notice that it makes any difference to her health and when she goes to the doctor her blood pressure is always fine. Because of this she does not know how effective the blood pressure medicine is. At times Miriam refers to her indigestion medicine (Losec®) as the only medicine she takes, perhaps because she believes it is effective but is less sure about the blood pressure medicine? Sometimes she thinks she should stop taking it but she is also frightened to do so and says she does not understand these things:

> My mother and my father and my grandmother all lived well into their 80s and I never remember hearing anything about blood pressure or iron pills

> or any of those, they didn't take any of those things but whether there is something we are eating today or whether it's the sprays or the things that are used.

Camilla (NZE, 6 meds, Study 1) had been started on medicine because of a fall but she did not see this as a serious health event which would convince her to keep taking the medicine. However, a fall or repeated falls can be a major health problem for older people.[318] In contrast, David (NZE, 6 meds, Study 1) had been convinced to keep taking his medicine because he did not want another heart attack. Charlotte (NZE, 13 meds, Study 2) hoped that her new medicines would improve her health because she did not want to have a stroke again. She believes that her new medicines, prescribed in hospital, are more important than her older ones because they are related to her stroke. She was willing to keep taking them on this basis even though she hated having to take a higher number of regular medicines.

The participants in Investigation One who were taking the least amount of prescription medicine, and who were the most wary of it, were all people who had not experienced a serious health event or hospitalisation. They had not experienced something which caused them to reassess their attitudes towards medicines. Nor had they experienced a health problem which resulted in them needing to take a high number of medicines. This is in contrast to most of the participants in Investigation Two who had experienced serious health conditions. People who do not experience severe symptoms can have doubts about the need for treatment with medicines.[304(p145)]

5.3.4.5. Pragmatic approach to health and medicines

I did not specifically ask participants about death but it sometimes came up during discussion about people's medicines and health beliefs. David (NZE, 6 meds, Study 1) thinks he is getting near the end of his life. He has had his current coronary stents for six years but he believes they are now starting to fail and he will have to accept the inevitable. He will continue to take his medicines and the doctors might be able to increase something and keep him going for longer but he is not worried about it;

he accepts that he is "heading down that track". Evelyn (English, 7 meds, Study 1) goes to the doctor every three months and will also go to see him if she is worried about anything regarding her health. But she is worried less and less about her health now because she accepts that she is getting old: "And we've got to die sometime haven't we? Why prolong the agony? I'll go when the Lord takes me". She does not like it when people say that someone is not getting better because they lack faith. She believes that God put things such as doctors and medicines on the earth for the good of people. Other times she believes that you have pain because it is God's will and all of the medicine on earth will not get rid of it. Paul (NZE, 12 meds, Study 1) said that he is happy with his life and feels fortunate to still be alive and in a good rest home. He is not concerned about whether he lives for longer or not. "If it all ends tomorrow all I can say I've had – I never look at anything from a gloomy side. I never get up in the morning and think to myself: I wonder if this is going to be the last day".

All of these participants said that they take their medicine and none of them implied that they would purposefully stop taking their medicines because they were possibly reaching the end of their lives. They planned to keep taking their medicines for as long as they had to.

5.3.5. Side effects

In the previous chapter participants' experiences of adverse medicine effects, during their working life and when they first started taking regular medicines, were discussed but this section focuses on participants' more recent experiences and current views regarding adverse effects. Participants almost always referred to these as "side effects". In this chapter the views of participants from Investigation Two are based on medicines they are currently taking but were also taking before being admitted to hospital. The next chapter discusses how some participants from

Investigation Two experienced new side effects with, or attributed them to, new medicines they were prescribed during their stay in hospital.

5.3.5.1. Not concerned about side effects

Many participants reported that they had never experienced any serious side effects from any medicines and it was not something that they normally worried about. Some participants said it was something they would simply deal with if it happened or they would trust their GP to solve the problem. For example, Kirk (NZE, 14 meds, Study 2) said: "I mean, if they come, they come, you can't do anything about it, can ya?" Ruth (NZE, 11 meds, Study 1): "if I get them I would ring the doctor and know what it was. I don't particularly think ooh they are going [to] come, no. If it comes it comes".

The majority of participants did not refer to side effects as a specific concern or a reason for why they did not like taking their prescription medicines. Paul (NZE, 12 meds, Study 1) is not concerned about side effects from his regular medicines but said that he has never had to take anything he needed to be concerned about such as warfarin: "Which I would hate to take. You know it's a bloody rat poison, so you think to yourself: well if it can kill rats it surely can kill any human being". David (NZE, 6 meds, Study 1) said he does not read up too much about his medicines. He remembers one woman he knew saying she would not take a certain medicine because she had looked it up on the internet and it listed some terrible side effects. He has been taking his medicines for twenty-five years without any side effects.

Other participants also referred to the fact that they had been taking the same medicines for a long time and this meant they were not concerned about taking them. For example, Beatrice (NZE, 19 meds, Study 2) said: "I have become so used to it. I've taken medications for years and years and it's just part of life now, so it doesn't really worry me". Luke (NZE, 17 meds, Study 2) referred to some of the problems related to warfarin such as how he had an operation cancelled at the last minute when the surgeon saw that he was taking warfarin. However, he is not

worried about taking warfarin because he has been on it for a long time (approximately twenty-seven years). This is in contrast to Paul's (NZE, 12 meds, Study 1) attitude towards warfarin; Paul has never had to take it so only focuses on its negative aspects. Ingrid (NZE, 4 meds, Study 1) experienced serious side effects when she first started on medicine but she said that she is not concerned about her regular medicines.

5.3.5.2. Recent experience of side effects

Some participants referred to instances in the more recent past (since they had started taking regular prescription medicines) where they had experienced a side effect and in some cases this resulted in a medicine being stopped or changed.

Robert (NZE, 10 meds, Study 1) has experienced serious side effects from two medicines given to treat his bipolar. He was given lithium once in Dunedin hospital and had a violent reaction to it. Lithium is a common treatment for stabilising the mood of people with bipolar but it had the opposite effect on Robert. Another time he fainted and was admitted to hospital; the doctors said it might have happened because his sodium valproate dose was too high. The dose was lowered and he has continued taking this medicine.

Miriam (NZE, 2 meds, Study 1) has never had any side effects from her two regular prescription medicines and does not worry about taking them. After her close friend died she could not sleep and was feeling down so her doctor prescribed her a medicine, for depression, which she could not remember the name of at the time of the interviews.

> …but oh it was awful, I just absolutely lost control of my feet altogether, I just felt like a zombie, so I stopped taking them and just let time cure itself. I don't know what the name of it was. It was for depression. It had awful side effects really. Some of those medicines do though, you know.

It is clear from this and some of her other responses that she is concerned about the possible side effects of medicines in general but she is not concerned about her own

because she has taken them for a long time without any complications. Walter (NZE, 7 meds, Study 2) once had a side effect when he was put onto Lipex® (simvastatin); he experienced severe pain and could hardly move. This has not prejudiced him against medicine in general but he refuses to take Lipex® again. One time, in hospital, he was told that he would have to start taking it but when he refused they gave him another medicine instead. Henare (Māori, 13 meds, Study 1) and his wife were also glad when his cholesterol levels were lowered and his doctor said he could stop taking Lipex®; they thought that it had been adversely affecting his joints.

These examples show that people had experienced problems with past medicines and were therefore aware of the possibility of side effects. However, it did not cause them to worry about their current medicines or any new ones they might be prescribed. It is possible that they were more concerned about the side effects at the time they experienced them but this concern has not persisted and affected their current medicine taking practices.

5.3.5.3. Current side effects

There were a few participants who were experiencing side effects from their current regular medicines (which they had been taking prior to admission to hospital). Grant (NZE, 19 meds, Study 2) and Muriel (NZE, 21 meds, Study 2) were extremely annoyed about the bruising their medicine (warfarin and prednisone) was causing on their arms. As already mentioned earlier in the chapter, Aaron (NZE, 17 meds, Study 1) was resigned to the fact that his medicines had side effects and he had to take more medicines to counter them. In both of these examples the participants were understandably unhappy with their side effects but again, their trust in the doctor's judgement meant they were willing to persevere. Their side effects were also not as severe as some of those mentioned earlier which necessitated a medicine being stopped immediately.

Participants could also have different definitions of what a side effect is. Paul (NZE, 12 meds, Study 1) told me that he does not worry about any side effects from his

medicines. However, he also told me that he has been feeling "a bit muzzy" in the head and he is wondering whether it is related to his medicines and the possibility that he has been taking some for too long and needs to stop taking them. He planned to ask the doctor who visits the rest home. He was concerned about being "muzzy" in the head but he did not define this as a side effect.

Participants were aware that medicines could cause harm even if they did not worry about it all of the time. Evelyn (NZE, 7 meds, Study 1) feels okay about taking her regular medicines, as long as they keep on top of her health problems and she thinks that they do as much as can be expected of a medicine. If there is something wrong with her and she has been prescribed a medicine by the doctor and it seems to work then it does not worry her. She is happy as long as the medicine does not do any harm and keeps her ill health under control.

A few participants also referred to possible adverse effects from taking multiple medicines. Harry's (Chinese, 4 meds, Study 1) wife remarked that the thirteen medicines which she takes in the morning must be having a war in her stomach. David (NZE, 6 meds, Study 1) said that he had a great constitution and that it was surprising that he had taken medicines for twenty-five years without having a "crook" (bad) stomach. Martha (NZE, 15 meds, Study 2) knows that she has to take her medicine but she is concerned about the amount she is taking and the side effects they might be having:

> …and if the doctor said I've got to [take] such a thing, I'll take it, and I don't take anything that he says don't take. I try to keep to what he tells me. But I'd love to get – I'd love to cut some of the things out. Because I take about twenty tablets a day, and it seems such a lot to be taking, not the medication itself but all the bits around it…

Older people's concern about side effects, and the effect this can have on whether or not they will take their medicines, has been referred to in overseas studies.[111, 112] Pound et al. argued that for people of all ages, their concerns about medicines can have a profound effect on their medicine taking practices.[105] Martha (NZE, 15 meds, Study 2) and Harry's (Chinese, 4 meds, Study 1) wife are concerned because of the

high number of medicines they are taking and the fact that this might increase the possibility of interactions or side effects. International research shows that their concerns are valid. Pound et al. argued that it is surprising that researchers often minimise people's concerns regarding medicines or refer to them as "medicine beliefs" when the extent of adverse medicine reactions is well documented.[30, 105]

It is surprising that a greater number of participants in the two investigations did not say they were worried by the effects of taking multiple prescription medicines as this has been a finding in other studies.[111, 112] It could be that there is a link between a participant's dislike of medicines and the possibility of side effects but most did not verbalise this in either investigation. Perhaps this is because I did not spend a large amount of time in the interviews exploring side effects and I did not specifically ask what effect people thought a large number of medicines might be having on their body? Or perhaps it is because participants trust their doctor and because they have not recently experienced a bad side effect? All of the participants were 75 and over and most had been taking regular prescription medicines for many years. Participants referred to the length of time they have been taking medicines for and that they are no longer concerned about any side effects. Their lack of concern regarding side effects may be a reason why they are willing to accept the necessity of their medicines. Overseas studies show that people are more willing to take their medicines if they are not concerned with possible adverse effects.[111, 293]

5.3.6. Non-prescription medicines

The number of regular non-prescription medicines people reported was very low in comparison with the prescription medicines they were taking. Participants in Investigation One took a total of nineteen regular non-prescription medicines (taken by eleven people) with a median of one (range: zero to four). Participants in Investigation Two took a total of twenty-eight regular non-prescription medicines (taken by fourteen people) with a median of zero (range: zero to nine). The majority

of these non-prescription medicines can be defined as health or dietary supplements such as vitamins, minerals, fish oils, herbal supplements and garlic products. The next most common non-prescription medicine was paracetamol. I only counted non-prescription medicines that people were taking on a regular basis at the time of the interview.

The limitations of the two investigations in this thesis may be a reason for the low incidence of non-prescription medicines. Investigation One was based on a small and non-randomised sample of people of different backgrounds and ethnicities, and Investigation Two was based on a sample of people who were taking four or more prescription medicines recently discharged from hospital. However, Tordoff et al. found that their 316 participants took a median of one regular non-prescription medicine (range: 0-14) which was also low compared with the median of seven prescription medicines being taken.[27] A 2005 New Zealand study looking at a health survey of 4636 adults found that people aged 15 to 24 were four times more likely to use dietary supplements (vitamins, minerals, herbal supplements, sports preparations and garlic products) than those aged 75 and over.[81] The study also found that supplement users were more likely to be female, New Zealand European and more highly educated. A 2006 New Zealand study looking at the use of dietary supplements found that older adults were higher regular users while younger adults were higher episodic users.[80]

The rest of this section explores some of the reasons people gave for why they did or did not use non-prescription medicine. There is some overlap between prescription and non-prescription medicine in the area of pain relief. Ten participants took non-prescription paracetamol but the majority had it prescribed by their doctor and did not need to purchase it over the counter.

5.3.6.1. Not keen to take additional medicines

As discussed in this chapter, many of the participants said that they do not like taking medicine or only take it because they trust their doctor and believe it is good

for their health. Some participants, especially those from Investigation Two, were already taking a lot of prescription medicines and said they were not keen to take any more regular medicines than they had to. Henry (NZE, 9 meds, Study 2) said that if the doctors prescribed it, he would take it but if they did not prescribe it, he would not take it: "I don't go out looking for stuff". Gloria (NZE, 8 meds, Study 2) said that she has never gone in for taking more pills than she is given by her doctor. Amelia (English, 16 meds, Study 2) said that she just takes what she is given but not anything else. Charlotte (NZE, 13 meds, Study 2) said that she had recently gone to the pharmacist because she had very runny eyes and was sneezing all of the time and was given Sudafed® (pseudoephedrine). She took a few but then it seemed to go away and she did not have any more because she did not like taking it anyway. She had only gone to the pharmacist because the runny eyes and sneezing were so annoying. In this example, even though the participant went to the pharmacist for relief she still was not keen on taking the non-prescription medicine. Even though Sister Caitlin (Irish, 1 med, Study 1) only takes one prescription medicine she is very keen not to add anything to that. In the past she has taken vitamins when she was feeling rundown but it was not something she did very often. She said that she would still take them now if she thought she needed them. David (NZE, 6 meds, Study 1) does not take non-prescription medicines and he thinks that his background plays a part in that; he takes what he has to take but no more. When I asked Amipa (Cook Islands, 2 meds, Study 1) if she ever purchased medicines for herself she said no because she does not like taking medicines and she does not voluntarily get it for herself. A few participants said that surely they had enough medicines already when I asked them if they took any non-prescription medicines.

The majority of participants said that they did not like taking medicines so it is understandable that they would not go out looking for more medicines to take. Participants' attitudes toward non-prescription medicines were similar in some ways to their attitudes towards medicines for pain. They do not like taking medicine and try to avoid anything they perceive as extra to the regular medicines prescribed by

their doctor. Taking non-prescription medicine is a matter of choice; people can choose to take them or not. The previous chapter also highlighted that people grew up at a time when prescription medicines as we know them today were not common. Although there was a range of home remedies and over the counter products that people took in their youth, participants did not perceive these as the same as modern non-prescription medicines. Participants in Investigation Two were already taking a high median number of prescription medicines and, therefore, may have been even less likely to purchase additional non-prescription medicines.

5.3.6.2. Vitamins from food

Some participants said that they preferred to get their vitamins and minerals from food, rather than from non-prescription medicines. Denis (English, 4 meds, Study 1) said that some non-prescription vitamin and minerals might be good but he and his wife preferred to eat plenty of vegetables and fruit.

> I think if you eat your good plain food you shouldn't have to have that vitamin. Good plain food and fruit and vegetables, you know, and that's the main thing. Some people get addicted to them sort of things [medicines]. They've got to take them out of a pill, like a bottle, and they think that'll do for a meal.

Harry (Chinese, 4 meds, Study 1) said that non-prescription medicines are alright if they "help people" but he believes that if you eat well and drink well you should not need them. Fiona (English, 12 meds, Study 2), Henry (NZE, 9 meds, Study 2), Grant (NZE, 19 meds, Study 2), and Gerald (NZE, 11 meds, Study 2) all said that they acquire vitamins and minerals from their food. Christopher's (NZE, 7 meds, Study 2) wife said that she had been considering buying vitamins and minerals for her husband because it was now hard for them to grow their own vegetables (i.e. to keep up with the weeding in their own vegetable gardening). Only the difficulties related with growing their own vegetables caused them to consider non-prescription medicines. These attitudes may relate to the belief that many people have that modern medicines are not natural because they are manufactured.[293(p50)]

As discussed in the previous chapter, older people have a strong belief in the importance of eating the right food to enhance their health. While this might be equally true of younger people, most participants in Investigation One who were born in New Zealand or the United Kingdom argued that they had a healthier diet and lifestyle in their youth compared to what adults and children eat today. They believe this was a reason why they were healthy in their youth and did not need as many medicines as, in their opinion, people seem to today.

5.3.6.3. Positive view of non-prescription medicines

Participants who did use non-prescription medicines were obviously more positive about their effectiveness. Most people who did take them only took one or two different products. Christine (Aust, 14 meds, Study 2) had been struggling with sleep and started taking a non-prescription sleeping tablet. She wants to sleep better at night but she does not want to take prescription sleeping tablets so that is why she has started using "the natural one, the herbal one". Ruth (NZE, 11 meds, Study 1) is willing to try non-prescription medicines if she thinks they will help her. Her doctor recommended she try glucosamine for her joints but she had a reaction to them. She returned to the health shop to talk about it and when she told them she was allergic to shellfish they said the glucosamine has constituents from shellfish in it. Aaron (NZE, 17 meds, Study 1) also thinks that a lot of non-prescription medicines are effective because they are natural and he talked a lot about how overseas scientists have gone back to analysing plants. He and his wife take selenium and he believes this is very important because of the health benefits it confers. John (NZE, 6 meds, Study 1) takes vitamins but he does not know whether or not they all do any good. He believes that Omega-3 Fish Oil is very important to take. Henare (Māori, 13 meds, Study 1) started taking deer velvet (deer antler) capsules six months ago. It is something he and his wife had heard about on the radio and they had thought about starting him on them for a long time. Grace (Māori, 2 meds, Study 1) does not take any non-prescription medicines but she does believe in them and she is willing to try

things. Christine (Aust, 14 meds, Study 2) takes four non-prescription medicines: flax oil, cod liver oil, garlic and an insomnia medicine. She says that since she has taken the flax oil she does not get less aches and pains in her joints but her bones are definitely freer. She takes the garlic during winter to ward off colds and she only recently started taking the insomnia medicine again because she has had trouble sleeping. These participants believed that non-prescription medicine could benefit their health in conjunction with their prescription medicine.

Liam (NZE, 19 meds, Study 2) takes the most non-prescription medicines of any participant in the two investigations. At the time of the interview he was taking nine different non-prescription medicines. He is discussed in greater depth here because his attitudes regarding non-prescription medicines were different from the majority of participants. He believes that it is essential for people to take their prescription medicines but he has learned that they can be supplemented or replaced with non-prescription medicines. He takes grape seed oil, colloidal silver/gold, folic acid, colostrum, vitamin C, vitamins A, C and E combined, glucosamine and chondroitin, magnesium, and vitamin D. Since he first started taking prescription medicines he has conducted a large amount of research into health and medicines. He has conducted his research via information given to him by his GP and pharmacist and more recently via the internet. His GP is aware of all the supplements that he takes and he discusses them with her. His GP started taking one of the supplements herself when she saw the benefit he derived from it. His pharmacist supplies him with any information he asks for and he also recommended one of Liam's supplements for his wife. Liam takes supplements because he believes that some can provide the same benefit as prescription medicines but without the side effects. Over the years, it is the side effects of his prescription medicines that have caused him the most trouble. Studies have found that side effects from prescription medicines are one reason that older people choose to use non-prescription medicines.[319] Liam is very open with his doctors regarding his use of non-prescription medicines and does not feel that he has

anything to hide. In hospital he told the doctors about all of the different supplements that he was taking.

Participants did indicate that they would purchase non-prescription medicines to take for a short time for coughs, colds or sore throats. A few participants indicated that some years they did buy a vitamin tablet for general good health. People spoke of these types of medicines in a very casual way and seemed to perceive them as a normal part of everyday life. For example, some participants jokingly referred to cough lozenges as something which they took but did not perceive as medicines. It is probable that these occasional non-prescription medicines were purchased for illnesses which were not considered important enough to bring to the attention of a doctor.[76] Studies in the United Kingdom have shown that despite receiving free prescription medicines, older people are still willing to buy a range of non-prescription medicines.[72] For most participants their views of occasional non-prescription use are different from their views on taking regular non-prescription medicines.

5.3.6.4. Negative view of non-prescription medicines

A small number of people expressed a strong distrust of non-prescription medicines. Miriam (NZE, 2 meds, Study 1) said that she does not use what she described as "patent" medicines and was a little mistrustful of them. She thought that some must work but referred to the fact that there were so many on the market with cures for everything. She made a distinction between "patent" medicines and more natural "non-prescription" medicines which she did believe in because they were: "going back to the sort of, well years ago there wasn't all these medical advantages that there is today is there? People, well the natives and that, that was all they ever took wasn't it?" She does not take any non-prescription medicines herself. Camilla (NZE, 6 meds, Study 1) is very mistrustful of most non-prescription medicine: "And I think it's ridiculous that some of these health magazines that we get pushed into our letter

box. Week after week, and they're nothing but advertising or suggesting that you need this that and the other, for this that and the other".

Although participants said they did not like taking non-prescription medicines the majority of them did not specifically refer to the possibility of them interacting with other medicines or causing side effects. Alice (NZE, 17 meds, Study 2) had been taking vitamins and minerals but, after the large number of medicine changes she had experienced, she had stopped taking them because she did not want to interfere with the new medicines prescribed in hospital. Rachel (NZE, 6 meds, Study 2) said that she never goes near "these health places" or "these shelves [of medicines] in the grocers" and people who do that do not know if the medicines are "fighting with one another". When I asked Evelyn (English, 7 meds, Study 1) if she ever took non-prescription pain relief medicines she said that she tries not to because "like every other medicine they work on one thing and upset everything else". Moen et al. found that the suspicion of potential interactions was one reason why their participants did not like taking non-prescription medicines.[112]

Although Dorothy (NZE, 0 meds, Study 1) does not believe in prescription medicine she also thinks that a lot of non-prescription medicine is not needed and possibly harmful to people. She believes firmly that most vitamins and minerals can be gained from home-grown food and by putting the right things into the soil: phosphate, lime, dolomite (which has magnesium in it), sulphur, (which has gypsum in it), and seaweed. She only takes two vitamin C products because she says that the body cannot produce vitamin C. She will only take certain types of vitamin C and at the moment she is taking Lypo-Spheric vitamin C (liposomal) from a store in Auckland and another vitamin C from the North Island which is imported from America. She does not view these vitamins as non-prescription medicines but sees them more as natural products. She was surprised and unimpressed when a doctor once told her that vitamins were just "gimmicks".

5.3.6.5. Childhood home remedies

The majority of participants in Investigation One said that they no longer take any of the remedies that were common in their household when they were growing up. Some of the participants were not convinced that these remedies were very effective but most said that they did not use them because times had changed and it was now more common, easier and more affordable to go to the doctor or the pharmacist for medicines. Evelyn (English, 7 meds, Study 1) joked that she did not take any of the old remedies because she is not in the "stone age" now but she thought they would still work if there was nothing else to use. Miriam (NZE, 2 meds, Study 1) said that she still uses some of the older home remedies. Every now and then she will have some Epsom Salts because her brother-in-law used to say it was good for when his hands were stiff from farming. Recently she went to town and, because she did not want to get the flu, she looked to see if any of her mother's eucalyptus was still in the house. She found some and used it, the same way that her mother used to when she was young.

Lepati (Tongan, 10 meds, Study 1) said that when he lived in Tonga he would get a massage (a common part of many Tongan treatments) if he was in pain but now he would take a pain relief medicine.[83(p57)] He still believes Tongan herbal medicines are effective but they are not available to him and he also believes that the medicines he has been given in New Zealand, along with the health care and the more peaceful living situation, have kept him alive. He believes New Zealand is more peaceful because if he still lived in Tonga he would need to work hard to support himself and his wife. He and his wife will still take Tongan medicines if someone brings them some from Tonga or Auckland. Recently they finished using a liquid mixture of boiled herbs (including garlic and ginger) which somebody gave them. As mentioned in the last chapter, many Pacific Islanders are willing to accept both their traditional medicines and western prescription medicines.[82] Studies have also found that these attitudes are the same for Pacific Islanders living in New Zealand.[137, 320] However, on his last visit to Tonga some of his family members were telling him to

stop taking his prescription medicines and take traditional medicines instead; he ignored them. In contrast, Amipa (Cook Islands, 2 meds, Study 1) was given very little herbal medicine during her childhood in the Cook Islands and has no desire to use it now.

Henare (Māori, 13 meds, Study 1) does not use any Māori herbal medicines as they are not easily available and he accepts the necessity of his prescription medicines. One time he talked to a friend who referred to how kawakawa had been effective in "clearing out his blood problem" (blood purifier) so Henare joined him in using it. They knew a place in Dunedin where some kawakawa was growing. Qualitative research has found that Māori are willing to use both modern prescription medicines and Māori herbal medicines if they are able to access them.[134, 135] Like Amipa, Grace (Māori, 2 meds, Study 1) was given little herbal medicine in her youth and is not interested in using any now.

Harry (Chinese, 4 meds, Study 1) and his wife still use Tiger Balm and he said that a lot of Chinese people still use it even though it is a remedy that has existed for a long time. Harry and his wife said Tiger Balm was very beneficial for headaches, itches and pain. They said it was a "cure all" medicine. They do not use a lot of Chinese medicines because Harry said they were brought up in New Zealand and went to the doctor for prescription medicines if they needed to. He thought Chinese medicines probably were effective because that was all they used in the villages in China. Medical doctor and academic Ng argued that Chinese people in New Zealand may use Chinese medicines, herbalists and acupuncturists as supplementary therapies but will trust western medicines as the main treatment for their ill health.[321]

5.3.6.6. Alternative medicines

The majority of participants did not use any medicines, or access any health practitioners, which would be considered as complementary or alternative medicine (CAM). As mentioned in the introduction to this thesis I have defined these as separate from non-prescription medicines. Lepati's (Tongan, 10 meds, Study 1)

Tongan herbal medicines, Miriam's (NZE, 2 meds, Study 1) use of eucalyptus and some of Liam's (NZE, 19 meds, Study 2) supplements would normally be defined as CAM. John (NZE, 6 meds, Study 1) has been a long-time user of chiropractors for his sore back and was going to visit someone he described as a "physio" later in the day of the interview but who was not a registered physiotherapist. There may have been other instances of participants visiting alternative practitioners that I missed. A 2006 study of 1043 participants (633 New Zealand Europeans and 223 Māori), who presented at Waikato Hospital ED, found that people aged 20 to 60 were more likely to use CAM than those aged under 20 and over 60.[78] A quantitative survey of 1204 participants in England also found that the use of CAM was highest in the 35 to 64 age group.[73]

5.3.7. Medicine taking practices

Many of the participants took their medicines unreflectively and tended to trust their doctors recommendations. While some participants may have struggled with taking their medicines in the past, for most of them it has become a part of their lives because they have been taking their medicines for a long time. Other than talking about the routines they had for remembering to take their medicines, most participants did not voluntarily talk about their medicine taking practices. Their dislike of taking medicines in general did not seem to affect how they took them because they also trusted their doctors and believed most of the medicines were necessary. Some participants who told me they dislike having to take medicines also said they did not worry too much about the practice of taking them; they simply swallowed the medicines at the right time of day. However, if a medicine was perceived to be unnecessary, such as an analgesic or non-prescription medicine, then many participants would avoid taking it. This was also true of medicines, such as sleeping tablets and anti-depressants, where they perceived the side effects to be greater than the benefits of the medicines.

In the two investigations for this thesis I did not aim to explore participants' daily medicine taking practices in great depth. This is because the aims of the thesis are focussed on people's attitude and beliefs regarding medicines. Also, in Investigation One it would have been difficult to explore people's past medicine taking experiences in great depth.

5.3.8. Themes

The last sections in this chapter examine the main themes regarding attitudes to medicines which were apparent from participants' responses to a range of questions during the interviews. The first of these refers to the trust participants had in their doctors. This is followed by sections looking at participants' willingness to take their medicine and the tension apparent in the way they talk about their medicines.

5.3.8.1. Trusting doctors

Participants' willingness to take their prescription medicine was often based on the trust they had in their doctors. Even though participants did not like taking medicine they were willing to do so if their doctor thought it was best. Although this has already been alluded to earlier in this chapter it is a recurring theme when participants talked about their attitudes towards medicines. A strong trust in doctors was also mentioned in the previous chapter. The participants grew up at a time when the doctor was a well respected authority figure in society and their instructions were always to be followed, even if participants' families did not often visit the doctor.[322] This respect became coupled with an appreciation of the ease in which they could converse with their doctors as they grew older, an aspect which is highly valued by older people.[322, 323] In the next chapter it is seen that the participants in Investigation Two also placed a high degree of trust on the hospital doctors' decisions when it came to understanding the changes to their medicines at their recent discharge from hospital. This is not discussed here because it would involve

referring to the changes people experienced in hospital and that is the central topic of the next chapter. Instead this section looks at the general attitudes participants from Investigation One and Investigation Two exhibited towards doctors. At times participants differentiated between GPs and hospital doctors but at other times they referred to all doctors in a general sense.

Participants' trust in their doctors is closely aligned with their desire to stay healthy. They are willing to take a medicine if they believe it is good for them but they trust the doctor to decide if something is good for them or not. When asked how he feels about taking medicine, Troy (English, 13 meds, Study 2) said that he respects the doctors because they have a skill which he does not understand and he trusts them; he knows they are not giving him "poison or anything like that". Abigail (NZE, 20 meds, Study 2) said that she does not want to take as many as she does but she knows they are for her own good and she trusts the doctor. Kathleen (NZE, 15 meds, Study 2) said that she does not take medicines readily and that instead of running to the doctor for every little illness she tries to sort it out for herself. But if her GP says to take it then she does because she has "faith" in him. Andrew (NZE, 14 meds, Study 2) asked his doctor once if he could stop taking some of his medicines because he was taking a lot. The doctor replied that if he stopped taking some, he would be in trouble. So taking a lot of medicine does not worry him because his doctor feels it is essential. He also talked about his brother-in-law who had a bad heart but would not take his medicine, and subsequently died. Andrew believes it was because he did not take his medicine that he died. Miriam (NZE, 2 meds, Study 1) does not understand why she is taking a blood pressure medicine. She just takes it because her doctor has told her to and she does not know if stopping it would make any difference to her health. Grace (Māori, 2 meds, Study 1) says that she trusts her doctor because she does not know much about medicines. She just assumes that her medicines will improve her health because she trusts her doctor. These examples show that regardless of their feelings towards medicines, participants are willing to take them because they perceive their doctors as experts whose advice can be trusted. In the

study by Moen et al. some participants believed their medicines must be beneficial because they were prescribed by their doctors.[112]

Several of the participants mentioned above, as well as others, referred to the expertise doctors had regarding health and medicine. This is clearly one of the reasons why people are willing to trust their doctor. Britten argued that many people are willing to accept their prescription medicines if they trust their doctor and are willing to follow their recommendations.[293(p50)] Ritchie, in a 2007 New Zealand study exploring older people's relationships with their doctors, found that participants had a high degree of trust in their doctors when it came to making decisions about medicines.[322] One participant in that study who was contemplating changing her doctor still believed that the doctor would not give her any unnecessary medicine.[322] The same findings were echoed in an Australian study which found that participants (aged 61 to 88) were often willing to adopt a passive role and accept their doctor's advice unconditionally.[323] In Investigations One and Two some participants were adamant that their doctors knew best and were almost surprised that I was implying there could be a different attitude towards doctors. Health journalist Sweet related the story of how her grandmother was not willing to question a doctor's wisdom in relation to her medicines at a time when her health was declining and her family feared that she was experiencing side effects.[324] A second opinion from another doctor confirmed that she probably was suffering from side effects or interactions.

Westbury argued that older people have to be encouraged or given the choice to participate in decision making regarding their medicines.[325] They will not necessarily make this decision themselves because they "were brought up in an era where doctors adopted a paternalistic approach. They presume that it is expected that the doctors make the therapeutic decisions".[325] Westbury referred to research into older people with heart failure where the participants did not ask any questions because they assumed the doctors knew what was best for them. This is certainly the case for many participants in Investigation One and Two. Westbury pointed to studies which have found that when given the choice of being involved, and when told of the

benefits, older patients were keen to become a part of the decision making process.[325] This issue of older people not feeling it is their place to ask questions is further discussed in the next chapter. In Investigation Two many participants did not think it was appropriate for them to ask questions about their treatment or medicines in hospital.

Most participants said that they had been seeing their doctor for a long time and this signifies loyalty to the doctor and familiarity with them.[322] Ritchie quoted Heath who argued that patient's continuity with their doctors means they can "share stories with their doctor on numerous occasions over long periods of time and these stories form powerful bonds which can actively enable trust and affective care".[322] When Grace's (Māori, 2 meds, Study 1) family came to Dunedin thirty years ago they telephoned a doctor because one person was ill. They wanted him to come to the house and assumed this would be an expensive service but it did not cost them very much so they asked him to be their doctor and he has been ever since. Henare (Māori, 13 meds, Study 1) also trusts his doctor and research has found that older Māori are likely to respect the authority of their doctor and follow their instructions and that a good rapport with health professionals is important to Māori.[31(p40), 134] Lepati (Tongan, 10 meds, Study 1) cannot speak English and he relies on his family to translate for him when he visits the GP. Sometimes he becomes frustrated that he cannot communicate directly with health professionals. His whole family has been going to the same doctor for many years even though many of them now live in different parts of Dunedin. His daughter-in-law (who was translating for us) said that relationships and familiarity were important for Pacific Islanders and that was the same for their interactions with doctors and nurses. These examples show that participants had a trusting relationship with doctors in addition to trusting doctors' decisions regarding health and medicines.

Aaron (NZE, 17 meds, Study 1) was the only participant in Investigation One who had reservations about his current doctor. He relayed stories, regarding being referred to hospital, where he and his wife had preferred the treatment they had

received from locums* in comparison to their normal doctor. When I asked him if he had ever considered changing doctors he said that they had been going to the same doctor for a long time and had a good relationship with him. Harry (Chinese, 4 meds, Study 1) trusts his own doctor but he and his wife believe that some GPs overprescribe medicines and in general GPs do not spend as much time with people as they used to.

The participants in Investigation One who were taking the least amount of prescription medicine still said they would probably take something if their doctor prescribed it. Amipa (Cook Islands, 2 meds, Study 1) says that she does not like being prescribed medicine but now she will take it if her doctor prescribes it. At one stage she was not taking the medicines her doctor prescribed for her but her daughter informed the doctor and she was told that she needed to take them for her health. At the moment the only medicines she takes are two asthma inhalers. She is not sure why she does not like taking medicine; she does not know if it was because she never took anything for most of her life or not. Miriam (NZE, 2 meds, Study 1) would rather not take any more prescription medicine than the two she is already on. When asked what she would think if her doctor suggested that she take something additional she said: "Well I suppose if it was going to help me I would because you know, I'm not that biased [against medicines] because a lot of people wouldn't be here today if it wasn't for medicines would they?" She said that if something is necessary and if it helps then there is no need to be "pig-headed" about it. But then she said that a change of medicine does not always help and that sometimes they make people feel ill.

Sister Caitlin (Irish, 1 med, Study 1) said that she could not stand taking twenty medicines a day and thinks that she would rather be dead. But then she said that if she was about to die and she was offered prescription medicine which would keep her alive, she would probably be delighted to take it. She said she would be unsure if her doctor asked her to take anything else. She says that he is an older doctor who

* A doctor working on a contractual basis; normally short-term.

does not believe in prescribing a lot of things anyway and she is pleased that he thinks that way. He once mentioned that she could start taking half an aspirin a day but she chose not to and he never followed it up.

These participants were extremely reluctant about taking any additional prescription medicine. Yet they still said they would take a medicine if their doctor said it was necessary. Also, as mentioned earlier in this chapter, these participants had not experienced a health event, or events, serious enough to convince them that a large number of medicines were necessary.

Most participants also had a positive view of their pharmacists but they rarely mentioned pharmacists as medicine experts. Only a few participants talked to their pharmacist about medicine and health concerns. Studies have found that older people have a similar level of satisfaction with their doctor and pharmacist but refer to their doctors more often for questions regarding medicines.[27, 326]

Out of all of the participants in both investigations, only Dorothy (NZE, 0 meds, Study 1) said that she would not take something just because her doctor prescribed it. She avoids going to doctors with health concerns because she does not want them to prescribe her any medicine. She only goes to see a doctor when she needs to get her driver's licence renewed. Unlike the participants mentioned above, she has no past experience that would lead her to believe that a prescription medicine could help her or alleviate a symptom. She also believes that a lot of prescription medicines are not needed by the people who take them and that they can cause more harm than good.

5.3.8.2. Willingness to take medicine

Participants' willingness to take their prescription medicine has been referred to several times in this chapter and this section looks at the issue of adherence. Pound et al.'s review of qualitative studies of medicine taking found that the majority of articles highlighted how people did not adhere to their medicine regimen.[105] They

argued that lay people's responses to medicine can be best captured by the concept of resistance. Many of the participants in Investigation One and Two could be described as resistant to the idea of taking medicines in general, or specific types of medicine, but they said they are still willing to take the regular medicines their doctors prescribe.

None of the participants in either investigation was asked specifically about whether or not they forgot to take their medicine, or whether they purposefully did not take it. During conversation about people's medicines, they often talked about struggling or forgetting to take certain medicines at the correct time or forgetting to take it altogether. There were also instances where people stopped taking medicines which were prescribed on an as-needed basis such as medicines for pain and laxatives. In this sense they were not always adhering to the instructions given to them by their doctors but this was not intentional. The majority of participants said they took their medicines regularly, despite sometimes forgetting.

In a 2001 Australian study of older people 94% of the 204 participants said they had a method or routine for helping them remember to take their medicines and the most common way was to have it with meals.[95] Other studies have also found that older people use a number of methods to aid them in remembering to take their medicines.[27, 98] Setting up a routine is evidence of how willing older people are to try to take their medicine regularly, even if they sometimes forgot or purposefully chose not to take a certain medicine at a particular time.[327] Participants in both investigations talked about the importance of their medicine routines. Alice (NZE, 17 meds, Study 2) said that she has to be very careful with taking her medicines because she is getting to the age where she forgets things easily. When she is taking her medicine she makes sure the radio is turned off and there are no other distractions. Each week she puts her medicines into a medicine box (plastic container with a compartment for each day of the week).

Figure 4: An example of a medicine box

(http://www.healthaccessories.com/categories/pill-organizers)



Charles (NZE, 9 meds, Study 2) said that he is meticulous about taking his medicine and always has it at meal times so he does not forget (only one of his medicines has to be taken without food but he only takes it on an as-needed basis). Hughes referred to a study by Shalansky and Levy which found that people taking large numbers of medicines could be more likely to pay attention to their medicine taking routines, resulting in fewer missed doses, than people taking fewer medicines.[91] Hughes referred to studies which provided possible reasons for this finding: that people with severe illnesses may be more motivated to take their medicines and that a large number of medicines may necessitate a higher level of attention to the routine.

Some participants had to overcome either great practical difficulties, such as swallowing, with taking medicines or a very strong aversion to taking them. For many participants the desire to stay healthy was strong enough to override their dislike of taking medicines and for others the positive effects of their medicines were very obvious. Grant (NZE, 19 meds, Study 2) said that he was not keen on taking medicine but he would take anything if it was going to fix him, even rat poison (warfarin) because he gets sick of the pain. This is a telling comment because warfarin is a medicine which is known to most older people and one which many say they would rather avoid.[328] For others it was enough for them to believe that

taking their medicines would be good for their health or stop them from experiencing something such as a heart attack or a stroke, even if they did not notice an immediate physical improvement. Charlotte (NZE, 13 meds, Study 2) had always taken her medicine but having a stroke (the cause of her recent hospital admission) scared her and she knows that she needs to take her medicines. These examples highlight participants' willingness to take their medicines regularly and as instructed by their doctor. It shows that their desire to remain healthy and their trust in doctors are stronger than their general dislike of taking medicines. The responses of many participants suggest that if doctors can convince older people that their medicines are essential for their health, they will attempt to take them.

5.3.8.3. Positive and negative attitudes towards medicines

There is a tension in many participants' attitudes towards their medicines. On the one hand they do not like taking medicine and on the other hand they think they should take it because their doctor has prescribed it and they need it for their health. As mentioned earlier in the chapter, overseas studies have also found that older people can have both negative and positive attitudes towards their medicines.[39, 112]

In Investigations One and Two participants talked about the importance of taking their medicine but some indicated that they feel they are taking too much and others indicated their intense dislike of the medicine itself and having to take it. Most participants did not specifically refer to side effects or interactions as reasons for their dislike of medicines. When I asked Hazel (NZE, 9 meds, Study 2) why she hated taking medicines she replied: "Just the very fact of having to be on medications. I've been healthy all my life, and I don't like it". This attitude was echoed by other participants. As mentioned in the previous chapter, Camilla (NZE, 6 meds, Study 1) did not like having to start taking medicines because it "went against the grain". Muriel (NZE, 21 meds, Study 2) said something similar: "I've always been quite proud that I've never had to bother until recently, in the last few years, really". Most of the participants in Investigation One believed their medicines were necessary but,

as discussed in the last chapter, they also believed that younger people were too quick to access medicines and health services when they could be curing themselves at home or waiting for the illness to pass.

This tension might not be sufficient to cause participants to stop taking their medicines because they trust their doctors and believe their medicines are good for their health. But it does show that older people may need support and understanding with their medicine because many of them do not like taking it and having large amounts of regular medicine is contrary to the experiences and attitudes of their youth. Benson and Britten, in their study looking at use of antihypertensive medicines, recommended that doctors take the patient's view into account when starting them on these medicines.[288] They recommended that doctors directly ask about "patients' reservations, their reasons for taking medication, and the balance between them".[288]

In some interviews it was only later in the discussion that participants shared some of their more negative attitudes towards taking medicines. Cornwell found in her qualitative interviews regarding illness and medicines that participants initially gave a "public" account of their illness which was considered socially acceptable to the interviewer, was non-controversial and conformed to the "medical point of view".[329(15-17)] Only later in the discussion or at a subsequent interview did people share their "private" accounts which were based on their experiences, thoughts and feelings. Moen et al. found that in focus groups their older participants initially gave public accounts which emphasised positive views of medicines and ageing while private accounts which emphasised negative opinions came later in the discussions.[112] They argued that brief doctor consultations might not pick up patients' full range of attitudes towards their medicines because often their participants did not reveal their negative opinions until later in the group discussions.[112] Participants in Investigations One and Two seemed to give more socially acceptable answers to direct questions regarding concerns about their

medicines. However, in general conversation about medicines they talked more openly about their attitudes.

5.4. Conclusion

The main themes in this chapter are interrelated. People do not like taking their medicine but they take it because they trust their doctor and they believe it is good for their health. Most participants cannot judge whether a medicine is good for their health and rely on the doctor's recommendations. Some participants, who were not sure if their medicines were necessary or improved their health, still took them because they trusted their doctor. This highlights the importance of the relationship between doctors and their older patients and the need for honest discussion regarding the importance of medicine and older people's attitudes towards them.

Overall participants said that they were willing to take their medicines and believed they had to keep taking them. Most of the attitudes of participants in both investigations were similar. The majority of participants have been taking the same medicines for a long time and because of this are not highly concerned regarding side effects and adverse reactions. Participants had made decisions regarding the necessity of their medicines a long time ago and because of this accepted, or were resigned to, the need to keep taking them. Yet this acceptance has not changed the fact that most participants still do not like taking medicines and would rather not if they had a choice. A strong dislike of taking medicines, and the medicines themselves, is still evident in their discussion of their current practices and beliefs. As discussed in the last chapter, participants in Investigation One believe people are too quick to use prescription medicines. They perceive their own prescription medicines as necessary while being wary of prescription medicines in general. Most participants aimed to limit the use of medicines that they were not prescribed regularly such as pain relief and non-prescription medicines.

Chapter Six: Medicine changes at discharge from hospital

6.1. Aim

This chapter focuses on the results and discussion from Investigation Two of this thesis. The aim of Investigation Two is to explore how older people, who had recently been discharged from hospital to their own home, managed medicine changes which were made during their stay in hospital. Although this chapter focuses on a more specific subset of the over-75 population the intention is still to explore people's attitudes towards, and beliefs about, medicines and how taking medicines fits into the context of their lives.

6.2. Introduction

This chapter first looks at the findings based on my discussions with a nurse and pharmacist from ward 8A. It then examines some of the findings from the recruitment process. This is followed by discussion of the participants' journeys through hospital: admission, stay in hospital, discharge and recovery at home. These sections are based on the questions that people were asked in the interviews and the main themes that arose from them. It then looks at the medicines people took, the changes to these medicines, and how people managed these changes. Finally it discusses the overall themes that came out of the interviews: participants' trust in their doctors, their reluctance to criticise hospital staff and their reluctance to ask questions in hospital. These three themes are important in understanding how they manage their medicine changes after discharge. The literature shows that when people are discharged from hospital to their own home, complications can arise regarding people's medicines and the communication between secondary and primary care.[47, 150, 153] This was discussed in Chapter Two (Literature Review). The

methods and participant characteristics for Investigation Two were discussed in Chapter Three (Methods) in section 3.5. and section 3.6. respectively.

This chapter shows that while in hospital, participants either did not have an opportunity to talk to the hospital staff about their medicines or did not think they should trouble the staff with their questions. Participants said they were not concerned about their medicine changes because they trusted the expertise of the hospital doctors and consulted with their own GPs if there were any complications. However, many of them were not fully aware of all of the medicine changes which had taken place and some of them were very confused by these changes.

In this chapter each time a participant's name is first mentioned on each new page, their ethnicity and the number of prescription medicines they were taking at the time of the interview are added in brackets; New Zealand European and Australian are abbreviated to NZE and Aust respectively.

6.3. Results and discussion

6.3.1. Pre-study findings

Prior to commencing recruitment for this study I spent two hours with an experienced member of the ward 8A nursing staff, who had been chosen by the ward 8A Charge Nurse, to gain information on the typical procedures for the admission, hospital stay, and discharge of an older patient. I also spent time with one of the ward 8A pharmacists learning what their typical interactions were with patients, patients' medicines, and other hospital staff. As explained in Chapter Three (Methods), this aided my understanding of participants' hospital experiences and increased my knowledge of how the ward functioned. The findings from these discussions reflect the normal procedures on ward 8A at the time recruitment for this study took place (March to July 2010) and may not reflect current procedures.

When these preliminary visits took place the intention had been to recruit participants only from ward 8A. It was not until after my first three visits to recruit participants and after the first interview took place that the Charge Nurse of 8A suggested I also recruit from ward 8B. As a result I did not have the opportunity to have preliminary visits with a ward 8B nurse or pharmacist. However, the two wards have very similar routines and procedures as they are situated adjacent to each other and are both internal medicine wards.

6.3.1.1. Ward 8A nurse

The discussion of my visit with the ward 8A nurse Claire (a pseudonym) is divided into three subsections which represent the three processes that people experience when they have an emergency hospitalisation: admission, stay in hospital, and discharge.

6.3.1.1.1. Admission

There are rarely enough beds for the number of patients in ward 8A and they often have outliers in other parts of the hospital. An outlier is a patient of 8A located on another ward. Claire says that it is very rare to have empty beds on the ward and almost as soon as somebody is discharged a new patient is admitted into that bed. There is often pressure from other wards in the hospital to have people admitted into 8A. At the time of this visit there was a capacity of twenty-two beds on the ward but there were four beds not being utilised because the ward was short-staffed.

Claire says that patients are usually treated in the Emergency Department (ED) for six to eighteen hours before they are admitted to the ward. EDs in New Zealand are for the treatment of people with a serious illness or injury which requires urgent attention.[330] Once people have been treated by the ED staff they can be admitted to one of the hospital wards or discharged home. Normally their belongings and medicines are in a brown paper bag, supplied by ED, but this might not be sorted through until the day after their admission. Sometimes people have not brought all

of their medicines in with them. If the hospital staff have not been able to contact the patient's general practitioner (GP) then they do not have an immediate picture of the person's normal medicines. Sometimes the ED doctor has prescribed the patient medicines without knowing all of the medicines they were taking at home.

Most medicines that people bring into hospital with them are kept in the locked room behind the Nurses' Station; each person's medicines are kept in one container. Staff on the ward are not authorised to destroy or dispose of people's medicines and they must offer to give them back to the person at discharge. However, at discharge, staff sometimes forget to give people the medicines they came in with.

6.3.1.1.2. Stay in hospital

On ward 8A patients cannot have their medicines in the room with them with the exception of inhalers, Nitrolingual sprays, or other medicines that are not considered dangerous to other people. The nurses administer the medicines that the doctors have handwritten on patients' medicine charts. The nurses query if something does not look right or if they have received test results which indicate a medicine might have to change. Sometimes doctors prescribe medicines to be taken at a different time of the day from what patients are accustomed to at home. Claire says that this can unsettle the patient but normally the nurse has to follow the doctor's instructions. Sometimes people are prescribed an oral tablet for the middle of the night which makes swallowing difficult for some older or stroke patients. On 8A, at the time of this visit, the nurses had only limited contact with the ward pharmacist.

6.3.1.1.3. Discharge

Claire says that nurses often only find out about a patient's discharge within one to four hours of the intended discharge time. The doctors decide during the ward round if somebody will be discharged and then the House Surgeon, a junior doctor in their first one to two years of working, has to write up the discharge summary before the patient can leave the ward.

All patients being discharged from a New Zealand hospital are required to have a discharge summary and they are designed to inform the patient's GP of why they were admitted to hospital, what care they received, any changes to their medicines, and any recommendations for follow-up care.[204] At the time of this study, the discharge summary was typed on a computer, utilising a set form, and then printed out and given to the patient before discharge; a copy was also posted to their GP.

There are normally four or five medical teams working on the ward which means there can be four or five separate sets of ward rounds which are scattered throughout the day. If a doctor discharges a patient during a ward round late in the day, then that leaves little time for nurses to organise the discharge. Even if someone is discharged from a ward round early in the day Claire says it can still take all day to obtain the discharge summary from the house surgeon. The nurses cannot explain a person's medicines to them unless they have the discharge summary. This is because doctors often change a medicine at discharge so the nurse does not know exactly what a person will be taking until they see the summary. Discharge summaries are completed by house surgeons and the nurses normally have to chase them for several hours to obtain one. A 2011 strategic plan regarding Dunedin Hospital pointed out that hospital ward rounds are structured to review the sickest patients first and to have multiple other functions such as teaching.[331] However, once these ward rounds are over "there are numerous other tasks for the house surgeon to do, and organising the discharge process comes way down the list".[331] This is especially true on medical wards.

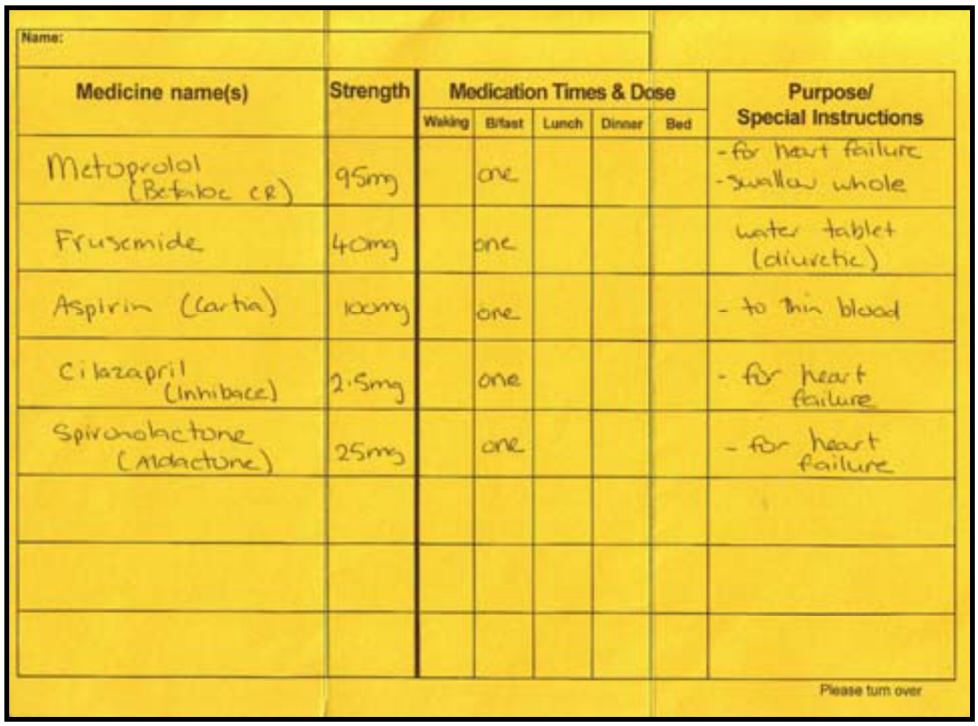
Once the nurse has the discharge summary they will go through it with the patient and talk about why the patient was in hospital, what happened in hospital, and their medicines at discharge. However, nurses might only get two minutes to go through all of this with the patient before they leave the ward. Sometimes a new shift of nurses comes on just as the person is being discharged and they are handed the discharge summary on the way out the door. Many participants said that they were discharged from hospital without anyone fully explaining the changes to their

medicines or talking them through the discharge summary and this is discussed later in the chapter.

Claire says that one to four hours notice of discharge also does not leave sufficient time for sending details to the Pharmacy Department to produce a yellow card. A yellow card includes all of the details regarding what medicines a patient is on and what time of the day they are taken, their purpose, and any other special information. Hospital staff decide whether or not a patient would benefit from receiving a yellow card. They are specifically designed for use by a patient and their family, unlike a discharge summary, and typically do not include any complex medical terms or abbreviations. Nurses can request a ward pharmacist to create the yellow card or the nurses can choose to do it themselves. Figure 5 is an example of a yellow card.

Figure 5: Yellow card

(http://www.hinz.org.nz/resources/Presentations/Transfer+of+Patient+Medication+Information%3A+Yellow+Patient-Held+Card/12)



Name:

Medicine name(s)	Strength	Medication Times & Dose					Purpose/ Special Instructions
		Waking	B/fast	Lunch	Dinner	Bed	
Metoprolol (Betaloc CR)	95mg		one				- for heart failure - swallow whole
Frusemide	40mg		one				water tablet (diuretic)
Aspirin (Cartia)	100mg		one				- to thin blood
Cilazapril (Inhibace)	2.5mg		one				- for heart failure
Spironolactone (Aldactone)	25mg		one				- for heart failure

Please turn over

6.3.1.2. Ward 8A pharmacist

The discussion of my visit with the ward 8A pharmacist, Sarah (a pseudonym), first looks at how a ward pharmacist's time is allocated in the hospital. It then looks at the pharmacist's role during a patient's stay in hospital and discharge. Admission is not discussed here because a ward pharmacist is not expected to have a defined role when patients are admitted on to the ward. The findings show that, in comparison to the nurses, patients have little face-to-face interaction with the ward pharmacist during their stay in hospital.

6.3.1.2.1. Time allocation

Ward 8A does not have a permanent pharmacist. Every three months there is a new pharmacist assigned to the ward. There are certain wards in the hospital which have permanent pharmacists (such as Intensive Care, Renal Unit, Oncology) but there are also six pharmacists who rotate around the remaining wards and are assigned to provide cover for two wards per rotation. These rotational pharmacists are normally newly registered graduates with one to three years experience working in the hospital. Sarah says this is good for pharmacists' getting to know different wards and medicines and it is useful for their on call work.

She is allocated four hours each day to spend working with the two wards she is on and at the time of these interviews she was working on wards 8A and 4A. She decides the time weighting that she gives to each ward.

6.3.1.2.2. Medicines during hospital stay

Sarah prints the Clinical Handover Report each morning which lists all of the patients who are on the ward that day. She does not know about any changes to medicines until she arrives on the ward and sees patients' medicine charts. She does not have the time available to join doctors on their ward rounds. She usually works from a patient's medicine chart but may not get the opportunity to work with their full medical notes if they are in use by another staff member. On ward 4A, where she

has been working for longer than three months, she has built relationships with the doctors so it is easier for her to talk to them directly and they will also ask her questions. She feels she works in isolation on ward 8A because she does not participate in ward rounds and therefore is not at the point of prescribing, which is where she thinks she could benefit the team the most.

If she wants to draw the doctor's attention to a medicine issue that is not urgent, she can write on the medicine chart, fill out a form and attach it to the chart or trace the doctor. She will write on the medicine chart if a medicine needs to be taken with food, taken at a certain time of day, or taken with other considerations in mind. She monitors IV antibiotics to make sure they are not charted for too many days and that the patient is changed to oral administration as soon as this is appropriate.

In the time she has for ward 8A each day she checks patients' Laboratory Results, has a meeting with the Stroke Unit staff, checks all of the medicine charts on the ward, and completes medicine reconciliations. Her essential task is to ensure that the medicines prescribed are safe for the patient to take. If a doctor writes NEW next to a medicine on the chart then that makes her job easier and gives her the opportunity to discuss the new medicines with the patient, but not all of the doctors do this.

She can request that certain blood tests be completed: INR for patients taking warfarin, medicine concentration samples, and measuring serum creatine. She can check laboratory results back in the Pharmacy department and see if she needs to recommend any dose adjustments to patients' medicines.

6.3.1.2.3. Discharge

Pharmacists do not have a role in discharge planning, or discharge summaries, for patients on ward 8A because it is not part of their job description. Sarah does have more influence with patients of the Stroke Unit because she goes to a meeting where hospital staff discuss the stroke patients and she can talk about their medicines.

A ward pharmacist can be involved with the production of a yellow card for patients if it is requested by a nurse. If this happens then she creates a card, has a pharmacist in the Pharmacy Department check it and then issues it to the ward. Sometimes, if there is sufficient time, she goes through the yellow card with the patient. If she does not have time to do this, the nurse will explain it to the patient. Having a nurse explain the card is not ideal, but because of time restrictions there is sometimes no alternative.

A nurse can also handwrite the yellow card. Sometimes this happens if the ward pharmacist has insufficient time to create the card or if it is the weekend and there are no pharmacy staff available. In the weekend there is one pharmacist working on Saturday morning from 9am to noon and there is also an on call pharmacist available for the entire weekend. Sometimes the nurse telephones the pharmacist and informs them that the patient will be discharged in thirty minutes. If the pharmacist has time to do it immediately, they can post the card. If they do not then the nurse can write it out if they have time.

The majority of participants did not recall having any contact with a pharmacist during their current stay in hospital and this is discussed later in the chapter. Those that did recall talking to a pharmacist found it beneficial for the understanding of their medicines. I had expected that there would be more direct discussion between patients and pharmacists regarding medicines, especially medicine changes, and this was one of the reasons I chose to talk to the ward pharmacist. There are time constraints for ward pharmacists because of the low staffing levels for pharmacists at Dunedin Hospital. The pharmacist staffing levels are the lowest for any tertiary hospital in New Zealand (Email from Craig McKenzie, Unit Manager-Pharmacy Department-Dunedin Hospital, 2011 November 11).

6.3.2. Recruitment findings

There were difficulties with recruiting which demonstrate some of the challenges older people face when they are being discharged from hospital. Eight participants were discharged to their own home but then readmitted to hospital before the scheduled interview took place. One of those participants was readmitted three days before the scheduled interview and two of those participants were readmitted to hospital, via ambulance, on the day of the scheduled interview. Four of these participants were eventually interviewed. Of the four people who were not interviewed, one man was discharged to a rest home, one woman was still very unwell in hospital after nineteen days and I thought it best not to approach her again, one woman was feeling too unwell, and one woman was readmitted to hospital with a broken arm. She said she was feeling sore and unwell and, because of the possibility of her having to go back into hospital to have an operation, she was unable to make any definite plans at that time. She did not know if, or when, the hospital was going to contact her regarding the operation.

Eighteen people, who initially agreed to participate, changed their minds after leaving hospital. The reasons some of these people gave further demonstrate the challenges older people can face once they are discharged home. One person said he was too busy with visits from meals on wheels, home helpers and nurses and that he could not take anything else on at that time. Another person said he was still feeling unwell and was also having to deal with the possibility of selling his house and moving into a rest home. One person's daughter telephoned me and said that her mother would not remember me and would not remember enough to answer the questions. Five people said they were feeling unwell after coming out of hospital and declined to be interviewed because of this. Two people said they were feeling unwell but they were still happy if I contacted within a few weeks. However, this would have meant interviewing them at least four weeks after their discharge from hospital. For these people it was the consequences of their poor health and hospitalisation, not changes to their medicines, which had disrupted their lives after being discharged.

6.3.3. Admission to hospital

The majority of participants in this study had been admitted to Dunedin Hospital previously, either in recent years or many years ago when they first started experiencing serious health problems. Most of them were familiar with many of the routines of admission, a stay in hospital, and discharge. Many were able to compare and contrast their recent experiences with past ones. Because of this, some participants were not concerned about their admission to hospital and saw it as a part of being older and something they had to live with even though they would prefer not to go to hospital at all. Others were strongly affected by their stay in hospital and were still attempting to return to their normal daily routines when I interviewed them a fortnight after being discharged. People who had experienced several admissions in a short period, or ongoing admissions over the course of a year, were the most affected as they were repeatedly prevented from going about their normal lives.

6.3.3.1. Reasons for admission

Participant's primary reasons for being admitted to wards 8A and 8B are listed in Table 16.

Table 16: Primary diagnoses (reason for admission to hospital)

Primary diagnoses (by category)	Number of participants
Cardiac	9
Lower respiratory tract	8
Falls/Collapse	7
Infections (excluding the respiratory tract)	3
Stroke	3
Nausea	2
PMR (Polymyalgia rheumatica)	2
Other	6

The top three diagnoses on admission were cardiac disease, respiratory infections and falls. This is similar to the findings from a study of 257 acute medical admissions, of people aged 65 and over, to Christchurch hospital over a two week period in 2008.[332] In that study the top four primary diagnoses on admission were respiratory disease, cardiac disease, neurological conditions (such as stroke) and falls.

The above table does not necessarily represent a typical range of the conditions for which older people were admitted to wards 8A and 8B. Patients admitted for certain conditions may have been too unwell or too confused for the nurses to give me permission to approach them. The majority of stroke patients in the ward 8A stroke unit were not considered as potential participants of this research because some of them were judged by staff as too unwell for me to talk to and the majority of them were discharged via Older People's Health.

Participants' descriptions of the events leading up to their admission show how serious their symptoms were. Over half of the participants described experiences of serious pain, discomfort, shortness of breath or anxiety. A few participants "collapsed" on the floor and a few of them did not have the strength to get up. Katherine (NZE, 8 meds) lay on the bathroom floor all night and struggled to get up before she remembered she had an alert around her neck which she could press to call an ambulance. A few people "blacked out" and lost consciousness while others who were experiencing stroke, or chest pain, found that they could not move or talk at all. Hazel (NZE, 9 meds) had "pins and needles" from her wrist to her elbow and was "shocked" when she checked her pulse and found it was "fluttery" and "erratic". Luke (NZE, 17 meds) had: "the shakes, like I couldn't control my arms and legs and I just shook like mad". Beatrice (NZE, 19 meds) had been vomiting all night before her admission and her husband was already in hospital with an infection. Owen (NZE, 18 meds) said his condition gave him a shock: "I hate it, I don't know if you've ever been through it, but when you can't breathe, boy it's quite a frightening experience, yeah".

Despite the seriousness of their condition, some participants did not want to trouble ambulance services unless it was absolutely necessary. Troy (English, 13 meds) lay on the lounge floor for a large part of the day after his fall in the morning and told his wife that he did not need an ambulance. She did call one after he managed to get up in the afternoon but fell again in the bedroom. Some participants said that prior to admission they did not want to go to hospital and a few had expressed this to their family members. Once admitted, participants accepted that they needed to be there. For example, Gerald (NZE, 11 meds) had repeatedly said to his wife that he was not going into hospital even once she had rung the ambulance: "but once you get into hospital you realised that you're not well and you're in the best place, and you are quite – more than happy to be there".

6.3.3.2. Emergency Department

All forty participants were admitted to Dunedin Hospital via the Emergency Department (ED). This is unsurprising because wards 8A and 8B deal with acute medical cases. The majority (31; 78%) of the participants were taken to hospital in an ambulance and the rest were taken in a car, by friends or family, or by taxi. When people are brought into hospital via ambulance they do not go to the waiting room but are seen by hospital staff straight away in ED. People who are driven in by family, friends, or a taxi go to the waiting room before being seen in ED.

Some participants referred to the long period of time they spent in ED before being admitted to the ward. Participants referred to being there for stays of six hours or longer and ward nurse Claire says that patients of 8A typically spend between six and eighteen hours in ED. The majority did not complain about the length of their stay but seemed accepting of the fact that long waits in ED were normal. Others complained about the length of their stay but not the hospital staff or the service. Kathleen (NZE, 15 meds) said: "Oh well, it's exasperating, but mind you I got – they came around and they did tests, you know, there's nothing wrong with the work they did. It's just that long wait". Gerald (NZE, 11 meds) said: "Oh, no, I thought

they were very good yeah…I know, that, you know, it's a bit slow. It takes time. You've probably got first year doctors in there. I don't know". This comment was particularly telling because he assumed that the reasons things moved slowly in ED was because of the experience of the doctors. First year doctors do work in ED but this is not different from any other ward in the hospital and there would not normally be a large number of first year doctors working there. These comments show that the participants were reluctant to say anything negative about the hospital or the staff.

Some people were very unhappy with their stay in ED. Muriel (NZE, 21 meds) had this to say about her stay in ED: "It's far too long. And it's been like that always. It's just like that". Martha (NZE, 15 meds) said she was in hospital for 18 hours "on that blooming – just a trolley". She went on to say: "I wasn't very thrilled in A&E. They were busy. I am not blaming the nursing staff at all, they were busy, but they never asked me if I wanted to go to the toilet, they never asked me did I want a drink…"

Even here, when the participant had a complaint about the level of service she received, she still pointed out that she did not blame the staff. This reluctance to criticise hospital staff is a theme of these interviews and is discussed later in the chapter.

Although most participants were not critical of the long wait in ED it is an important issue that had been discussed by Dunedin Hospital management and in the media in 2010 and 2011. John Chambers, the clinical leader of Dunedin Hospital's ED at the time, argued that older patients are the ones who are more likely to have longer stays in ED.[333] Chambers argued that patients who have complex needs should be accommodated in places with proper beds and toilets, not left on beds in the corridors of ED. A national target for New Zealand requires that 95% of patients in every public hospital will be admitted, discharged or transferred from ED within six hours.[334] The Ministry of Health's results for 2010/2011 showed that Dunedin Hospital had met the target for 71% of patients.[335] In 2011 the hospital launched the "Six Hours It Matters" project which aimed to reduce the waiting times in ED.[336]

6.3.3.3. Medicines at admission

In 2010, William Allan, Hawke's Bay Hospital pharmacy manager, said that too many patients arrived at hospital without their medicines or without knowing the names of the medicines they took.[337] He argued that it speeds up treatment if hospital staff are aware of what medicines people are taking and if that medicine played a part in their illness. The Hawkes Bay District Health Board (DHB), in conjunction with four other DHBs, piloted a process which aimed at streamlining the hospital prescribing process. The pilot was part of the Safe Medication Management Programme which aims to reduce the number of New Zealanders harmed each year by medicine errors and adverse medicine events.[338] Table 17 shows how many participants in Investigation Two brought their medicines or a list of their medicines into hospital with them.

Table 17: Bringing medicines into hospital

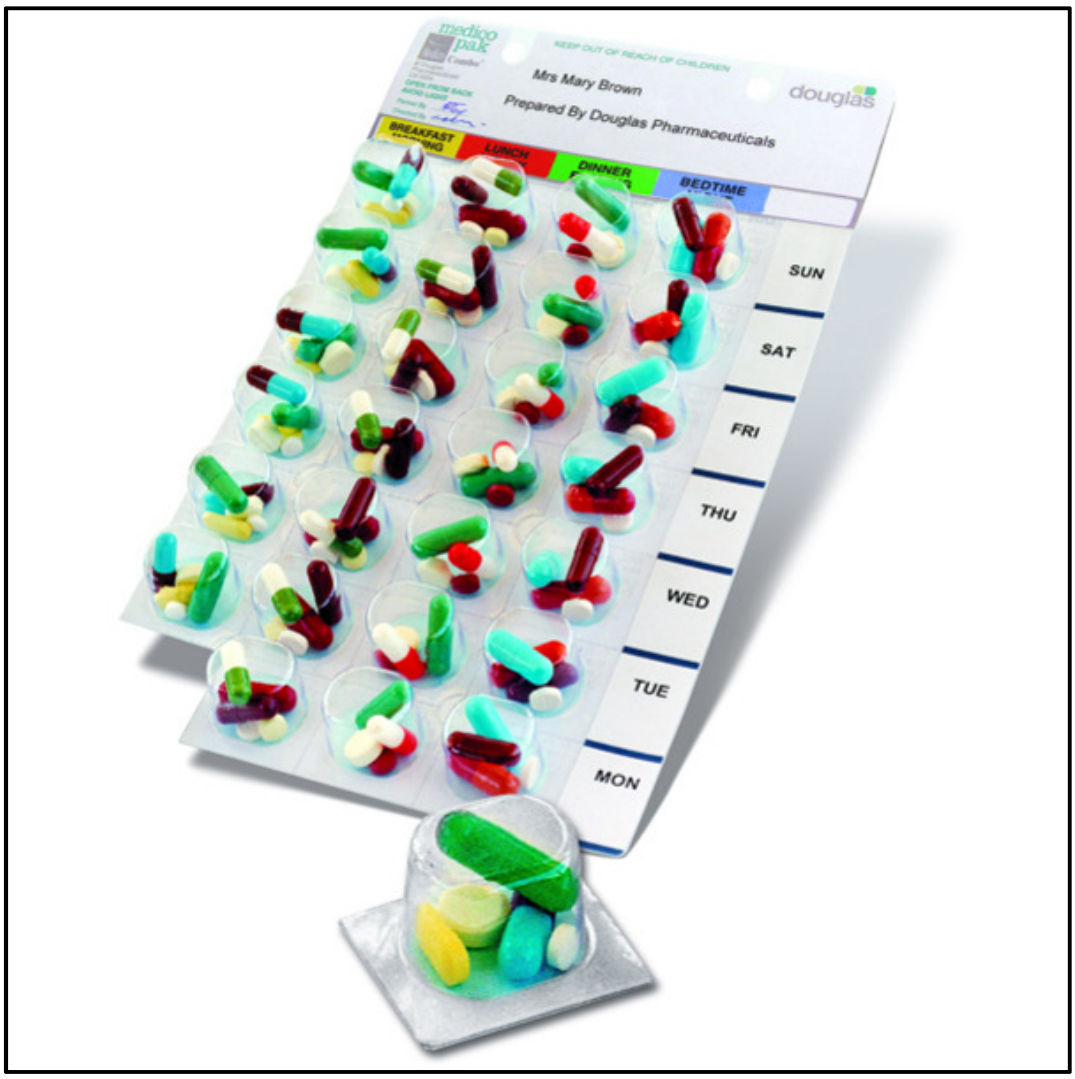
	Male Number	**Female Number**	**All participants Number**
	19	**21**	**40**
Brought own medicines into hospital			
Yes	13	15	28
No	2	5	7
Not at first	4	1	5
Brought in medicines list to hospital			
Yes	12	14	26
No	7	7	14

Table 17 shows that the majority of participants were aware of the importance of bringing in their current medicines or a list of their current medicines or both. This was particularly easy for people using a compliance aid packed by a pharmacy because they only had to make sure that was picked up on the way out of the house. Compliance aids are filled by a pharmacist with the aim of making it easier for people to remember to take their medicines at the correct time of day. There are several different types of pharmacy-packed compliance aids and an example of one

commonly used in New Zealand (produced by Douglas Pharmaceuticals) can be seen in Figure 6 below.

Figure 6: Compliance aid packed by a pharmacy

(http://www.douglas.co.nz/compliance-packaging/products/medico-pak/)



Some people, who did not use these compliance aids, kept their prescription medicines in a bag or box so it could easily be picked up on the way out of the house. Several people referred to the importance of taking their current medicines in so the hospital doctors could ascertain what they were taking. People also referred to past experiences when they had been told the importance of bringing their medicines in. As mentioned already, for many of these participants it was not their first admission to hospital. Many of the people who lived on their own said they always tried to ensure they had their medicines with them when they were admitted to hospital and

if they were not able to get hold of them themselves, they asked a friend, family member, or ambulance officer to get them. Married couples were also aware of the importance of this and the husband and wife would try and make sure that the medicines made it into the ambulance or car.

Just because a participant brought a list of their medicine into hospital does not necessarily mean that the list was an accurate description of all of the medicines they were taking. A participant's handwritten list might not include all of their medicines and an older list printed by a GP, or a yellow card, might not have been updated to reflect recent medicine changes. A 2010 British study found that 120 participants (mean age: 73) who were admitted to an acute medial ward with a medical list had 447 medicine discrepancies on those lists.[141] These discrepancies were differences between the medicine details on a participant's list and a full medicine taking history, compiled by one of a team of hospital pharmacists, of what they were taking before admission to hospital. Also, if a patient brings in their medicines from home, there is no guarantee for the hospital staff that they have brought in all of their medicines.

There were only four participants (10%) who did not bring their medicines or a record of their medicines into hospital with them. Two participants did not have an opportunity to collect their medicines; one woman was sent to ED by her GP and another woman lived alone and was immobile on the bathroom floor when the ambulance arrived. One participant was content to verbally tell the doctors what medicines they were taking and one participant's wife was more concerned with getting his other belongings ready to go into hospital. She also said that the hospital had lost his medicines the last time he had been admitted. This shows that the circumstances of older people's admission can make it more difficult for them to collect their medicines before leaving home.

6.3.4. Stay in hospital

Of the forty patients, the majority were admitted from ED to wards 8A and 8B. Some of them were admitted to another ward initially. The median length of stay in the hospital was seven days ranging from two to twenty days. Between 2009 and 2010 the average length of stay for all Dunedin Hospital acute procedures was 4.45 days.[339(p24)]

Overall, the participants were very positive about their experience in hospital and the treatment they received. Even if they expressed unhappiness with aspects such as the comfort of the beds, the noise, and having to be in hospital, they were still positive about the hospital and the staff. For example, Luke (NZE, 17 meds) said that he was very happy with his treatment in hospital, including the food. By the time of his discharge he was looking forward to going home; he felt he had been in hospital for too long and he was sick of the beds. Alice (NZE, 17 meds) said that the hospital is a good place to go and you want the doctors when you are sick. Then she said she feels safer out of it: "But when it's all over, all you want to do is get out of the place". A few participants thought the service from staff was better than what they had received on other wards in the hospital and in comparison to admissions which had taken place many years ago.

Many participants seemed very defensive regarding the hospital and as soon as I started asking questions about their experiences, they went to great lengths to convey how well they had been treated in hospital. At an early stage of the interviews I reviewed the wording and order of my questions because I felt that I must have been creating the impression that I wanted to draw out people's negative experiences of hospital. I realised that some of my questions, and the order in which they were asked, might create this impression. However, even when I modified how certain questions were asked, some participants still responded in the same way. This is further discussed later in the chapter.

6.3.4.1. Medicine routines

As mentioned in the previous chapter, participants do not like taking prescription medicine but believe it is good for their health or trust their doctors' recommendations to take it. This attitude was the same for participants during their stay in hospital; they were content to take the medicines given to them. Participants were accustomed to the routine of taking medicine regularly so being given medicine in hospital was little different from taking it at home. Participants trust the hospital staff and believe they are knowledgeable and doing what is best for their patients. For some participants it did not matter if they did not know what the medicine was for or if it was not explained to them. Their trust in the hospital staff was sufficient for them to take the different medicines which were given to them.

Some participants were woken up and given medicines. Hannah (NZE, 14 meds) was woken up late at night and given medicine and she did not like that because she is a bad sleeper. She decided to be philosophical about it and trusted that the hospital staff knew what they were doing. Fiona (English, 12 meds) was woken up at 6:30am every morning and given medicine. She said the nurse that did it was lovely and efficient but that she did not enjoy being woken up.

The participants who struggle with swallowing medicines found this particularly challenging in hospital. Alice (NZE, 17 meds) has a lot of trouble with swallowing and finds it difficult in hospital because the nurses stand over her so they can see her swallow it. She cannot swallow medicines on their own so she chews them with something else, such as chocolate, and this process takes time.

Some participants complimented the hospital staff on how organised and regular they were with dispensing their medicines. Others said that they were not always given the medicines at the same time as they had them at home or at the same time each day they were in hospital. Participants said that they understood the nurses were busy and could not always give the medicines at exactly the right time. Alice said that her medicine routine is more precise at home and a couple of times she was given her medicines an hour late: "But when they're busy, I don't moan about things

like that". An Australian qualitative study exploring older people's (aged 70 and over) participation in their hospital care found that participants were frustrated by aspects of their treatment but also accepted that this was due to the busyness of the hospital and the difficult environment in which staff had to operate.[340]

Some participants mentioned that there were significant changes to their normal medicine routines. Abigail (NZE, 20 meds) said that some of her medicines needed to be taken before food and others with food but in hospital she would be given them any time between 8am and 10am: "I wished that I'd had them at the proper time because that's what my brain tells me…But you've got to go with the flow in hospital. You can't demand that you get your medication". James (NZE, 17 meds) said that his experience of medicines in hospital is that you never get them when you are supposed to. He has medicine that is meant to be taken before breakfast but in hospital he did not get them until after breakfast: "I know they've got a lot of other things to do, but I mean you shouldn't have to wait two hours for them". He was also given a sleeping tablet in hospital but one night he did not get it until midnight when he had already been having difficulty getting to sleep. James said that he never bothers to ask the staff anything: "And if I did go crook about it, I might get it [medicine] earlier, I don't know. I just go along with the flow". Both of these participants talked about needing to "go with the flow" and follow the routines in hospital without making any fuss or asking questions. They did not believe it was right for them to trouble the staff by asking them to attend to their concerns.

Betty (NZE, 10 meds) said that she received her medicines at different times each day: "you would know more where you were, wouldn't you, if you got it all at the same time". Millie (NZE, 7 meds) said that the nurses should be clearer about what medicines should be taken with food. At a previous admission she was given medicine at 9pm but then she was miserable all night and could not sleep; she believed that she was not able to digest the medicine. At this admission she was given one medicine early but she decided not to swallow it until her meal came. Owen (NZE, 18 meds) said that he is a person of routine at home and he takes his

medicines at a certain time every day. In hospital he cannot keep to his routine because the nurses are too busy, or they are working on someone else, or there is an emergency. He said it is very difficult when the medicines do not come at the normal time because he relies on them to ease his pain and he takes pain relief four times a day. He was concerned in hospital because he suffered more than he should have done. Walter (NZE, 7 meds) said that sometimes the nurses brought his morning medicines before breakfast and other mornings they brought it after. He asked them if it mattered when he had them but they said they did not know: "So it wasn't very clear but I took 'em anyway". Benjamin (NZE, 12 meds) said that they mostly forgot to put his eye drops in.

Whether participants were given their medicines on time each day or not probably depended on what nurse was assigned to them and the busyness of that nurse or the ward. Most participants accepted the need for patience because they could see how busy the nurses were but the lack of routine for some people did disturb them. Ward nurse Claire also says that sometimes the doctors purposefully prescribed patients medicines for a different time of day than they were accustomed to. This is something that the participants would have been unaware of. However, medicine routines are obviously important to participants and having them changed made some participants uneasy. The previous chapter showed that older people's medicine routines are a crucial part of aiding them in remembering to take their medicine: the routine of taking the same medicine, the same way, at the same time every day. Other studies have found that patients, young and old, can become frustrated at the times their medicines are given to them in hospital.[340, 341] Again, these examples show that participants were reluctant to criticise the hospital staff for the lack of routine. This was a common theme in the interviews and it is explored fully in a section later in this chapter.

A couple of people had very negative experiences regarding their medicines in hospital. Muriel (NZE, 21 meds) said that this time the hospital staff were quite haphazard and that she did not always get the right medicines at the right time. One

day she only received paracetamol in the morning when she was meant to have other medicines too but it was not until night that the nurse came back and gave them to her. The nurse said she had been caught up with a very sick patient. Muriel (NZE, 21 meds) said that perhaps she did not complain enough or ring her bell enough to get attention. She said that she was sore in hospital but not "sick sick" like some other patients so she did not know where she fitted into the hierarchy.

Gerald (NZE, 11 meds) said that one of the male nurses was "bloody hopeless". Three different times in hospital this nurse brought him his medicines minus his warfarin. When he asked the nurse about it, he said that they had stopped it. Gerald said that the nurse should go and check and then he came back later with the warfarin because it had not been stopped. Other times he also made mistakes with his medicines. Gerald said he noticed the mistakes because at home he organises his own medicines and knows what he takes and when. He said that other patients on the ward just took their medicines without checking and would not be aware if there were any mistakes and it was dangerous if there was a nurse who did not know what they were doing.

In contrast to the above examples, Andrew (NZE, 14 meds) said that being in hospital improved his medicine routines. At home Andrew normally had all of his morning medicines before breakfast but he was told in hospital that he should have them after food. He has started doing that since he came home and is feeling much better since he did.

6.3.4.2. Hospital pharmacist

As Sarah, the ward 8A pharmacist, told me before I commenced this study, most patients on the 8th floor will have little contact with a hospital pharmacist. This was reinforced in participants' descriptions of the hospital staff they interacted with because there was very little mention of pharmacists. Five participants mentioned previous occasions when they had direct contact with a hospital pharmacist and they all found this experience beneficial. Hannah (NZE, 14 meds), Heather (NZE, 12

meds) and Luke (NZE, 17 meds) remembered that years before the pharmacist usually came around and discussed people's medicines with them, a service they all found beneficial. Charlotte (NZE, 13 meds) said that when she was started on warfarin, the "girl who was specially for warfarin" came and explained what was involved and that she was very good. This would have been a hospital pharmacist because they normally talk to patients when they are started on warfarin. Muriel (NZE, 21 meds) said that the last time she was in hospital she would ask the pharmacist to explain what medicines she was taking and what they were for. She found this very helpful.

These responses show that participants can benefit from having direct contact with a hospital pharmacist who is able to discuss their medicines with them. For example, Sarah said it was better when she had time to explain a yellow card to a patient but that there was not always time for this to happen. Overseas studies have found that pharmacist involvement at discharge improves the process for patients by identifying and resolving problems regarding their medicines such as unexplained discrepancies between medicines recorded at admission and discharge.[151, 152] Findings differ on the issue of pharmacist intervention reducing hospital readmission due to adverse medicine events.[151]

6.3.5. Discharge from hospital

The majority of participants were pleased to leave hospital. This was not because participants were unhappy about the service they received in hospital but because they were keen to return to their home environment or because they felt they would be able to rest better at home. A few participants said that the hospital was not a very restful environment, especially at night.

6.3.5.1. Timing of discharge

Thirty-six of the participants said that they were happy with the timing of their discharge in terms of the day they went home. Some people said they were still tired and unwell but were happy to finish their recuperation at home. A few participants asked the hospital staff if they could stay an extra day and they were allowed to do so. Alice (NZE, 17 meds) said that her discharge was a bit sudden. Edward (NZE, 11 meds) was frustrated because he thought he was kept in hospital when he did not need to be. He was in hospital over Easter weekend and concluded that this was why everything in the ward stopped and he was not discharged. A few participants gave ambiguous answers. Emily (NZE, 10 meds) said she was not sure if she was discharged home on the right day but said that: "they more or less say you know, you can go home, so you go home". She said she was not feeling the best but thought that she could relax more at home. Katherine (NZE, 8 meds) said that she was happy to go home but that others had told her she was discharged too soon. She lived on her own and was unable to get to her garage, where her freezer is, or out of her front door without assistance.

Some participants were unhappy that they were informed in the morning they would be discharged but had to wait until late afternoon for their discharge papers. In these instances participants were annoyed because they, and sometimes their relatives, were prepared for them to leave hospital but had to wait a long time before this happened.

Some participants were unhappy with the time of the day they were discharged and they would have preferred to leave hospital earlier. Leaving around 5pm or later meant that participants had to rush to the pharmacy to pick up their medicines, be driven in the dark, and arrive home at dinner time. Penney and Wellard also found that some of their older participants were inconvenienced by being discharged at 6pm or by long delays in their discharge procedures.[340] Beatrice (NZE, 19 meds) was discharged after 5pm and did not make it to her pharmacy until after the 6pm closing time. Fortunately the staff were still in the shop and opened up to dispense the

prescription. Despite these instances, none of the participants had any serious issues with receiving their new prescription medicines. Thirty-three of the participants received their new prescription medicines from a pharmacy on the day or evening they were discharged. They either picked them up themselves or had them delivered to their house by the pharmacy. Three participants were discharged too late in the evening to receive medicines from a pharmacy so they picked them up the next day. Some of these participants were given the medicines they needed to take in the interim by the hospital. Four participants did not need a new prescription straight after leaving hospital because their only change was to have a medicine stopped or a dose change.

6.3.5.2. Explanation of medicine changes at discharge

Although most participants said they were happy with the explanations they received in hospital, it became clear that some people did not have their medicines changes explained to them. Standard procedure on wards 8A and 8B is for the patient to receive their discharge summary and have it explained to them by a member of staff before they were discharged, including the changes to their medicines.

Twenty-nine of the participants said that no one talked them through their discharge summary, or talked about their medicine changes, just prior to them being discharged. Some participants said they were just handed the summary on their way out of the ward. This was especially true of participants who were discharged at 5 o'clock or later. Liam (NZE, 19 meds) said that normally you do not know what is in the discharge summary until you get home and read it. While some of the participants said they would have appreciated an explanation of their discharge summary, most were not concerned about it.

It is unclear whether staff did not explain participants' medicine changes fully at discharge, or whether the participants could not remember or understand these conversations, or were not interested in receiving information. Overseas studies have

found that the appropriate explanation of medicine changes before discharge does not always take place.[143, 149] Penney and Wellard argued that communication with patients is a complicated issue and sometimes they may be given more information than they perceived.[340] Regardless of the reason, many participants left the hospital without fully understanding the changes to their medicines.

6.3.5.3. Discharge summaries

Thirty-eight of the participants received their discharge summary before leaving the hospital. Two participants did not receive their summaries until they were mailed to them after being discharged. As part of my analysis of medicine changes I looked at all of the participants' discharge summaries. Five participants could not find their summary at the time of the interview and I accessed these through Medical Records at Dunedin Hospital. I found that the medicine changes were not always easy to ascertain from these summaries and participants would have experienced the same challenges.

At the time of these interviews a standard discharge summary was divided into the following sections:

- Diagnoses: primary and secondary

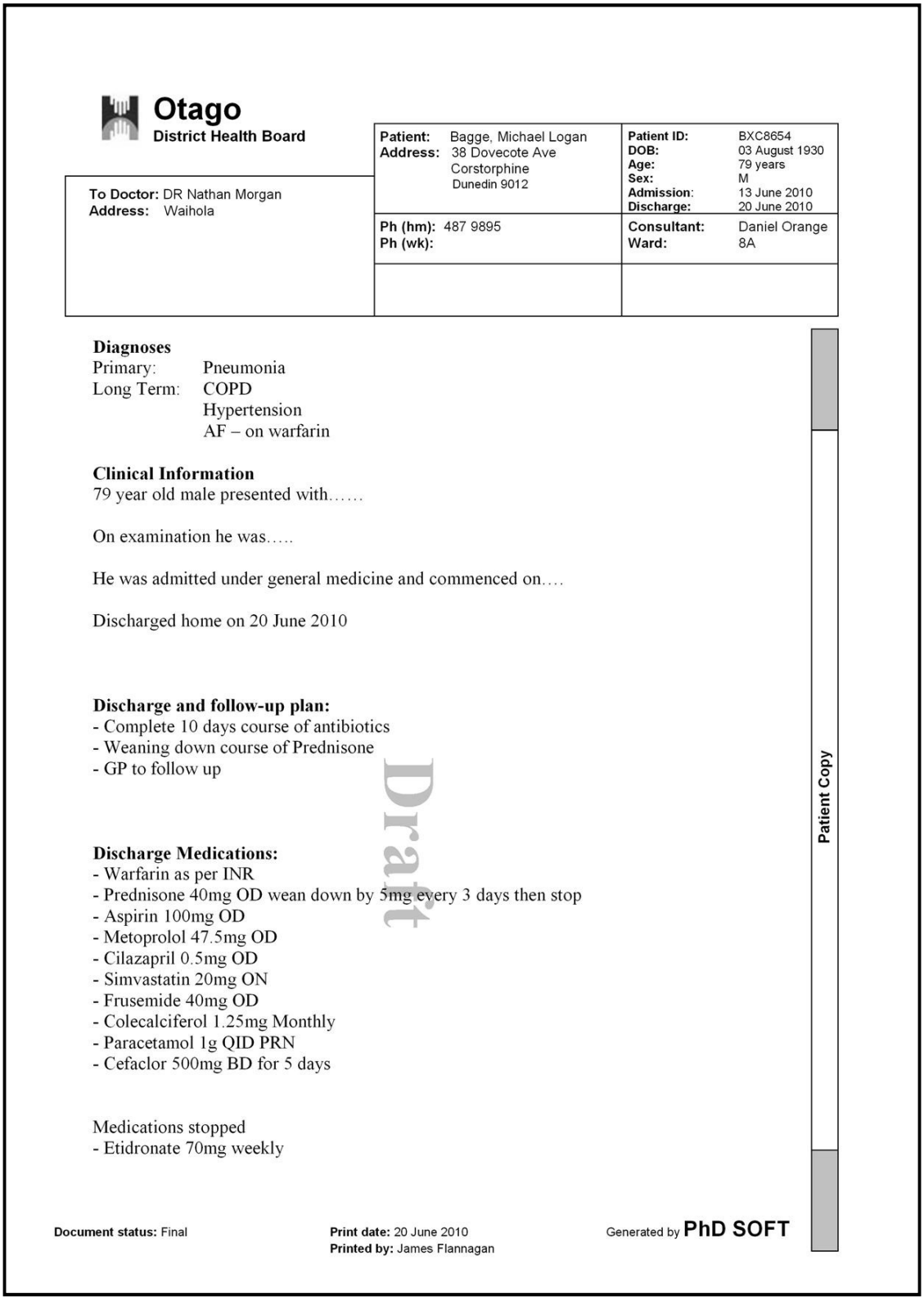
- Clinical Information: a description of the patient's relevant medical background, their condition in hospital, and the treatment they received

- Discharge Plan: recommendations for the patient and their GP regarding medicines, GP visits, hospital outpatient visits and other health matters

- Discharge Medications: a list of the medicines the patient was discharged on with the dose and frequency

Figure 7 is a mock example of an Otago DHB discharge summary, formatted in a manner typical for the time this study took place:

Figure 7: Mock discharge summary



Otago
District Health Board

Patient:	Bagge, Michael Logan	**Patient ID:**	BXC8654
Address:	38 Dovecote Ave Corstorphine Dunedin 9012	**DOB:**	03 August 1930
		Age:	79 years
		Sex:	M
		Admission:	13 June 2010
		Discharge:	20 June 2010
Ph (hm):	487 9895	**Consultant:**	Daniel Orange
Ph (wk):		**Ward:**	8A

To Doctor: DR Nathan Morgan
Address: Waihola

Diagnoses
Primary: Pneumonia
Long Term: COPD
Hypertension
AF – on warfarin

Clinical Information
79 year old male presented with……

On examination he was…..

He was admitted under general medicine and commenced on….

Discharged home on 20 June 2010

Discharge and follow-up plan:
- Complete 10 days course of antibiotics
- Weaning down course of Prednisone
- GP to follow up

Discharge Medications:
- Warfarin as per INR
- Prednisone 40mg OD wean down by 5mg every 3 days then stop
- Aspirin 100mg OD
- Metoprolol 47.5mg OD
- Cilazapril 0.5mg OD
- Simvastatin 20mg ON
- Frusemide 40mg OD
- Colecalciferol 1.25mg Monthly
- Paracetamol 1g QID PRN
- Cefaclor 500mg BD for 5 days

Medications stopped
- Etidronate 70mg weekly

Draft

Patient Copy

Document status: Final

Print date: 20 June 2010
Printed by: James Flannagan

Generated by **PhD SOFT**

Even though there were standard features on every summary, there was variation in how they were formatted. The discharge summaries where the medicine changes were the easiest to understand had these changes clearly highlighted in the

Discharge Medications section. This was done by having new/stopped/altered written next to the medicine or listed under subheadings. This meant it was easy to look at the list and see which medicines had been changed and how they had been changed.

Discharge summaries were often unclear in explaining which medicines had been added, stopped or altered. Sometimes medicine changes were not clearly indicated in the discharge summary (not in the Clinical Information section or the Discharge Medications section). Sometimes certain medicine changes, such as changes to daily medicines, were clearly indicated in the Discharge Medications section but others were not, especially medicines such as laxatives and analgesics which were only taken on an as-needed basis. This made it difficult to easily ascertain which medicines had been changed and compare them to a patient's medicines which were listed at admission. These inconsistencies would have also made it difficult for patients to easily understand what changes had been made to their medicines. In a review article Kripalani et al. found that primary care doctors, and hospital doctors, rate communication about discharge medicines and the reason for changes as one of the most important pieces of information for providing adequate follow-up care to patients.[146]

There were also other aspects of the discharge summaries which would make them more difficult for people to understand. In the Discharge Planning section some discharge summaries mention the class of medicines (for example: analgesic, laxative) but do not clearly specify which medicine they are referring to. This might be confusing for patients who are not accustomed to the use of these technical terms. The majority of participants I interviewed did not use these technical terms when discussing their medicines. A 2001 New Zealand study concluded that there was a "low level of understanding of pharmacy terms in the general population".[342] The results from this study did find differences based on the ethnicity, gender and age of the participants but overall the lack of understanding of technical pharmacy terms was common.

In the Discharge Medication section the dosage frequency is commonly written utilising the Latin medical abbreviations. For example, BD is an abbreviation of the Latin term 'bis in die' meaning 'twice daily'. This may be confusing for patients who are not accustomed to the use of these abbreviations. One participant specifically asked me what the abbreviations on her discharge summary meant and she was very pleased when this was explained to her. Other participants remarked that they did not understand these abbreviations.

Some discharge summaries also stated that there had been no change to a patient's normal medicines and only listed the new medicines. This would not allow the GP to compare what the hospital considered as "normal" with what the GP considered as "normal". Abigail (NZE, 20 meds) was aware that not all of her medicines were listed on her discharge summary whereas the previous time she was discharged, they had all been listed.

There were three errors which occurred only once on three different summaries. Christine's (Aust, 14 meds) quinapril frequency was changed from once a day to twice a day during her stay in hospital but her discharge summary still listed it as once a day. She noticed the error, contacted the hospital and was sent an amended discharge summary. She pointed out that some older people may not have noticed the discrepancy and continued to take the wrong dose of medicine. She considered quinapril one of the two most important medicines she took. Martha (NZE, 15 meds) was given a script for aspirin, which she had been started on in hospital, but this medicine was not mentioned anywhere on her discharge summary. She pointed out this inconsistency to me. Amelia's (English, 16 meds) medicines were listed in the Discharge Medications section with an asterisk next to them but it was not made clear whether this indicated a new, stopped, or altered medicine. She was not aware of the ambiguity.

In the first twenty interviews there was no specific question about whether or not people understood their discharge summaries. Troy (English, 13 meds) said that he had trouble understanding the abbreviations on his discharge summary and this,

combined with my own difficulties in analysing the summaries, prompted me to start asking participants if they had trouble understanding their discharge summary. Of the twenty-one participants who were asked this question, ten said they could not understand parts of the discharge summary. People highlighted the medical language and abbreviations as aspects of the summary which they did not understand. A few of these people said it did not matter that there were parts they did not understand because they could understand most of it. Three participants said they understood the summary but that they had relied on a family member explaining it to them. Three participants said that they had not read the summary thoroughly yet. Five participants said they had no trouble understanding the summary.

It is clear that there were parts of the discharge summary that participants did not understand and that might have affected how well they understood the changes to their medicines and what they were required to do following discharge. Because most of the summary is designed for a GP to read, there are a lot of medical terms and abbreviations. However, the summary is also the only written record of their hospital stay and medicine changes that the participants received. Although participants said they were not concerned about being unable to read their summary, it is shown later in this chapter that people were not fully aware of the exact medicine changes that had taken place.

These electronic discharge summaries replaced the earlier handwritten ones which had been given to patients at discharge from Dunedin Hospital. However, international studies have shown that electronic discharge summaries can contain the same number of errors as handwritten ones.[49, 144] A 2006 Auckland study concluded that the introduction of electronic discharge summaries to the hospital would not reduce the rate of medicine errors because doctors would still have to enter the name and dose of each medicine.[145] They argued that electronic prescribing for inpatients, linked with electronic discharge summaries, would decrease the number of errors.

The scope of this thesis did not include looking at prescribing errors but it did find inconsistencies in the discharge summaries, even though they were electronic. The plan for Dunedin Hospital had been to combine the electronic summaries with electronic prescribing with the aim of reducing medicine errors and inconsistencies. Due to funding and other issues this project did not commence until October 2010, after all of the recruitment for this study had been completed. The results from that study showed that errors regarding missing or incorrect information were reduced from 82% to 0. Dr Bowers, the clinical leader of the project, estimated that the trial could reduce medicine errors by half.[203]

The other document regarding medicines that patients can receive at discharge is a yellow card and this is discussed in the next subsection.

6.3.5.4. Yellow cards

Only three of the participants said they received a yellow card when they were discharged. It is possible that people received one and then misplaced or forgot about it. All of the participants did remember that they received a discharge summary and that this was a normal part of the discharge process. It is equally possible, therefore, that yellow cards were only given to three participants.

Participants who had received yellow cards found them beneficial. Alice (NZE, 17 meds) was given a yellow card at her most recent discharge from hospital and found it useful because it said what each medicine was for. At her previous discharge, a fortnight earlier, she did not receive a yellow card and she was confused about what medicines she should take when she had bad pain. At that discharge she was also given a pharmacy-packed compliance aid so that is probably why she was not given a yellow card. However, her pain relief medicine was separate from the compliance aid and this is something which could have been clearly explained on a yellow card. It is probable that she was given a yellow card after the second discharge because she did not want a compliance aid. She said that she utilises the yellow card every morning when she is organising what tablets she has to take for the day: “I don’t

think I could have coped with all that without that chart. I would have been in a real muddle". Henry (NZE, 9 meds) said he found the yellow card useful because with the number of medicines he takes it is convenient to check them against the details on the card.

Participants who had received yellow cards at a previous admission still found them useful. Abigail (NZE, 20 meds) had received a yellow card at a previous admission and now she carries it around in her handbag in case someone asks her about her medicines: "Because there's no way I can remember all the names". Betty (NZE, 10 meds) had a yellow card from an admission in 2007. She uses her yellow card, to check her medicines, when she is filling her medicine box each week. However, her original yellow card did not explain what each medicine was for and she said it was good when you knew this. She had taken it into hospital with her and the doctors had used it to ascertain what medicines she was taking; she said there had been no change since 2007. The hospital gave her a new yellow card but this caused some confusion with her omeprazole. The old yellow card said that she was on 40mg of omeprazole a day and this was copied across to the new card before she told them that she was only taking 10mg a day; this was then changed on the yellow card. This example shows that a yellow card can cause problems if the medicines information is not kept up to date.

As discussed earlier in this chapter, ward nurse Clair said that there is often no time for the production of a yellow card before a patient is discharged. Ward pharmacist Sarah also said that the production of a yellow card by a pharmacist is not a fast procedure because it is printed in the pharmacy department and double-checked by another member of the staff. Hospital and medicine initiatives in New Zealand recommend the use of yellow cards when patients are discharged from hospital.[343, 344] Kairuz et al. argued that yellow cards can reinforce verbal instructions and give older patients a better understanding of their medicines, provided the cards are kept up to date.[26]

6.3.6. Recovery at home

As mentioned earlier in the chapter, some of the people who were not interviewed faced challenges with poor health and being readmitted to hospital. For the participants who were interviewed there were also a range of challenges they faced after discharge which were not directly linked with their medicines.

The majority of participants said that their need for physical recovery did not affect their medicine taking routine. Participants' use of medicines was a routine which they were accustomed to and most of them were able to return to this after discharge. However, some of the physical problems they faced after discharge were new challenges. While most participants in this investigation were coping at home, they were relying on help from friends, family, spouses and home based services. Some participants said they had been considering moving into a rest home, from before they were admitted to hospital, but none of them were very keen to do so.

6.3.6.1. Physical recovery

Many of the participants were still recovering physically at the time of the interview and they were experiencing either physical discomfort, lack of energy or shortness of breath. Some participants said they had fully recovered from being in hospital and others said their physical health was much better than the week or weeks leading up to their admission.

Fiona (English, 12 meds) has not been able to return to her normal household routine. Her arms are "terribly weak" and she does not know if that is caused by her heart or her medicines. She is still regaining her energy and feels "I've been sort of whacked down and out a little bit". Martha (NZE, 15 meds) said that she still has not recovered because "if I do anything or lift anything I have to take a deep breath. It catches me. But I'll get there". Charlotte (NZE, 13 meds) said she and her husband had been "managing as best we can" because she had not been able to do a lot of cooking and having meals on wheels was very beneficial for them. Betty (NZE, 10

meds) has to do her household chores "a bit slower with this breathlessness" and noticed that her discharge summary says the increased doses of two of her medicines should help prevent further breathlessness. These examples show that medicines use is only one of many concerns for older people returning home from hospital. Studies have found that older people can struggle with returning to their normal household routine. Le Clerc et al. found that the older women in their study were discharged home with formal discharge plans which were limited to meeting very basic physical and medically related needs.[158] The discharge plans did not take into account the full physical and emotional challenge of returning to life at home. Thwaites highlighted that older people with significant physical disability after a hospital discharge can struggle to take their medicines correctly.[345]

It is possible that some participants did not want to divulge to me the full extent of the challenges they had faced after discharge. It is also possible that participants were unaware that the other challenges they were facing was affecting their medicine taking. I interviewed participants within a fortnight of their discharge but Grimmer et al. found that their older participants recovering from a stay in hospital faced a range of different issues over six months.[346]

6.3.6.2. Impact of stay in hospital

When asked about what impact being hospitalised had on their lives participants gave a range of answers. Some people said that their hospitalisation had a positive effect on their lives because they had been very unwell before admission or because being in hospital provided them with an insight into their illness. Some participants said their hospitalisation had no impact on their lives at all but a few of these participants said they had been into hospital so many times in recent years that it was a normal part of life for them now. Other participants said that their multiple admissions had caused them problems because their routine was constantly broken. Muriel (NZE, 21 meds) was "scared" by what she read on her discharge summary: "if my back is collapsing like they say…Well what do I see ahead of me? You know?

I don't see it ever getting any better, really". She was hoping that her GP would be able to reassure her after he had read the discharge summary.

Some participants said they accepted that ill health and hospitalisation were a part of growing older. It was not something that they were anxious about and they just had to "carry on". Some participants also said that because of their age they did not expect to experience full physical health and that was something they had to accept. Some participants had been thinking a lot about the fact they were ageing and possibly nearing death before their admission to hospital and their hospitalisation confirmed their thoughts. Hazel (NZE, 9 meds) said that since she has been going into hospital with her chest pain she has realised that she could "possibly drop dead" at any time: "It's not worrying me, I don't get het up about it, but I just face the fact that you know, this could happen, and I am actually tidying up some of my affairs". The last chapter discussed how some participants were very pragmatic about the fact that they are probably nearing the end of their lives.

The majority of participants were not panicking or extremely anxious about their health and daily lives. Nonetheless there was a range of health matters that some of them had a degree of anxiety about. Some of these matters had only become a cause for concern after their discharge and others had been present before their admission. Some participants said they were anxious about the fact that they were still lacking energy or the ability to do all of their household chores while some were anxious about their health. The majority of participants said that their finances were not an issue for them and that being hospitalised had not caused any problems in this area of their lives. Some participants said that although they lived on a tight budget they were able to stay abreast of all of their costs. A few participants said that they tried not to go to the doctor any more than they really had to because of the cost.

6.3.6.3. Home based services

Table 18 illustrates the extent of home service use by participants in this investigation.

Table 18: Home based services

	Male Number	Female Number	All participants Number
	19	**21**	**40**
Weekly home help			
Yes; 1 to 3 days a week	3	5	8
Yes; 4 to 7 days a week	3	3	6
No	13	13	26
Weekly house cleaner			
Yes; 90 minutes or less	7	12	19
Yes; 90 minutes or more	5	6	11
No	7	3	10
Meals on Wheels			
Yes; 1 to 3 days a week	1	4	5
Yes; 4 to 7 days a week	3	6	9
No	15	11	26

Thirty-two (80%) of the participants were receiving one or more of the above services and eight participants were receiving all of the services. The most common home support service (75%) was having a house cleaner. There were only eight participants who received none of these services. There were only a couple of instances where the home helpers were administering medicines to people. They normally helped with dressing, meals, and showering. The lower number of males receiving home services may be related to the fact that many of them had wives who did these chores around the home.

Most participants had been receiving these services before their admission to hospital but some had had them started, or expanded, after their discharge. These home services were aiding most participants in being able to return to their normal household routines but some were still struggling to get through the day. Some participants said that they are now realising that they may not have as much energy as they once did and that there are certain jobs around the house they either cannot do at all or will do less often such as gardening. Participants also had a range of household aids such as walkers, shower seats and handrails in the bathroom or outside next to steps.

Some participants specifically referred to the important role played by their house cleaners and home helpers. Rachel (NZE, 6 meds) has a woman who vacuums her floors and does other household chores. Rachel had previously experienced "angina attacks" while vacuuming. Martha's (NZE, 15 meds) husband said that they would struggle to manage without their house cleaner because he is already doing some of the chores that his wife cannot manage. After having a coronary stent put in Elizabeth (NZE, 13 meds) experienced pain while vacuuming but this is now done by a house cleaner. James (NZE, 17 meds) said that having a shower and washing and drying his back on his own was "just like a day's work" and he was receiving home help with showering three days a week. Although these services are not directly related to medicines, older people's medicine taking routines can be disrupted if they receive inadequate home support.[47] The reliance of many participants on these home based services shows the importance of these services in aiding older people to live comfortably in their own homes.

The majority of participants in this study fit into what a 2010 New Zealand study called a new social category of older people who are neither fully independent or reliant on institutional care.[347] Instead, these people remain in their own homes but receive home care which supports them in their activities of daily living. In New Zealand, Government strategies for older people are now focussing more on caring for increasing numbers of older people in their own homes.[348(p8)] A study found that of people aged 65 and over, 20.3% of those in Denmark, 9.6% of those in Germany, and 16% of those in the United States were receiving formal help at home.[349(p18)] In the 2006 New Zealand census it was estimated that 17% of the Dunedin population aged 65 and over was receiving home support and that 7.4% were in residential or hospital care.[348(p14)] In 2008, 73% of all people in New Zealand who were receiving home care were aged 80 or over.[350(p42)]

In February 2010 the Otago and Southland DHBs announced that, except for in exceptional circumstances, they would stop funding housework help for older people who received ninety minutes or less of help but did not receive any other

services.[351] This initiative attracted criticism from the public and service providers.[352] It affected a few of the participants in Investigations One and Two. Abigail (NZE, 20 meds) received a letter from the Otago DHB saying she might lose the funding for her 90 minutes of housework which she had been receiving for the previous six years. She was anxious she might lose the service. The interviewer who came to her home witnessed her breathing difficulties as she moved around the house and said that Abigail would not lose the service but that the interviewer did not have the "final say" in such decisions. At the time I interviewed her, Abigail had not received confirmation that she would continue to receive the funding. Gloria (NZE, 8 meds) referred to a friend of hers, aged 94, who had lost her house cleaner. Gloria thought that was unfair and feels lucky that she has not lost her own home help.

Participants also talked about the support they received from their neighbours, family and friends. This was difficult to quantify because, unlike home helpers and house cleaners, family members did not come on a set day, for a set period of time or for a set task, each week. Amelia (English, 16 meds) is not able to close her curtains at night so her next-door neighbour comes in and does it for her. This shows that what might be considered a relatively simple task can be difficult for an older person. Kirk's (NZE, 14 meds) sons help out with household chores. His wife appreciates that one of them vacuums the house because it is a job she hates and she thinks it is one of the hardest household jobs. Millie (NZE, 7 meds) said that in her family whenever someone came home from hospital they would be "waited on hand and foot". Now that her family, children and grandchildren, are all overseas she has to do everything herself: "I should have gone away with them, I think". James (NZE, 17 meds) and his wife had meals on wheels after leaving hospital but the quality of the food did not meet their expectations and his daughter has been cooking and freezing meals for them.

6.3.6.4. Transport

Access to transport is important for older people's quality of life as it affects their ability to provide for themselves and socialise.[353] In New Zealand older people prefer and value access to private transport.[353(p1)] One of the objectives of the New Zealand Positive Ageing Strategy is to reduce transport barriers which keep older people from accessing health and community services.[354] Table 19 shows people's normal mode of transport and how they normally accessed their prescription medicines.

Table 19: Transport

	Male Number	**Female Number**	**All participants Number**
	19	**21**	**40**
Driving			
Yes	5	4	9
Yes-short distances	1	5	6
No	4	5	9
Not at the moment	4	2	6
Spouse drives	2	3	5
Scooter	3	2	5
Pick up medicines from Pharmacy			
Themselves	11	13	24
Spouse picks up	2	2	4
Pharmacy delivers	6	6	12

Some participants said they were not driving at the time of the interview due to illness but were planning to return to driving once they had recovered. Six participants said they were only driving short distances to places such as the GP or the supermarket but would not drive into town. Participants had no complications with picking up their medicines because those that could not do so themselves relied on their spouse or a delivery from the pharmacy. The fact that 30% of participants did have their medicines delivered shows the value of this service.

Some participants lived close enough to their pharmacy and doctor to walk there or only have to drive a short distance. Other participants relied on family, friends or social services such as Presbyterian Support to take them and some caught a bus or a taxi. It was common for participants to use a pharmacy located next to or very close

to their GP. A few participants who did not drive long distances or did not like driving into the centre of town would still drive to their doctor and pharmacy. A few people had shifted away from the suburb where their GP was situated but did not want to change GPs because they had been with their GP for a long time and trusted them.

Some participants talked about problems regarding transport. Beatrice (NZE, 19 meds) said she cannot drive to certain car parks because she is not able to put her arm out of the car to get a ticket out of a ticket machine. However, it was not something she was overly concerned about. A few people who did not drive said it was expensive to use taxis. Gloria (NZE, 8 meds) said she was not yet courageous enough to use her late husband's scooter so she was still relying on taxis. Andrew (NZE, 14 meds) had planned to see his GP after discharge but even though he could walk there he had not wanted to because of the rain and frost; he did not want to negotiate these hazards when he relied on a walking stick. He does not like taking the bus because he cannot step down from the bus without help from somebody. He plans to see his GP soon.

Transport is an important aspect affecting older people's ability to access health services and overseas studies have found that older people can struggle to pick up their medicines after a discharge from hospital.[345] As already mentioned earlier in the chapter, participants had no serious problems with picking up their first prescription after discharge. Overall participants in this investigation also said they had no serious problems regularly visiting their GP or accessing medicines. Some participants relied on others for their transport and some based their weekly routines around when other people were free to drive them. These participants would not be able to function easily at home without this assistance. Again, this shows the importance for older people of having formal or informal support.

6.3.6.5. Health professionals

Table 20 shows how often participants visited their GP and pharmacist and whether they regularly saw any other medical professionals.

Table 20: Health Professionals

	Male Number	Female Number	All participants Number
	19	**21**	**40**
How often do you visit your GP?			
More than every 3 months	3	4	7
Every 3 months	14	15	29
Every 6 months	2	2	4
How often do you visit your Pharmacist?			
Once a week	3	3	6
Once a month	3	5	8
Every 3 months	9	6	15
Infrequently	3	5	8
Never	1	2	3
Health specialists other than GP			
No	8	14	22
Yes; 1	6	5	11
Yes; 2	4	1	5
Yes; 3	1	1	2

Table 20 shows that the majority of participants saw their GP every three months because the majority of prescription medicines in New Zealand are prescribed for three months.[60] Participants who saw their GP every six months said that the GP was happy to periodically renew their prescription over the phone and have it faxed to a pharmacy. Fourteen participants had already seen their GP since being discharged, ten had an appointment to see their GP, twelve were planning to make an appointment and four had no plans to see their GP in the near future. Some participants were keen to discuss questions regarding medicine changes with their GP and this is discussed later in the chapter. A GP appointment can play an important role in assisting older people in their recovery after discharge from hospital.[346]

Altogether, 45% of participants regularly saw a health specialist other than their GP and this is similar to the 49% recorded by Tordoff et al.[27] The specialists most visited by participants were cardiologists (seen by six participants) and specialties regarding people's eyes (seen by six participants) which included seeing an optometrist or ophthalmologist. The next section shows that some of the medicines prescribed by these specialists were not recorded on admission to hospital.

Participants who saw their pharmacists once a week were people who received a compliance aid (which are normally packed with one week's supply) or who had their medicines delivered by the pharmacist. The participants who said they saw their pharmacist infrequently or never were people who either had their medicines delivered to the house by someone other than a pharmacist or who had their spouse pick up the medicines for them. Participants trust in the advice of doctors and pharmacists is discussed later in the chapter.

6.3.7. Analysis of medicine changes

One challenge with analysing changes to participants' medicines was the accuracy of the information contained in the medical notes. The list of medicines recorded at admission is handwritten by the doctor admitting the patient and is normally based on information given to them by the patient. Although most patients did take in a list of their medicines or the medicines themselves when they were admitted, not all of a patient's current prescription medicines were necessarily recorded at admission. Certain medicines such as inhalers, monthly medicines (vitamin D), and medicines which are only taken on an as-needed basis (analgesics and laxatives), were sometimes not included on the list made at admission. This could have been because the patient or doctor did not consider these medicines important enough to record at admission. It is more likely that these are medicines that patients did not have recorded on the medicine lists they had at home and that they did not think to bring with them when they collected their medicines for admission to hospital.

A full list of medicines is normally included on the discharge summary. By this time the doctors have consulted more with patients, seen their full list of medicines, or contacted the GP to ascertain what medicines they are on. Normally the discharge summary clearly indicates if there has been a medicine change but, as already discussed, this was not the case with all of the new medicines given to participants. This meant that I could not assume that a medicine listed at discharge, but not at admission, was a new medicine.

Also, some participants had medicines listed at admission that were not listed on the discharge summary. It was not always immediately clear if these were medicines that had been purposefully stopped in hospital or whether they were accidental omissions from the discharge summary.

For some participants I spent a considerable amount of time attempting to ascertain just what medicines they were taking before admission and what changes had taken place. For the participants themselves it would have been clearer because they knew what medicines they had been taking prior to their admission. In most cases I could solve discrepancies by asking the participant whether they had been taking a particular medicine prior to admission or not.

A 2010 study at Auckland Hospital looked at the discrepancies regarding older people's (75 and over) medicines recorded at admission.[142] This was accomplished by taking a second medicines history after the patient was admitted, listing all of the medicines they were taking before admission. Any differences between this list and the initial list were regarded as a discrepancy. The types of discrepancies found were: omission or addition of a medicine, change in dose, frequency or time of administration and substitution with another agent of the same class. The study found that over 70% of admissions had one or more medicine discrepancy.

6.3.7.1. Number of medicine changes

The number of medicines that participants took is summarised in Table 21.

Table 21: Number of prescription medicines – Investigation Two

	ALL (n=40)	MALE (n=19)	FEMALE (n=21)
Prescription medicines listed at admission	389	190	199
Median (range)	9 (4-17)	9 (5-16)	9 (4-17)
Prescription medicines listed on discharge summary	459	228	231
Median (range)	10 (4-20)	13 (7-18)	9 (4-20)
Prescription medicines not listed on discharge summary*	62	25	37
Median (range)	1 (0-5)	1 (0-4)	1 (0-5)
All prescription medicines post-discharge	521	253	268
Median (range)	13 (6-21)	14 (7-19)	13 (6-21)
*Mainly medicine taken on an as-needed basis			

Some of the information in this table appeared in Chapter Five (Attitudes towards regular medicines) but it is reproduced here to provide clarity regarding the medicine changes participants experienced. As discussed in the previous chapter, both the median number of medicines per person at admission and discharge were higher than the average, seven prescription medicines, recorded in studies by Tordoff et al., of people aged 75 and over, and Kairuz et al., of people aged 65 and over.[26, 27]

The prescription medicines that had not been listed on the discharge summaries were recorded at the time of the interviews. These were mainly medicines which were taken on an as-needed basis, such as analgesics or Nitrolingual spray, or medicines prescribed by a different health practitioner such as an optician or dermatologist.

During the time of this study at Dunedin Hospital, non-prescription medicines were not normally recorded on admission to hospital or on discharge summaries. Therefore they are not part of the medicine changes that participants experienced and are not discussed in depth in this chapter.

Table 22 shows the number and type of medicine changes that participants experienced.

Table 22: Number of medicines changes

	ALL (n=40)	MALE (n=19)	FEMALE (n=21)
All medicine changes	179	74	105
Median (range)	4 (1-11)	4 (1-7)	5 (1-11)
New medicines	107	50	57
Median (range)	2 (0-10)	3 (0-5)	2 (0-10)
Medicines stopped	33	8	25
Median (range)	1 (0-3)	0 (0-2)	1 (0-3)
Doses altered	39	16	23
Median (range)	1 (0-5)	1 (0-4)	1 (0-5)

Participants' experienced 179 changes between their medicines listed at admission to hospital and their medicines listed on the discharge summaries; a median of four changes per person (range one to eleven). Four participants had antibiotics prescribed by their GP prior to admission and the course was finished in hospital: these were not counted as medicines stopped by the hospital. The number of changes in Table 22 are still approximate. As explained already, there were discrepancies regarding the accuracy of participants' medicines at admission and discharge and whether or not a change had actually taken place. This means there may be a small number of discrepancies in the data.

This table shows that participants had a large number of changes to cope with on their discharge from hospital. Of the 107 new medicines, not all were permanent and regular medicines. Twenty-three were temporary medicines (such as antibiotics) and twenty-seven were medicines to be taken on an as-needed basis (such as paracetamol and laxatives). This meant that there were fifty-seven new permanent and regular medicines prescribed with an average of 1.4 new medicines per person.

It is difficult to conclude whether this represents a typical number of changes at discharge from these wards. Elliott referred to three Australian studies of older people which reported an average of five to seven medicine changes per person during a stay in hospital.[2] In a Swedish study of patients admitted to hospital with heart failure (median age 79), 400 participants took a median of six medicines at admission and eight at discharge.[301] The median of two new medicines per person is the same as in Investigation Two. The study concluded that this was a significant increase in the number of medicines prescribed. The study did not show the number of medicines that were stopped or that had the dose changed. This shows that a significant number of changes can take place when older people are hospitalised. Investigation Two did not involve a large enough number of interviews to make any valid links between participants' primary reason for admission and the number of medicine changes they experienced.

6.3.8. Managing medicine changes

This section discusses how participants managed the changes to their medicines and whether they understood all of these changes. Examining this topic is one of the main objectives of this investigation and there were many questions relating to it in the interviews. One of the major themes from this study is that a large number of participants were unaware of the exact changes that had been made to their medicines and a small number of people were very confused regarding their medicines.

6.3.8.1. Side effects from new medicines

The last chapter discussed side effects from participants' long-term medicines. Ten of the participants in Investigation Two experienced new side effects with, or attributed them to, their new medicines after discharge.

Charles (NZE, 15 meds) had felt he had "absolutely no energy" after being discharged and when he went in to talk to his GP about it the GP told him he had had a serious reaction to his new antibiotic. His GP contacted the hospital and he was put onto a different antibiotic. This was the only side effect mentioned by participants where a new medicine was replaced.

Other participants also planned to contact their GP about possible side effects. Fiona (English, 12 meds) had been feeling much more tired since coming out of hospital and had been experiencing constipation. She wondered if both of these problems had been caused by changes to her medicines and was keen to find out from her GP. Luke (NZE, 17 meds) said that his two new antibiotics had given him "indigestion pains down my chest" and he plans to ask his GP about it. He also feels that the antibiotics have drained him of energy.

Two participants stopped taking the medicine they thought had caused the side effect. Charlotte (NZE, 13 meds) had been started on codeine at discharge and she thinks it may have caused her to vomit and feel sick. She has spoken to other people, including nurses from the hospital, who said that many people who take codeine experience side effects from it. She is not worried about it because she does not have serious pain and does not think she needs to take the codeine. She said she might take it again if she had "really bad pain" but would not want to take it regularly. Amelia (English, 16 meds) had been given codeine at discharge even though she had reacted to it in the past and had informed the hospital doctors of this. She thought that perhaps the hospital doctors knew something which her GP did not so she took the codeine. She felt sick afterwards and, assuming the codeine had caused this, she stopped taking it.

As mentioned in the last chapter, studies have found that experiencing side effects or apprehension about possible side effects can cause older people not to take their medicines.[111, 112] Side effects caused by medicine changes is also one of the problems that researchers have highlighted when older people are discharged from hospital.[50] Participants in this investigation said they were still taking the regular medicines which they believed had caused side effects. People who believed their side effects were caused by medicines to be taken on an as-needed basis decided to stop taking them. Some participants sought out medical advice regarding their side effects.

Two participants thought that their readmission might have been related to the changes in their medicines. Studies have found that problems related to medicines can be one reason older people are readmitted to hospital within a relatively short time.[355, 356] Alice (NZE, 17 meds) believes she was overmedicated at her first discharge from hospital and this is discussed later in the chapter because her experiences are closely linked to her confusion regarding her medicine changes. Rachel (NZE, 6 meds) had her frusemide dose doubled in hospital and in the week after that "all these crazy things started again [feeling faint and weak]". She was admitted to hospital again, told her potassium levels were low and was taken off frusemide altogether. She was then discharged on the original dose of frusemide again. Her GP remarked to her that he did not understand why they had increased her frusemide. Her discharge summary stated that the increased dose of frusemide was partially responsible for her readmission. Rachel was not concerned by this.

6.3.8.2. Return to normal medicine routine

The majority of participants said that they did not have any concerns about their medicines during their stay in hospital or after discharge. Participants said that they had little or no trouble returning to their normal medicine taking routines once they were back at home. They referred to the fact that taking medicine every day was a habit for them now and that they always aimed to take the right medicines at the right time of day. Abigail (NZE, 20 meds) said that you need a routine to take that

many medicines and she has often said to her friends and family that if her brain ever goes on her, she will not be able to take all of her medicines. Some people admitted that sometimes they forgot to take their medicine until later in the day or forgot it altogether but that this did not happen often. Some participants receive help from their spouse to make sure they take the right medicines and a few people rely on their spouse.

Most of the new medicines that people had to take were still at the same time of day as their previous medicines so there was no need to change their routine. People who had new medicines at a different time of day, such as an hour before breakfast, had to adapt their routine. As is discussed later in this chapter, people with compliance aids packed by a pharmacy simply took the medicines that were put in each blister. Unless they had a new medicine at a different time of day, there was no need for them to recognise which medicines had been changed and, therefore, there was no change to their routine.

Some participants did experience challenges with returning to their normal routines as a result of changes to their medicines. Fiona (English, 12 meds) said she was still trying to get back to her routine. She said it is important for her to have a routine and that she gets muddled with changes to her medicines. She also said that because she has not returned to a regular pattern of waking and sleeping, since her discharge, it makes it harder for her to have a regular pattern for taking her medicines. Muriel (NZE, 21 meds) was hospitalised with cancer two years ago and since then has been hospitalised several times. Each time she goes in there are changes to her medicines and she finds it difficult because she has to figure it all out again. She had been put on a weaning dose of prednisone at discharge but did not understand exactly how she was meant to do this when she first went home. She said, in reference to the increased doses of her oxycontin and prednisone: "Because I'm taking such large amounts of particular medicines, I'm a bit frightened of it". Millie (NZE, 7 meds) had been taking one metoprolol tablet twice a day and the hospital doubled the dose and decreased the frequency to only once a day. She was unaware of this change and was

concerned that she was only taking one tablet a day after discharge. The hospital had also stopped her frusemide but she did not know why and had swollen ankles after being discharged. She talked to her GP who explained that she was on a stronger dose of metoprolol and started her on half a frusemide tablet a day. Beatrice (NZE, 19 meds) was concerned that before admission she had been taking one 5mg prednisone tablet but after discharge she was taking two tablets and she "wondered whether they [hospital staff] had tinkered" with her medicines. She talked to her diabetic educator who found out from the pharmacy that she had been changed to two 1mg prednisone tablets. She said that her GP has now been through all of her medicines with her pharmacist and "he's got it all right now".

The responses of these participants show that a change in medicines can affect older people's medicine taking routines at home, especially if they do not fully understand what changes have taken place and why. As mentioned in the last chapter, maintaining a routine with their medicine taking is important to older people in aiding them to remember taking their medicines correctly.[95, 98]

6.3.8.3. Quantity of tablets

Two of the participants were concerned by the number of extra tablets they had to take when they returned home. Luke (NZE, 17 meds) had known he would be taking antibiotic tablets but had not realised it would be four times a day. He panicked when he saw the large number of new tablets in his medicine box (packed by the pharmacy) and asked the District Health Nurse if he was meant to take that many. Kathleen (NZE, 15 meds) had initially turned down the offer of a compliance aid packed by a pharmacy because she had always been able to organise her own medicines. Once she returned home she was surprised by the number of new medicines (five) she had to take at different times of the day and found it "mind-boggling". She knew there were changes to her medicines but had not realised she would be taking that many tablets. She said that when leaving hospital all she was thinking about was getting home and not about what medicines she would be taking.

She said that no one had talked her through the discharge summary but she said it was her own thoughtlessness that had caused her to go home without fully grasping the medicine changes which had taken place.

These participants show how destabilising a large number of medicine changes can be. Some other participants were also surprised, but not concerned, about the large number of extra medicines they had when they returned home.

6.3.8.4. Permanency of change

Three of the participants were concerned about whether or not a change which had been made at discharge was permanent. One of these participants had already talked to their GP about the change and the other two participants were planning to do the same. Christopher (NZE, 7 meds) had been taking an antibiotic prior to admission and this was changed to a different one while in hospital. His wife was not sure if he should go back on to the original antibiotic once the hospital one was finished. She was also confused by the fact that the hospital had sent his medicines back with a 500mg dose of his original antibiotic when he had only been taking a 250mg dose. After the interview I was able to ascertain, by looking at my notes, that the hospital had doubled the dose of his original antibiotic during his stay, before they stopped it altogether. It must have become accidentally mixed up with the medicines he took into hospital and then sent home with him. His wife was astute enough to identify this but it is problematic that the wrong medicine was sent home with a patient. It also caused anxiety for his wife because she was already concerned about his antibiotics.

6.3.8.5. Unaware of changes

Thirty-nine of the forty participants were aware that a change or changes had occurred to their medicines during their stay in hospital. At least sixteen of the participants were unaware of the exact medicine changes that had taken place. A few participants were concerned by this and some of these concerns have already been

mentioned in the subsection discussing participants' return to their normal medicine taking routines. Betty (NZE, 10 meds) was feeling sick after being discharged and thought it might have been the new tablet she had been given. Her daughter telephoned the hospital and the doctor she spoke to said it was a cholesterol tablet and it was unlikely to make her feel that way. That was the first time the woman had heard that the new tablet was for cholesterol and she was surprised it was a medicine she had to take. Her discharge summary had the tablet listed but did not outline that it was new or that it was for cholesterol. She said she was anxious about her medicines when she came out of hospital and she did not know who to talk to. Since her discharge she has been tired and experiencing headaches, which she said is unusual for her, and she is unsure whether the temporary antibiotics she received at discharge could have caused her to feel this way (she had finished taking them by the time of the interview). Martha's (NZE, 15 meds) husband organises all of her medicines and gives them to her but he was concerned by a new tablet, cholecalciferol, which he did not know anything about: "and I still don't know what it was for, and I think really I should have been told". The discharge summary did not highlight that this was a new medicine or explain why it had been prescribed. Overseas studies have found if older people receive inadequate explanations of their medicine changes in hospital this can lead to problems with their medicine taking after discharge.[153]

Many of the participants utilising compliance aids packed by a pharmacy were unaware of the exact changes to their medicines because they just took what was in the blisters each day. It was a routine for them and they did not seem concerned about not being aware of the exact changes to their medicine. James (NZE, 17 meds) said that before he started using a compliance aid, he could remember all of his medicines and what they were for. Now he is unable to do this. Hinewai (Māori, 15 meds) was unaware of the exact changes to her medicines but knew that there were a lot of new ones. She was glad to have been started on a compliance aid when she was discharged from hospital. She said she would not have been able to count out the

number of medicines she was now taking every day. She had been prescribed ten new and permanent medicines. Emily (NZE, 10 meds) had seven changes to her medicines: three new permanent medicines, one new antibiotic to be taken for three days after discharge, two discontinued medicines, and one dose change. She did not know what her medicines were for or exactly what changes had taken place. She was aware that an antibiotic had been added and that something else had been strengthened. She said she was not concerned about knowing what had been changed and that she takes exactly what is in the compliance aid. Andrew (NZE, 14 meds) was aware that there were changes to his medicines but he did not know what had been changed or how many changes had taken place. He had five new medicines added that he knew nothing about. These participants were not concerned that they did not know exactly what medicines had been changed and how. It is difficult, therefore, to conclude whether or not this is a serious issue.

The idea of these compliance aids is that people will take the medicines that are packaged by the pharmacy and, therefore, find it easier to regularly take the correct medicines. The testimony of participants exhibits that the compliance aids do work as they are intended to. Some of the participants using compliance aids packed by their pharmacy were taking a very passive approach to their medicine changes. In hospital they had either not been informed of the changes, had not processed what they were told or were simply not concerned because of their reliance on compliance aids packed by a pharmacy. Provided that participants were taking these medicines correctly, and the pharmacy had made no mistakes, there would have been no problems.

6.3.8.6. Confusion

There were some participants who can be described as extremely confused about their medicines when they were discharged home. Although only a small number of people experienced these issues I explore some of them in greater depth here because

they highlight some of the problems that can occur when people are discharged home with medicine changes.

Hannah (NZE, 14 meds) is the only participant who was unaware that there were changes to her medicines at discharge. She has trouble with taking her medicines in the morning because she is almost blind. She has no confidence in preparing the medicines herself and relies on her home help to give it to her. This has been an ongoing challenge for her rather than something only caused by her recent admission to hospital. She was not concerned at all about the medicines she was taking and had not asked any questions about it in hospital. She knew she had had medicine changes in hospital but was oblivious to the fact that some of these changes were permanent ones. She had eight medicine changes (five new, two discontinued and one dose change) that she did not seem to know anything about. She obviously relies on her home help to administer her medicines in the morning but unlike the participants with compliance aids she had left hospital unaware of any changes.

On the day I was meant to interview Alice (NZE, 17 meds) she was readmitted to ward 8A via ambulance and ED. This meant she had been admitted and discharged twice within the same month. At her first stay in hospital she had experienced changes to her medicines (at least three new and two discontinued medicines) and had returned home very confused about these changes. Her son went to her pharmacist and the hospital pharmacy to ascertain what she was meant to be taking. She was not happy about all of the changes and feels that she was discharged too soon and overmedicated. She was confused about which pain relief medicines she was meant to take and believes that she took too much of the wrong medicine at the wrong time which led to her second admission to hospital. Her medical notes state that her primary reason for admission was pneumonia but that she was also very confused due to an "accumulation of opiates". She does not have a very clear memory of what happened just prior to her admission and is now confused between what happened at that admission and the one before it. This is an example of someone who was discharged without fully understanding the changes to their

medicines and this led to confusion and further problems for the participant. It was not clear from her responses if the pharmacy or hospital had been able to answer her son's questions but whatever he was told it did not solve her problems.

Alice (NZE, 17 meds) was discharged home a second time with eight more changes to her medicines: four new, three discontinued, and one dose change. However this time she was determined to ensure she took the right medicines and said she has been very careful in taking them. She refused to have them in a compliance aid packed by a pharmacy because she decided she could work them out better on her own. She had been scared by the events after her first discharge and wanted to make sure it did not happen again.

Amelia (English, 16 meds) experienced changes to her medicines (four new and one discontinued) and was confused about what had been changed. She referred several times to the fact that she was no longer sure which medicines she was and was not taking. She was planning to check with her GP to find out. As already mentioned, in the section on side effects, she had been given codeine at discharge even though she had informed staff that she had reacted to it in the past. She was also experiencing a complicated home situation. She had been caring for her husband which was very stressful and physically taxing and she believed this was the cause of her collapse and hospitalisation. Her husband had been sent to a rest home and she was very relieved she did not have to look after him even though he wanted to return home. She had been informed by a social worker that she might have to buy a smaller house but she was uneasy about that because she did not think she could afford to do it. This example shows that a difficult home situation, coupled with medicine changes that are not fully understood and a possible side effect can cause real confusion for an older person.

Benjamin (NZE, 12 meds) has poor short-term memory and was mostly unaware of the medicines he takes and any changes to them. He relied heavily on his wife to administer his medicines. This dependence on his wife was not immediately evident on the ward as he was quite easy to converse with. During the interview he had very

little memory or knowledge of why he had been in hospital and what had happened with his medicines. His wife said that he often fools people because he nods and interacts with the hospital staff as if he understands what is happening when in reality he does not. Benjamin's wife said that there is no way he would cope with his medicines at home if she was not present. She said that if she did not put the medicines out then he would not remember to take them at all. Benjamin would not be able to cope without his wife and he did not have any understanding of the medicine changes which had taken place. Without her he would probably have to live with another family member or be sent to a rest home. She does not remember anyone talking to them regarding their home situation. It may be that she does not remember the conversation but might also be because the staff thought Benjamin was far more capable than he actually is. She said that sometimes she is so busy looking after him and his medicines that she forgets to take some of her own. This is an example of someone having their medicine routine affected through caring for their spouse.

6.3.9. Themes

In the last section one of the major themes from this investigation was discussed, participant's lack of understanding of all the changes to their medicines. This theme was directly linked to interview questions regarding medicine changes. The following sections discuss the three main themes which were apparent from a range of answers participants gave regarding their hospital journeys. All three themes are related to participants' interactions with hospital staff in relation to their medicines: their trust of doctors, their reluctance to trouble hospital staff and their reluctance to ask staff questions about their medicines.

6.3.9.1. Trusting doctors

Nineteen of the participants specifically referred to the trust they have in their doctors. Many participants were not concerned about changes to their medicines and did not feel the need to ask questions because they trusted that the hospital doctors were acting in their best interests. It did not concern them if they did not get an opportunity to ask any questions because they accepted that the doctors were experts and knew what they were doing.

Hannah (NZE, 14 meds), when asked if she minded not getting much of a chance to talk to the staff about her medicines, said: "well, not really, I think to myself, 'they know what they are doing.' " Edward (NZE, 11 meds) said that he could not recall whether or not anyone had talked to him in hospital about his medicines but he was not concerned about this. He said he trusted that they were giving him medicines that were going to help him; he accepts that and does not question it. Hinewai (Māori, 15 meds) said that the doctors could have given her tons of medicines and she would still have taken them because they know better than she does. Logan (Māori, 16 meds) said that when he is given new medicines in the hospital they are not explained to him but he just takes them and trusts the doctors; he believes they would not give them to him unless there was a reason for it. When I asked Caroline (NZE, 9 meds) whether she was given enough information about the changes to her medicines in hospital she said that she accepts what the doctors tell her and she does not argue. Henry (NZE, 9 meds) and Nicolaas (NZE, 15 meds) said that they were not interested in talking to the doctors about their medicines because they believe the doctors know what they are doing.

As discussed in the previous chapter, participants in Investigation Two were already in the habit of trusting their GPs regarding their normal prescription medicines and this reflects the findings from other studies.[112, 322, 326] The majority of them said they did not like taking prescription medicines but were willing to do it because they believed their doctors were giving them beneficial medicines. This belief and trust

carried over to their attitudes towards medicine changes and the hospital doctors who instigated these changes.

Participants also seemed to feel that there was a large distance between the hospital doctors, who were the experts and knew everything, and themselves who knew nothing. Kathleen (NZE, 15 meds) said she was not concerned that she was unaware of the changes that were being made to her medicines:

> I wouldn't have taken it in any way, you know, and the thing is, you know, when you're in there you really – you really do only sort of half listen because it seems – you know, it seems that you don't know the language sort of, you know. Even sort of when the nurses are talking, you know, half the time they are telling you stuff and I think "cor, what the hell are they talking about now?"

This shows that the language the hospital staff utilises can be a barrier to people taking an active interest in information regarding their health and medicines in hospital. Overseas studies have found that patients do not always understand the language doctors use when explaining medicines and treatments in hospital and that this can lead to confusion.[47] Other participants also hinted at the possibility that they did not fully understand the language used by the hospital staff. Abigail (NZE, 20 meds) said she did not really have an opportunity to talk to the hospital staff about her medicines but she was not concerned by that because she would not have known what to discuss with them. She thinks someone did talk to her about the changes to her medicines but she said that when you do not know much about them, you do not take much notice. Edward (NZE, 11 meds) said the exact reason for the medicine was not always explained to him. He supposed it would be useful to have it explained to him but he said that you tend to forget anyway when you are taking a number of medicines. He said that you tend to accept that they are giving you something that is going to help and you do not question it.

Participants also trusted their GPs in relation to their medicine changes. Some participants said they were not concerned about their medicine changes because they assumed their GP would have said something if they thought there was a problem

with the medicines listed on the discharge summary. Other participants, as mentioned in the previous section, relied on their GP to solve their concerns regarding medicine changes. Christine (Aust, 14 meds) said she would rather ask her GP questions regarding her health after discharge because the hospital doctors were all so busy and she did not want to disturb them. There is a strong indication from these comments that the participants were reluctant to trouble doctors in hospital. This is discussed in the next section.

6.3.9.2. Reluctance to trouble staff in hospital

It was clear during many of the interviews that the participants did not want to trouble the staff during their stay in hospital or criticise the staff after they were discharged. Although participants were very positive about the service they received in hospital, they were also very aware of how busy the staff were. A number of participants mentioned this busyness when explaining why they were not concerned if medicine changes were not fully explained to them or why they did not get a decent opportunity to discuss matters with staff. Participants that did discuss reasons why the hospital was so busy referred to low staffing levels or the fact that staff had so many patients to attend to. Betty (NZE, 10 meds), for example, said that there can be no improvement in the hospital until nurses are given more "leeway" because they do not have time to do anything. Claire, the ward 8A nurse I interviewed, told me that these wards were very busy and that there were rarely empty beds because a new patient was normally being admitted to the ward as soon as another was discharged.

Twelve of the participants, who had said they received their medicines at different times in hospital or were not talked to by staff regarding their medicines, said that they had no complaints because they understood that the hospital was busy. Abigail (NZE, 20 meds) said that things were very busy in hospital and there were so many different staff that she would not know who to ask a question. She prefers to wait and ask her own GP.

Seven of the participants, who were unhappy about the time of day they were discharged or how long they had to wait for their discharge summary, said that they should not complain because the hospital was a busy place and the staff did the best they could.

> ...my impression is, that it's a huge organisation, and it's a complicated organisation, and there are times that you think things will, have slowed right down to nothing at all, and there's no action going on anywhere, but you know darn well there really is somewhere in the hospital, a lot going on, but you appear to be in limbo...that's just griping I think, really, you know, because my admiration for the hospital is pretty good.

This quote from Edward (NZE, 11 meds) succinctly sums up the attitude of several participants. He described the hospital as a very large and busy place even if things were not active regarding his own case. Even though he said that at times he seemed to be in limbo while in hospital he still punctuated this by pointing out that he had no desire to criticise the hospital. He also describes the hospital as a place which is too complicated for him to fully understand.

With many participants I had difficulty explaining that I was interested in knowing if there was anything that they thought could be changed or improved with a stay in hospital even if overall they had a positive view of their time on the ward. When I asked Betty (NZE, 10 meds) if there was anything that could be improved she said that being discharged at 5 o'clock in winter was definitely too late. Then she added: "But then I suppose it is my own fault". She did not have any specific reason for why it would be her fault. It almost seemed that because she did not want to criticise the hospital she had to blame herself. A few other participants also mentioned that any lack of understanding they had with medicines changes was their own fault. Emily (NZE, 10 meds) had said that the hospital staff had been "very good" and "very helpful" but then said she wanted to ask her GP why her pelvis was not x-rayed (she had an angina attack and fell and hurt her pelvis). She also wanted to ask her GP why she was given antibiotics for a urinary tract infection at her last admission which the hospital never followed up and which she was still affected by. She did not

perceive her concerns regarding her treatment in hospital as reasons to say anything negative about the hospital staff.

Some participants mentioned that there were people sicker than them who needed more attention. Because of this they were not concerned that they received less attention or if they did not receive their medicines at the normal time. They referred to both patients who were permanently unwell on the ward and patients who needed urgent attention such as someone who started vomiting. They did not want to be difficult patients by asking questions or asking for help when they believed there were more needy people the nurses could be attending to. A 2007 study conducted at Christchurch hospital, of people aged 80 and over admitted from ED to a medical ward, found that older participants were reluctant to say anything which could be interpreted as complaining about the hospital or criticising the staff.[155] It is also possible that people were reluctant to criticise the hospital because of their perception of me. Even though I told participants in hospital and before the interview that I was not a member of the hospital staff they could still have viewed me this way because they met me in hospital and saw me talking to the hospital staff and because I am a student at the School of Pharmacy.

A 1998 study looked at how health users evaluated services in Wales.[357] The study argued that people's descriptions of experiences in negative and positive terms do not necessarily correlate with their evaluation of the services which produced those experiences. For example, one participant in the study said she was satisfied with a junior doctor even though they did not do much to help them. When the interviewer asked about this the participant said she thought the doctor had a cold at the time and was feeling unwell. The participant's answer was to do with their perception of culpability and the boundaries of duty, rather than a reflection of her view of the service or what it did for her. Many of the participants in Investigation Two said they were unhappy with aspects of their stay in hospital and discharge but this did not mean that they gave a negative evaluation of the hospital or staff. This reluctance to

trouble hospital staff leads into the next section which explores participants' belief that they should not ask questions about their medicines.

6.3.9.3. Not their place to ask questions

Participants said they trusted the decisions the hospital doctors made regarding changes to their medicines and because of this they did not feel the need to ask questions. Also, all of the participants were accustomed to taking regular prescription medicines. As discussed in the last chapter, they did not like it but had come to accept that it was a necessary part of their lives and not something they questioned. In addition to these factors, participants talked as if it was not their place to ask questions of the doctors.

Beatrice (NZE, 19 meds) said that you just take what the doctors recommend and it is not for you to question. Abigail (NZE, 20 meds) said: "At this stage of my life I do what I am told". Emily (NZE, 10 meds) said she was not concerned about her medicines because she does not know what she is taking. Heather (NZE, 12 meds) said that she just takes what she is told to take and that is all. Betty (NZE, 10 meds) said that there is no point in asking questions about the medicines and that if you have to take them then you have to take them. Grant (NZE, 19 meds) said he was more interested in getting out of hospital than asking questions. He said he is not a person who asks questions; he just takes his medicines and if they are going to fix him then that is all he needs to know.

When I asked Troy (English, 13 meds) whether someone had spoken to him about his medicine changes he said that the doctors came round each day and told him what they were doing. He said that it did not worry him: "Because he is a specialist advising, I'm taking their advice, I'm not going to argue with them about it. They know more about it than me! So didn't bother me in the least". He automatically equated questioning the doctors about his medicines as arguing with them. During the interview he repeatedly emphasised that he trusted the doctors and would not do anything to contravene their instructions.

When participants were asked if they had any questions they automatically associated this with arguing with, or challenging the doctors and this was something they were not prepared to do. They also believed that asking for their medicines, when they were late in being administered, would mean they were difficult patients. They wanted to make it clear to me that they were good patients. They had no concept of being a patient who was not complaining or challenging the staff but was attempting to understand everything they could about their stay in hospital. The participants also seemed to assume that the hospital staff would not welcome any questions from them. When I asked Amelia (English, 16 meds) if she had had any questions regarding her medicines since leaving hospital she replied:

> No, no I didn't ask him, I felt that, they'd know what I'm doing...if they're [the medicines] going to do me any good, and that, I wouldn't even how to say why am I taking these pills, because I might be disregarding their, you know, position or something. No, I just do as I'm told.

She believed that asking a question would be something which disregarded the doctor's authority and something which they would be unhappy about. Because of this it is difficult to ascertain whether participants were happy with the changes to their medicines or whether they just thought it was not right for them to question or to feel unhappy with the service they received.

Only four participants referred to specific incidents where they had been very keen and willing to ask the hospital staff questions about their medicines. Fiona (English, 12 meds) said that she was of the "generation where only the doctor knows, you know, you don't know your own body. That's our generation. It's about time we can find out as much as we can about it". She was astute in her description of older people because many participants said they were content not to ask questions and to trust the doctor.

As mentioned in the last chapter, older people sometimes have to be encouraged or given the choice to participate in decision making regarding their medicines.[325] Wetzels et al. referred to studies which show older people may be more reluctant to seek help for their health problems, experience more difficulty in asking for

information during interactions with health professionals and participate less in consultations than those younger than them.[358] In 2003 Jung et al. looked at 145 different studies to identify the links between patient characteristics and their primary health care preferences.[359] They argued that some health preferences of older people were an effect of ageing but that others, such as less interest in being involved with decision-making and valuing a traditional/dominant doctor, were a cohort effect. This cohort effect is probably a result of older people being brought up at a time where there was great respect for the authority of doctors.[322] Jung et al. argued that as younger cohorts age they will probably have different health preferences.[359] The previous chapter of this thesis showed that participants in this study appreciated having a friendly relationship with their doctor rather than having the doctor as a dominant authority figure. When it comes to decisions regarding health and medicines, participants are content to let the doctors take the lead and do not see the need to question them. The findings from Investigation Two show that in the hospital setting, most participants were content to let the doctors make decisions and did not feel it was right for them to be too involved in the decision-making process.

6.4. Conclusion

The forty participants experienced 179 medicine changes with a median of four changes per person. Most participants initially reported that they had no concerns about their medicine changes but concerns emerged as the interviews progressed. These concerns, such as why a medicine was started or stopped or whether a new medicine was permanent, highlight the medicine problems that older patients can experience at discharge from hospital to home. Some participants said that they received all of the information they needed from the hospital staff and understood the changes to their medicines. Many participants left hospital without fully understanding their medicine changes and without recalling having had an opportunity to discuss them with staff. Sixteen (40%) participants were not fully aware of all of the medicine changes which had taken place at discharge. Twenty-

nine (72.5%) said that no one talked them through their medicine changes just prior to being discharged, although it is possible that some of these participants did not recall being given this information.

Participants did not think they should be asking hospital staff questions about their medicines during their stay. It is possible that some hospital doctors would assume their older patients understood all of the changes to their medicines because they had not asked any questions. This investigation shows that older patients might have different reasons for not asking questions and this is something that health professionals need to understand.

Participants were also reluctant to insinuate that there were any shortcomings in how their medicine changes, and communication of them, were handled by staff. Some participants with specific concerns planned to discuss their medicines with their GP in the near future. The lack of clarity regarding medicine changes on many discharge summaries and the fact that some participants could not understand them means that they would not have been useful in aiding participants with their concerns.

Although participants had some concerns about their medicine changes, they were able to continue with the medicine taking routines they had been practising for a long time. Some participants discussed their concerns regarding medicine changes with their GPs and were satisfied with the GP's solution or explanation. Of more concern to some participants was their lack of energy, physical weakness and inability to complete their household chores. This shows that medicines are only one issue participants have to contend with after discharge.

Chapter Seven: Final discussion and conclusion

7.1. Introduction

This chapter first discusses the limitations of Investigations One and Two. The findings from this thesis have to be understood in light of these limitations. The chapter then draws together and discusses the main themes from Investigations One and Two; this is divided into six sections. The first section discusses how participants have both negative and positive attitudes to their prescription medicines and are willing to take them because they believe they are necessary. The second section looks at how participants perceive medicine taking as a part of their everyday routine and not something they are anxious about. The third looks at how medicine changes at a discharge from hospital can affect older people's normal medicine taking routines. The fourth section discusses the trust participants have in their hospital doctors and general practitioners (GPs). This section also argues that older people need encouragement to be more active in decision-making regarding their health and medicines. The fifth section examines the stoicism participants display in their response to their ill health. The sixth section looks at the importance of understanding older people's past experiences of medicines. The final part of the chapter concludes the thesis and suggests areas for possible future research.

7.2. Limitations

A selection bias may have occurred in the recruiting of participants for both investigations. Participants in Investigation One were purposefully selected and some of them were already known to me and my supervisors. This means that participants with certain characteristics might not have been selected. In Investigation Two participants with cognitive problems or who very confused about their medicines may not have consented to an interview when I visited them in

hospital or when I telephoned them at home. These could have been people who struggled with managing medicine changes. It was not ethical to approach people who were extremely unwell, nor was it easy to establish an interview time with people who had very poor short-term memory. The only reason I was able to interview Benjamin (NZE, 12 meds, Study 2), who has very poor short-term memory, was that his wife answered the telephone when I rang their house and she agreed to the interview. He had already forgotten who I was.

The interviews may have been influenced by my own bias as an interviewer such as my preconceived ideas about the themes that would be explored in the interviews. Interviewer bias was a subject I researched and was aware of before the interviews began and one which I monitored as the interviews continued. Kvale argued that: "Bias in research cannot be completely avoided, but counteracted by carefully checking for effects of bias in subjects and researchers".[176]

Qualitative interviewing, especially oral histories, raises questions regarding older people's memories and how they are shaped over time. These issues were dealt with at length in the first part of the Chapter Three (Methods). I was able to assess the validity of participants' answers by looking at other sources of information and cross-checking within the interview and other participants' interviews. For most of their answers this was not needed as I was more interested in their attitudes and memories of past experiences.

Participants in both investigations may have given socially desirable responses or withheld information they considered unimportant or irrelevant. As mentioned in Chapter Three (Methods) some participants did view me as a medical professional or someone who worked for the hospital. Participants may have wanted to avoid being seen to have certain attitudes towards medicines and doctors and, in Investigation Two, to criticise the hospital. The qualitative nature of the interviews allowed for thorough discussion of topics and I was able to explore participants' responses if I thought they were giving socially desirable ones. A different interviewer would undoubtedly have elicited some different responses from participants but because

there is a clear method that both of these investigations followed, different interviewers would most likely draw similar overall conclusions.[176]

The use of qualitative interviews means that the findings of this thesis cannot be statistically generalised to the wider population, however, this was never the aim of either investigation. Instead the interviews provide an in-depth look at participants' experiences of medicines. The findings from both investigations could therefore be seen as reflective of the wider population of older people. In Investigation One I aimed to interview people with a wide range of characteristics (age, occupation, ethnicity etc). The participants in Investigation Two had to meet the inclusion criteria but other than that I interviewed the first forty people who were willing to participate in the research.

The findings from Investigation Two may not be generalisable to older people discharged from other wards in Dunedin Hospital or other New Zealand hospitals. This is because there might be differences in the characteristics of patients and the ward procedures. The majority of older people in Dunedin are New Zealand Europeans and this means that findings might be different to those in hospitals in the North Island of New Zealand where there are higher percentages of Māori and Pacific Islanders. However, a wide range of New Zealand European participants were interviewed and this allowed me to study the topic in depth for this ethnic group. The low levels of pharmacy staff at Dunedin Hospital may have resulted in participants receiving less communication regarding medicines than they would have in other New Zealand hospitals. However, more contact with a pharmacist would not necessarily change participants' attitudes towards medicine changes and communication with hospital staff at discharge.

The analysis of the qualitative interviews required me to interpret the answers given by participants and this means I may have applied my own meanings to the subjects participants talked about. This issue is already discussed in Chapter Three (Methods) in section 3.7.4.

7.3. Discussion

7.3.1. Believing medicines are necessary

Participants in Investigation One were taking a median of six prescription medicines and participants in Investigation Two were taking a median of thirteen after discharge. Participants often expressed both negative and positive attitudes towards these medicines and sometimes this would occur within the same sentence. In Investigation One there was a difference between the way participants perceived their own prescription medicines and prescription medicines in general. They believed their own medicines were necessary but thought that younger people were too quick to access medicines. Some participants were also suspicious about certain medicines such as antibiotics (due to their perceived effects on people's natural immunity) and antidepressants (due to a fear of becoming dependent). Participants in Investigation Two said they were not concerned about the changes to their medicines but they also disliked having to take medicines. Some participants from both investigations, while not concerned about side effects from their own medicines, emphasised stories they had heard from others about the detrimental effect medicines could have. This suggests they were aware of the possibility of side effects from medicines.

Some participants initially resisted having to take regular prescription medicines. As mentioned in Chapter Four (Medicines over a lifetime), this is an area for further research as most studies on medicine taking are not based on people who have recently started taking regular prescription medicines. The evidence shows that this transition to taking regular medicines can be very difficult for people and may result in them intentionally not taking their medicines. Further research could look into whether middle aged people or younger people also struggle with the transition to taking regular prescription medicines.

Participants overcame some of their negative attitudes towards medicines because they came to believe that the medicines were necessary. During the interviews

participants repeatedly emphasised to me the necessity of the medicines they were taking. Participants said they were necessary because they were good for their health, kept them alive and protected them from strokes or heart attacks. People also emphasised that doctors would not give them medicines unless they were necessary. The majority of participants in Investigation Two said they were not concerned about their medicine changes or how these changes were communicated to them in hospital. This was because they trusted the hospital doctors and did not think it was their place to ask the doctors questions. Whether or not the medicines that participants were taking were good for their health, was not an issue which this thesis addressed. Participants in both investigations referred to medicines and some degree of pain and ill health as unavoidable consequences of growing older. Participants did not always regard analgesics and non-prescription medicines as necessary, so many were less keen to take those medicines.

Other studies have found that older participants can have both positive and negative attitudes towards their medicines and that people assess the necessity of their medicines.[39, 111, 112] Investigation One showed the importance of understanding the past experiences of older people regarding these attitudes. Participants were brought up at a time when there were relatively few prescription medicines available, when accessing a doctor was a last resort, when there were more stoic attitudes towards pain and when there was a greater emphasis on finding health solutions at home. The results suggest that, in general, they were not entirely comfortable with the regular use of prescription medicines. Chapter Four (Medicines over a lifetime) showed that participants took a great range of over the counter products, home remedies and herbal remedies but they did not perceive these to be the same as modern prescription medicines. However, participants also grew up in a time where there was a high degree of respect for doctors and their instructions. Participants accepted doctors' arguments that they needed regular medicines to prevent serious illnesses. Participants also had an appreciation of what they have gained from modern medicine and medicines: the ability to live longer. Some participants

referred to the fact that people now live longer than their parents' generation did and that medicines have played a part in this. This firsthand experience is only possible for older people who have lived through these changes. Participants' dislike of taking medicines was not stronger than their desire to remain alive and healthy.

7.3.2. Medicine taking an everyday routine

Participants talked about their medicines as being part of their everyday routine. Even taking into account the negative attitudes referred to in the previous section, participants were willing to accept medicines as part of their normal lives, even when hospitalisation necessitated an increase in the number of medicines they were taking. The participants in Investigation Two with compliance aids packed by a pharmacy did not feel the need to fully understand their medicine changes because they relied on their pharmacy to pack the correct medicines for them.

Studies have found that fear of side effects is an important reason for why people do not take their medicines.[105, 112] However, these studies are based on people of all ages or people aged 65 and over (with a lower median age than the investigations in this thesis).[105, 112] Most participants in Investigations One and Two said they were not concerned about side effects from medicines because they had been taking them for so long and because they trusted their GP's decisions if a side effect should arise. Many of the participants in Investigation One had been taking a regular prescription medicine for ten to twenty years. These participants had become accustomed, over time, to taking relatively high numbers of prescription medicines. In contrast, Camilla (NZE, 6 meds, Study 1) had only recently started taking regular prescription medicines and was struggling to accept that she might have to keep taking them long-term, was having trouble remembering to take them and did not know if they were necessary or not. The participants in Investigation One, who were taking fewer medicines than all of the other participants in both investigations, were generally the most reluctant to take medicines.

This again highlights the willingness of the participants to attempt to take their prescription medicines. The literature shows that a dislike of taking medicine is not exclusive to this cohort of older people.[105, 293] However, the participants in both investigations grew up at a time when families were more likely to address health issues at home. Now they are in the position of having to take regular medicines prescribed by a doctor. Despite this, most participants said they were willing to take their current prescription medicines. Participants who were extremely reluctant to take any medicines would do so because they had been instructed to by their doctor, implying that they trusted the doctor's decisions. All of these factors represent a great willingness on the part of participants to take their medicine. Pound et al. argued that people's attitudes can be summarised as resistant to taking medicines.[105] Participants in Investigation One and Two are extremely reluctant to take medicines but they are also willing to overcome that reluctance and attempt to take their medicines regularly. This suggests that many older people may be more adherent than some studies on adherence in general conclude.[93, 105]

Some participants relied on their spouse to maintain their daily medicine routines and it is probable that they would have struggled if their spouse was not present or able to help in this way. Other participants relied on the use of compliance aids, packed and delivered by their pharmacy, to remember which medicines to take. The findings from Investigation Two also showed the extent of the support networks older people had in place to ensure they could access their medicines and doctors, keep their houses clean and tidy and go about their normal daily lives. Although most participants did not receive outside help with their medicines it is possible that without the wider support they received they would struggle to maintain their daily medicine routines.[47] Participants were also pragmatic about the fact that they needed outside help. Many of them would prefer to cope on their own but were willing to accept the help if it was necessary. Some participants said they definitely did not need help at home even though they were struggling with some tasks.

7.3.3. Communication regarding medicine changes

Chapter Six (Medicine changes at discharge from hospital) highlighted that some participants in Investigation Two had their medicine taking routines disrupted by changes to their medicines, and other participants had concerns about changes such as why a medicine was started or stopped. This strongly suggests the need for improvement in communication with older people regarding medicine changes at discharge from hospital. This finding is not exclusive to these wards as other overseas and New Zealand studies have found similar problems.[143, 149, 153] However, Investigation Two found that many of the participants either did not voice their concerns in hospital or were actually unaware of any problems until they returned home. Futures studies could look at any long-term effects of older people not fully understanding the changes to their medicines.

Older people can be reluctant to actively participate in conversations regarding their own health.[358, 359] Investigation Two found that older people themselves need encouragement to be more active in the discharge process and be willing to ask questions about their medicines. This is further discussed in the next section. Of course, an active involvement in decision-making can be difficult for patients of any age when they are still unwell and focussing on returning home.[47] This means that there is a need for discharge planning which includes the clear and accurate explanation of medicine changes both verbally and in the discharge summaries.

Wards 8A and 8B do not have a pharmacist involved with discharge planning and adding one would improve communication regarding medicine changes. It might be that the ward staff were too busy to communicate effectively with the participants, many of whom referred to the fact that the wards were extremely busy at the time of their admission and discharge. A pharmacist with a defined role would have more time to communicate with people, skills in explaining what the medicines were being taken for and how to take them. Overseas studies have found that pharmacist involvement at discharge and post-discharge (via telephone calls) improved patient outcomes by identifying and reconciling problems regarding medicine.[151, 152] In a

systematic review of 342 studies on inpatient pharmacist interventions Kaboli et al. concluded that the use of clinical pharmacists in hospital, including being a part of discharge planning, improved the "quality, safety, and efficiency of care".[360] However, participants referred to the busyness of the hospital staff and their reluctance to trouble staff as a result of this. This problem would not be solved by the addition of extra pharmacy staff. Since the interviews for this investigation took place, electronic prescribing has been piloted on these wards and it is likely that this system will eventually be implemented in all public hospitals in New Zealand. Electronic prescribing linked with electronic discharge summaries will probably improve the quality of discharge summaries given to patients. Again, the implementation of this system would not necessarily change the issues regarding participants' reluctance to ask hospital staff questions.

7.3.4. Trusting doctors

Trust in doctors was referred to in all of the previous three chapters. A trust in doctors was the reason many participants were willing to first accept the need for regular prescription medicines. Participants in Investigation Two trusted the hospital doctors' decisions regarding changes to their medicines. Trust in their GP's expertise was also one of the main reasons participants from both investigations were willing to keep taking prescription medicines even though they would rather not take any.

These responses show the importance of the relationship between doctors and older patients. Most participants were willing to accept their doctor's recommendations regarding medicines. This reflects the findings from other studies in New Zealand and Australia.[322, 323] It suggests that if medicines are properly discussed with older patients, and the benefits outlined, they are much more likely to take them.

Although some participants indicated that their parents did not trust doctors, most participants grew up with a high regard for doctors and this attitude has persisted as they have aged. Dorothy was purposefully selected as a participant who was mistrustful of prescription medicines and I also discovered that because of this she

does not trust doctors or their expertise. This suggests that there may be some older people who do not trust their doctors and are less likely to seek out medical advice or follow it. All of the other participants trusted their own GPs but a few people indicated that they did not necessarily trust all GPs and thought that some GPs overprescribed medicines. When participants said they thought some younger people were too quick to access medicines through doctors this could imply that they believed some doctors were too willing to supply these medicines.

Investigation Two suggested that participants' trust in hospital doctors might be related to a belief that they should not question or trouble the doctors. Some participants seemed more willing to ask their own GPs questions about their medicine concerns. Perhaps this is because participants have a long-term relationship with their GPs and do not feel their GP is too busy to attend to their needs? Other participants indicated that they did not think they should question their GPs when it came to decisions regarding their medicines.

As mentioned in Chapter Six (Medicine changes at discharge), overseas studies have found that older people can be more reluctant than those younger than them to be actively involved in decision-making with their doctors.[358, 359] McKinstray, in a study looking at patient's preferences for the style of consultations with GPs, found that the older participants (61 and over) preferred the consultations to be more directed by doctors.[361] The participants shared with McKinstray that in the past they had been accustomed to doctors being much more directive. Westbury pointed to a study by Protheroe et al. which found older participants, aged 70 to 85 years, wanted involvement in decision-making regarding their atrial fibrillation.[325] In this study the participants were told about the risks and benefits of different treatments for atrial fibrillation and then asked their preferences. However, there may have been a selection bias in that participants had to consent to be interviewed at their general practice and Protheroe et al. acknowledged that there were many patients who were unwilling to be involved.[362] The findings from Investigation Two of this thesis

suggest that it would be difficult to encourage some older people to be more involved with decisions regarding their medicines.

7.3.5. Stoicism

The disinclination by participants in Investigation Two to trouble or criticise doctors or other hospital staff might also be linked to their stoicism and life experiences. As already discussed in this chapter, participants believed that when they were young, people were more stoic in enduring illnesses and pain. This attitude might seem ironic considering older people take a relatively higher number of medicines than people younger than them. However, participants were talking more about the necessity of the prescription medicines younger people were taking. Many participants in Investigation One perceived that those younger than them were taking medicines needlessly. A few participants also referred to how people are too quick to use non-prescription medicines and how these medicines may not be effective in treating ill health.

Crellin argued that the use of medicines as a "quick fix" is not a new idea but what older people see as different is less stoicism towards illness than in the past.[120(p236)] Vuckovic and Nichter argued that increased medicalisation in the United States of America has changed the concept of what it means to be healthy or ill and reduced the threshold for tolerating discomfort.[244] They quote Barsky who argued that the widespread availability of medicines "leads people to believe more and more of their discomforts, infirmities and impairments are curable".[244]

Chapter Five (Attitudes towards regular medicines) discussed how many participants in both investigations were reluctant to use pain relief. A few of the participants in Investigation Two shared stories about how, before their recent admission to hospital, they did not want to trouble the ambulance services unless it was absolutely necessary. Other participants were reluctant to complain about their physical recovery after discharge and believed it was something which they had to endure. Reed and Morgan, in research looking at older people's transfer from

hospital to a nursing home, found that one of the main coping strategies of participants was stoicism.[363] Participants were anxious about the transfer but did not want to complain about it or ask questions and this is summed up in the words of one person: "Well, you just have to get on with it, I mean there's no point in making a fuss".[363] They did not want to burden staff members or family or keep staff from looking after people sicker than them. Hua-Hie argued that pain related attitudes such as stoicism should be taken into account in clinical assessment of older people with chronic pain as these attitudes can influence how they report pain.[316] This thesis shows that these attitudes may be partially linked to older people's life experiences.

7.3.6. Understanding past experiences

The findings already discussed in this chapter show the importance of understanding older people's past life experiences in seeking to better understand their current attitudes to medicines. It shows that medical professionals would benefit from an understanding of the common life experiences of older people. Many participants shared common life experiences and attitudes which have already been referred to in this chapter.

The findings from this thesis may only be relevant for a cohort of older people aged 75 and over, or those born before the end of World War II, but similar research could be conducted for the cohorts of people who are now reaching 65 or who will do so in the near future. Different attitudes to food, health and health services may result in future generations of older people having different attitudes towards medicine taking. Research has already shown that the "baby boomer" generation (born between 1946 and 1965) has different attitudes towards health and ageing than people born before World War II.[364] A future study could look at this generation's life experiences of medicines and link them to their current attitudes towards medicines. Life history studies could also focus on specific ethnicities as it is predicted that New Zealand's older population will be more ethnically diverse in the future.[18(p69)]

Some attitudes, however, are based on people's particular life stories and medical professionals would only be able to understand these through conversations with the older person. This can be shown with the example of the two Pacific Island participants. Amipa (Cook Islands, 2 meds, Study 1) does not like taking medicines of any kind, has previously resisted having to take medicines prescribed by her doctor and still struggles to take medicines on a regular basis. She said that she was given little medicine in her childhood and that her mother was not keen on the idea of using traditional island medicines. Lepati (Tongan, 10 meds, Study 1) lived with an aunt who was a traditional healer and the use of herbal medicines was common in his childhood and adulthood. His aunt also accepted the use of western medicines. Lepati is now happy to take his prescription medicines but will also use herbal remedies if he is able to access them. Smith and Bornat argued that a biographical approach in medicine is beneficial because it emphasises the individual worth of the patient and allows for the generation of medical interventions which are suited to that patient.[37]

7.4. Conclusion

Chapters One and Two of this thesis outlined that the number of older people in New Zealand and worldwide is growing and that older people take a relatively high number of prescription medicines.[5, 6, 31] This means that it is important to understand older people's attitudes towards their medicines which the qualitative research in this thesis explores in depth. The combination of the two Investigations in this thesis, which explored the past and present, is an original method for looking at older people's attitudes towards their medicines.

In both investigations I started the interviews with the idea that participants might be withholding information from me if they did not share their concerns regarding regular medicines use. As the interviews progressed I realised that the majority of participants do not necessarily spend a lot of time thinking or worrying about their

medicines, even if they do dislike having to take them. This is probably true for many in the wider population of older people.

There is no in-depth research in New Zealand looking at older people's experiences of medicines over time. In the international literature research tends to focus on older people's health and their use of health services rather than the physical medicines that they take. This thesis shows the importance of understanding older people's past life experiences in seeking to better understand their current attitudes to medicines and medicine taking. Participants' life experiences shaped their beliefs about medicines and when talking about their current beliefs regarding medicines they made constant references to their earlier lives. Most participants had little experience of prescription medicines in their youth or working years and their parents believed that most health problems could be solved with home remedies or with over the counter medicines. Participants did not consider the medicines from their youth as equivalent to modern prescription medicines and this meant that some struggled with accepting the need for regular prescription medicines in their lives. However, their past experiences did not constrain them from making pragmatic decisions regarding the necessity of their medicines.This thesis shows that an older person's reluctance to take pain medicines or to seek help for their ill health may be a result of their upbringing.

This thesis adds to the current literature regarding hospital discharge by highlighting the importance of an in-depth understanding of patients' perspectives on communication with hospital staff. Many participants were reluctant to question doctors about their medicines. Older people may need encouragement to take a more active role in decision-making regarding their health and medicines. Health professionals may also need to be aware that their older patients might not be asking questions because of a belief in stoicism and a belief that it is not acceptable or permissible for them to ask questions. A future qualitative study could further explore the interactions between older people and health professionals: exactly how older people perceive their role and that of health professionals, whether older

people would be willing to become more involved in decision-making regarding their health and whether or not older people understand the health information that is communicated to them. The findings from Investigation Two also show that while most participants were not confused about the changes to their medicines at discharge, many were unaware of the exact changes which had taken place. This highlights the need for improved communication of medicine changes at discharge and the involvement of pharmacists in the discharge process.

This thesis adds to the literature regarding older people's attitudes towards medicines by showing the importance of stoicism in participants' beliefs. Participants' did not refer to side effects as the reason they disliked medicines. For many of them stoicism was the real reason and this was particularly illustrated in Investigation One. Participants still believe strongly in the stoicism towards health, pain and medicines which was common in their youth. Participants seemed to dislike the idea of having to take medicines rather than dislike taking the physical medicines. However, for the most part this dislike did not affect their medicine taking practices as they trusted their doctors and many believed the medicines were necessary. A strong belief in stoicism also seemed to be the reason participants in Investigation Two were reluctant to trouble hospital staff with their concerns. Participants in both investigations were reluctant to complain about their health or medicines to health professionals.

The investigations in this thesis show the importance of understanding medicines in the context of older people's lives. The participants understood the importance of their medicine taking routines and trusted the advice of their doctors but the use of medicines is only one aspect of their lives. Many of the participants seemed to have adopted a pragmatic attitude towards their medicine taking, possible side effects, hospitalisations and medicine changes. They would rather not take the medicines, are aware of the possibility of side effects and at times are dismayed at the number that they do take. Participants from both investigations also believe that their medicines are good for their health and are willing to trust their doctors' advice

regarding the necessity of medicines. This demonstrates the pragmatic attitude participants have to taking their medicines as part of their everyday routine. It shows that all older people cannot be narrowly defined as being frail and unable to cope with taking complex medicine regimens. Nonetheless, this thesis shows that there is still a tension in the way older people view their medicines with coexisting negative and positive attitudes. This is clearly something which persists alongside their willingness to regularly take prescription medicines.

7.4.1. Implications for clinical practice

Several implications for practice have arisen as a result of this study:

- Health professionals would benefit from an understanding of the common life experiences and attitudes of older people.

- Older people of a similar age to this cohort (people aged 75 and over) might be reluctant to take medicines for pain or to seek help for their ill health as a result of their upbringing at a time when self-reliance and stoicism were highly valued.

- Health professionals would also benefit from an understanding of older patients' particular life stories as these may differ from the common experiences of the majority of older people, and possibly affect their attitudes to healthcare.

- Older people may have a very passive attitude towards taking their medicines where they accept the recommendations of their doctors without questioning them.

- Older patients may feel that they do not know enough about their treatment or medicines to ask questions of health professionals, in primary and secondary care.

- Older patients might believe it is unacceptable for them to ask hospital staff questions during their stay in hospital and at discharge.

- Older people have a high degree of trust in their doctors and this suggests that if medicines are properly discussed with older people, and the benefits outlined, they are much more likely to take them as prescribed.

- While older people may verbally say they are content to take their medicines, they may have a strong feeling of dislike towards the medicines they take, and medicines in general.

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Appendix 1: Investigation One Interview Schedule

Note:

- This is not necessarily the exact wording I used in each interview

- Not all questions were necessarily asked in each interview

    - Some questions were prompts which were only asked if needed

    - Some participants answered several questions at once

- Follow-up questions were sometimes asked to further explore participants' initial answers

- Questions which were unique to only one participant are not included here

    - For example: questions based on a participant's particular profession

Preamble

[Firstly participants read through the Information Sheet and Consent Form and I explained it to them gave them the opportunity to ask any questions. Then I would reiterate the main aims of the study before starting the interview].

For this study I want to find out about people's attitudes, beliefs and experiences regarding medicines over their whole lifetime; right from childhood through to the present day. I am interested in different types of medicines that you might have experienced; not just prescription tablets.

Before starting to talk about medicines it is useful for me to know about when and where you and your parents were born and where you lived when you were growing up. That is useful for the rest of the interview and for future interviews as well [This normally led into the first question].

Childhood

- Life-history:

- When were you born?

- Where were you born?

- Where did you live during your childhood?

- (If participant born overseas) When did you come to New Zealand?

- Where did you go to school?

- Where and when were your parents born

- (If parents born overseas) When did your parents come to New Zealand?

- Where and when were your grandparents born?

- What were your parents' occupations?

- Did you have any minor episodes of illness?

- Whooping cough, measles, mumps etc?

- Did you have any serious illnesses i.e. infectious disease?

- Did your siblings have any serious illnesses?

- Did you have any serious injuries?

- Did your siblings have any serious injuries?

- Did you take any medicines?

- Prescription, home-remedy, herbal remedy, over the counter product?

- Did your family use any lotions, ointments, salves etc?

- What medicines were common in your home?

- What kinds of problems did your family use medicines for?

- Where did your family obtain medicines from?

- Did your parents take any medicines?

- When you were a child, did you and your brothers and sisters take anything to prevent illness?

- Wear special clothing to prevent illness?

- Stay in bed?

- Eat special foods?

- Were people in the house treated differently or specially when they were ill?

- Were you immunised as a child?

- Did you experience any side effects from medicines?

- What kinds of problems did your family use medicines for?

- How did you feel about having to take medicine?

- When someone in the household became ill, who made the decisions about what should be done?

- Did you or other family members go to the doctor very often?

    - Did the doctor ever make house calls?

    - Was the doctor's advice always taken? (If not, why not?)

    - Who decided when it was necessary to consult the doctor?

    - Was paying for the doctor a financial burden in your family?

- Did you or other family members go to the chemist very often?

    - How far away was the chemist?

    - Can you remember anything about the chemist/chemist shop?

- Did you ever have any direct contact with the doctor or chemist?

- What did your parents or other family members teach you about medicine?

- Do you remember any advertising or other forms of marketing concerning medicines?

Working lives

- What was your occupation when you first started working?

    - What other occupations have you had?

- Where did you live when you first started working?

- Was there a change in attitudes towards medicines when you started work or when you left home?

    - Did you continue to use the same medicines your family had?

- Were you ever married?

    - What was your wife's occupation?

    - Where did you live after marrying?

- Did you have any children?

- If so, how many children did you have?

Children

- When you became a parent did you seek out your own parent's advice?

- Did you give your children any medicines that your parents had given you?

- Did your children have any minor episodes of illness?

-Whooping cough, measles, mumps etc?

- Did your children have any serious episodes of illness when they were young?

- Did your children have any serious injuries when they were young?

- Did you give your children any medicines?

- Prescription, home-remedy, herbal remedy, over the counter product?

- Did your family use any lotions, ointments, salves etc?

- What medicines were common in your home?

- What kinds of problems did your family use medicines for?

- Where did your family obtain medicines from?

- What did you teach your children about medicine?

- Did your children take anything to prevent illness?

- Wear special clothing to prevent illness?

- Stay in bed?

- Eat special foods?

- Were people in the house treated differently or specially when they were ill?

- Were your children immunised?

- What did you think about your children having to take medicine? (Or how did you feel about your children having to take medicine)

- When someone in the household became ill, who made the decisions about what should be done?

- Did you or other family members go to the doctor very often?

- Did the doctor ever make house calls?

- Was the doctor's advice always taken? (If not, why not?)

- Who decided when it was necessary to consult the doctor?

- Was paying for the doctor or medicines ever a financial burden in your family?

- Did you or other family members go to the Chemist very often?

    - How far away was the Chemist?

    - Memories about Chemist/Chemist shop?

- When you became a mother did you seek out your own mother's advice?

    - Continue with remedies etc that she had used?

- What did you teach your own children about medicine?

- Did your own children ask for advice for their own children?

    - Did they give their children any of the things that you had given them?

- Do you remember any advertising or other forms of marketing concerning medicines?

As a parent

- Did you have any minor episodes of illness when your children were still living at home?

- Did you have any serious episodes of illness?

- Did you have any serious injuries?

- Did you take any medicines?

    - Prescription, home-remedy, herbal remedy, over the counter product?

- Did you experience any side effects from medicines?

- Did you take anything to prevent illness?

Mid-life

- Did you have any minor episodes of illness?

- Did you have any serious episodes of illness?

- Did you have any serious injuries?

- Did you take any medicines?

    - Prescription, home-remedy, herbal remedy, non-prescription?

- What medicines were common in your home?

- What kinds of problems did your family use medicines for?

- Where did you obtain medicines from?

- Did you experience any side effects from medicines?

- Did you take anything to prevent illness?

- Were people in the house treated differently or specially when they were ill?

- Did you or other family members go to the doctor very often?

- Was paying for the doctor or medicines ever a financial burden in your family?

- Did you or other family members go to the chemist very often?

Regular medicines

- How old were you when you first started taking prescription medicines regularly?

    - What was it like having to take a regular medicine for the first time?

    - How did you feel about it?

Current medicines

- How do you feel about having to take medicine?

- Do you believe that taking your medicines improves your health?

- Do you think your medicines are safe to take?

- Do you have any concerns about side effects from medicines?

- Did you or other family members go to the doctor very often?

- Is paying for the doctor or medicines a financial burden?

- Did you or other family members go to the chemist very often?

    - How far away is the chemist?

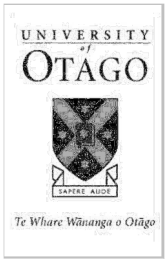
- What prescription medicines do you take?

- Do you take any non-prescription medicines?

- Are there any home remedies/medicines which you took when you were young that you might still take now?

    -Do you think any of those would still be effective today?

Appendix 2: Investigation One Information Sheet



INFORMATION SHEET FOR PARTICIPANTS (Interviews)

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

This project is being undertaken by Michael Bagge, a student at the University of Otago, as part of his PhD at the School of Pharmacy. We are trying to find out about older peoples' attitudes towards and experiences of medicine from childhood through to the present day.

This project involves an open-questioning technique. The general line of questioning will cover your attitudes towards medicines and your experiences of medicines from childhood to the present day. The precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. Consequently, although the University of Otago Human Ethics Committee is aware of the general areas to be explored in the interview, the Committee has not been able to review the precise questions to be used.

In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

What Type of Participants are being sought?

People over 75.

What will Participants be Asked to Do?

Should you agree to take part in this project, you will be asked to talk about your experiences with Michael Bagge, PhD student, over a course of two to four interviews, at times which are convenient for you. Each interview will take up to a maximum of 90 minutes and will allow for breaks when necessary. All interviews will take place in your home unless you would prefer the interviews to be conducted

elsewhere and you may choose to have a relative or friend to be at the interview with you. With your permission, Michael Bagge will make a digital recording of the interviews.

Can Participants Change their Mind and Withdraw from the Project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind.

What Data or Information will be Collected and What Use will be Made of it?

Michael Bagge will ask you about your attitudes towards medicines and experience of medicines from childhood through to the present day.

We hope that the information we collect from this project will inform healthcare professionals like doctors and pharmacists about elderly people's attitudes and view of medicines. In the long term we hope to find ways to help improve medicines use amongst older people.

The recording of your interview will be transcribed by Michael Bagge or a professional typist who will sign a confidentiality agreement. It will then be analysed by Michael Bagge and his supervisors Dr June Tordoff, Professor Pauline Norris, and Dr Sue Heydon. No one else will hear the recording. The transcript will have any details which identify you removed from it.

The results of the project may be published and will be available in the University of Otago Library, Dunedin, New Zealand but it will not be possible to identify any individual from any data published.

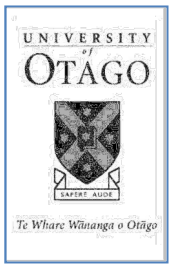
The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Michael Bagge	June Tordoff	Pauline Norris	Susan Heydon
PhD Student	Senior Lecturer	Professor	Lecturer
School of Pharmacy	School of Pharmacy	School of Pharmacy	School of Pharmacy
03 479 7321	03 479 7274	03 479 7359	03 479 7488

Appendix 3: Investigation One Consent Form



Reference Number: 09/047

Medicines in the Context of Older People's Lives.

CONSENT FORM FOR PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:-

1. My participation in the project is entirely voluntary and I may choose to have a relative or friend present at the interview with me.
2. I am free to withdraw from the project at any time without any disadvantage.
3. Personal identifying information will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which they will be destroyed.
4. This project involves an open-questioning technique. The general line of questioning will cover attitudes towards and experiences of medicines from childhood to the present day. The precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. In the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind.
5. I will be subject to no discomfort or risks from the interview.
6. The results of the project may be published and will be available in the University of Otago Library, Dunedin, New Zealand but every attempt will be made to preserve my anonymity.
7. I agree to take part in this project.

....

(Signature of participant) (Date)

This project has been reviewed and approved by the University of Otago Human Ethics Committee.

Appendix 4: Investigation Two Interview Schedule

Note:

- This is not necessarily the exact wording I used in each interview

- Not all questions were necessarily asked in each interview

    - Some questions were prompts which were only asked if needed

    - Some participants answered several questions at once

- Follow-up questions were sometimes asked to further explore participants' initial answers

- Questions which were unique to only one participant are not included here

    - For example: questions based on a participant's particular profession

Preamble

[Firstly participants read through the Information Sheet and Consent Form and I explained it to them gave them the opportunity to ask any questions. Then I would reiterate the main aims of the study before starting the interview].

For this study I want to find out about people's experiences of medicines during their stay in hospital and after their discharge. I am especially interested in medicine changes. There will also be questions about your general experience of being hospital and these might not be directly related to your medicines.

Before talking about your hospital experiences it would be good to talk about your general attitudes towards medicines [This normally led into the first question].

Introduction

- How do you feel about taking medicines?
- How do you feel about having to take medicines?
- Do you think that your medicines improve your health?

- Have you always felt that way?

Admission

- Can you tell me about your experience of being admitted to hospital a week or two ago?

- Why were you admitted to hospital a week or two ago?

- Was it a planned or an emergency admission?

- What treatment did you receive when you were in hospital?

- How long did you stay in hospital?

- Were you on the same ward the whole time?

- Did you have your own medicines brought into hospital?

- Did you bring in a medicines card or list?

Experiences regarding medicines during stay in hospital

- Can you describe your experiences of taking medicines in hospital?

- Who gave you your medicines during your stay in hospital?

- Did the staff let you give yourself any medicines when you were in hospital?

- Did you take any medicines the staff were not aware of?

- If so, what were they?

- Were you given your medicines at about the same time of day as when you would have taken them at home?

- Were there any changes to the type or dose of medicines you would normally take?

- If yes: what were they?

- Do you think that you had an opportunity to talk to the hospital staff about your medicines?

a) about how you should be taking them?

b) about any concerns you might have?

- Did you pick up any information "in passing" about any medicines from people in the hospital such as doctors/nurses/pharmacists/patients/family etc

- How did you feel about taking medicines while you were in hospital?

Discharge planning and discharge

- Can you describe your experiences of being discharged from hospital?

- Can you describe your experiences, in relation to medicines, at the time of your discharge?

- Did somebody discuss your discharge with you and, in particular, how you would manage to take your medicines at home?

    - If so who was this, and what was said?

    - Did you understand what they told you?

- When were you given this information?

- At discharge were there any changes to the medicines you would normally take?

    -If yes: what were they?

- Did you receive a list of medicines and dose instructions on a yellow card?

    - If so, did you find this helpful?

- How did you feel about being discharged from hospital?

    - Did you feel the timing of the discharge was right for you?

Experiences regarding medicines after leaving hospital

- Can you describe your experiences of taking medicines since leaving hospital?

- Have you been able to get back to the same routine with taking your medicines since leaving hospital?

- Have you had any questions about your medicines since leaving hospital?

    - Have you been able to find answers to these questions or concerns?

    - If so where did you find the answers?

    - If not, do you plan to do anything about it?

- Have you experienced any side effects from your medicines since leaving hospital?

    - New side effect or recurring side effect?

- How do you feel about taking your medicines since leaving hospital?

Impact on their lives

- What impact do you think being admitted to hospital has had on your life?

    - What impact do you think the changes to your medicines has had on your life?

    - Has your experience of hospital admission had an impact on how confident you feel to look after yourself?

    - Have the changes to your medicines had an impact on how confident you feel to manage your medicines?

    - Do you feel you have recovered since being in hospital?

- Have you been able to go back to your normal household routine since coming back from hospital?

- Since leaving hospital have you had any concerns about your medicines?

    - Since leaving hospital have you had any concerns with remembering to take your medicines?

Home situation

- Do you live alone?

- If not, who else lives with you?

- What is the health of your partner/the person living with you?

- Do you have any help/support with daily living?

    - Spouse/family/nurse/home-help/housework?

    - If yes for nurse/home-help: how often do they visit and what do they help with?

        - Do they help with medicines?

    - If yes for spouse or family living with them: what do they help you with?

    - If yes: did the hospital staff talk to them about your discharge before or after you were discharged?

- Do you help anyone else with their daily living?

    - Spouse/family/other?

- What sort of access to transport do you have?

- Have you been able to function reasonably well at home?

- Have you been experiencing any physical difficulties, with your normal daily routine, since leaving hospital?

- Have you been anxious about any issues other than medicine taking since you came out of hospital?

    - Have you been anxious about your finances since leaving hospital?

Doctors and pharmacists

- After leaving hospital how long was it before you filled your prescription?

    - Did you go to your usual pharmacist?

    - Did you pick it up yourself? If not, then who did pick it up?

- How did you obtain your medicines before being admitted to hospital?

    - How far away from your pharmacy do you live?

    - How often would you normally see your pharmacist?

- Have you seen or talked to your GP since leaving hospital?

    - Have you seen or talked to the practice nurse since leaving hospital?

    - How far away from your GP do you live?

    - How often would you normally see your GP?

- Have you wanted to see or talk to your GP since leaving hospital?

- Were you able to do so?

- If not, what was the reason for you being unable to do so?

- Do you see any doctors other than the ones at your GP practice?

    - Who would that be?

- How often do you see them?

Past admissions

- How often have you been admitted to hospital with this condition in the past twelve months?

    - If you were admitted, how long were you in hospital for?

    - Have you visited the GP/ a specialist/ other doctor or health professional in relation to this?

- What was your experience with taking medicines after discharge from hospital?

- Have you been admitted to hospital for any other conditions/problems in the last twelve months?

- If yes: what were they?

- Approximately how long did you stay in hospital?

- Was this a planned or an emergency admission?

- What was your experience with taking medicines after discharge from hospital?

Medicines

- What prescription medicines are you taking at the moment?

- What non-prescription medicines are you taking at the moment?

- What prescription/non-prescription medicines were you taking before you were admitted to hospital?

- Did you have any concerns about your medicines before you were admitted to hospital?

Socio-demographic information

- If you don't mind me asking, how old are you?

- Which country were you born in?

- Which ethnic groups do you belong to? You can choose more than one.

☐ New Zealand European
☐ Maori
☐ Samoan
☐ Cook Island Maori
☐ Tongan
☐ Niuean
☐ Chinese
☐ Indian
☐ Others

- At what age did you leave school?

- Did you go on to college, university, or do any other course or training after leaving school - If so, what?

- Do you belong to any groups, clubs, or organisations in the Dunedin area?
    - If yes: Which group do you belong to?

- ☐ Male ☐ Female

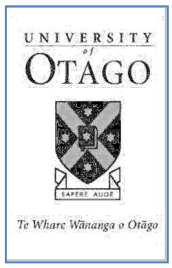
General

- Is there anything else you would like to say about the things we have talked about today?

    - Do you feel anything could be improved?

- Have you been involved in any other University of Otago research projects in the last five years?

Appendix 5: Investigation Two Information Sheet



February 2010

Older people's experiences of medicines in hospital and at home

Information sheet for participants

You are invited to take part in a project being carried out by Michael Bagge as part of his PhD at the School of Pharmacy, University of Otago. Your participation is entirely voluntary. If you decide to take part, you may have a friend, family or whānau support at the interview. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of the project?

We are trying to find out about older people's experiences of medicines before a stay in hospital, during their stay, and once they have returned home.

What type of participants are being sought?

People aged 75 and over who:

- Have been discharged from Ward 8A, Dunedin Hospital to their own home
- Were taking four or more prescription medicines on admission to hospital

What will participants be asked to do?

Should you agree to take part in this project, you will be asked to talk to Michael Bagge about your experiences. The interview will take up to a maximum of 90 minutes and will allow for breaks when necessary. The interview will take place in your home unless you would prefer the interviews to be conducted elsewhere. With your permission, Michael Bagge will make an audio recording of the interview.

The precise nature of the questions which will be asked have not been determined in advance. In the event that the line of questioning develops in such a way that you feel hesitant or uncomfortable, you may decline to answer.

Can participants change their mind and withdraw from the project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind.

What data or information will be collected and what use will be made of it?

Michael Bagge will ask you about your experiences regarding medicines from before your stay in hospital through until you have returned home from hospital.

Michael Bagge may access your hospital medical records to check what medicines you have been prescribed or other related information.

The recording of your interview will be transcribed by Michael Bagge or a professional typist who will sign a confidentiality agreement. It will then be analysed by Michael Bagge and his PhD supervisors Dr June Tordoff, Professor Pauline Norris, and Dr Susan Heydon. No one else will hear the recording.

The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that any raw data on which the results of the project depend will be retained in secure storage for ten years, after which it will be destroyed.

No material that could personally identify you will be used in any reports on this study.

You are welcome to request a copy of the results of the study from Michael Bagge.

What if Participants have any Questions?

If you require a translator then one will be provided.

If you have any questions about our project, either now or in the future, please feel free to contact either:-

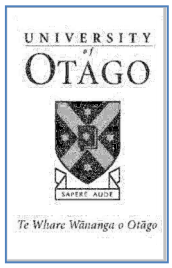
Michael Bagge	or	Dr June Tordoff
School of Pharmacy University of Otago (03) 479 7321		School of Pharmacy, University of Otago (03) 479 7274

If you have any queries or concerns regarding your rights as a participant in this study, you may wish to contact an independent health and disability advocate:
Free phone: 0800 555 050
Free fax: 0800 2 SUPPORT (0800 2787 7678)
Email: advocacy@hdc.org.nz

If there is a specific Maori issue/concern please contact Linda Grennell at 0800 377 766.

This study has received ethical approval from the Lower South Regional Ethics Committee; ethics reference number **LRS/09/11/049**.

Appendix 6: Investigation Two Consent Form



Older people's experiences of medicines in hospital and at home

Consent form for participants

I have read the Information Sheet, dated , concerning this project and understand what it is about. All of my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:-

1. Taking part in this study is voluntary and that I am free to withdraw from the project at any time without any disadvantage.
2. I may have a relative or friend present at the interview with me.
3. Personal identifying information will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for ten years, after which they will be destroyed.
4. The precise nature of the questions which will be asked have not been determined in advance. In the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer.
5. The results of the project may be published and will be available in the University of Otago Library, Dunedin, New Zealand but every attempt will be made to preserve my anonymity.
6. The researchers may access my hospital medical records to check what medicines I have been prescribed or other related information.

I consent to an audio recording being made of my interview. Yes ☐ No ☐
I consent to my hospital medical records being accessed. Yes ☐ No ☐
I wish to receive a copy of the results. Yes ☐ No ☐

I .....*(full name)* hereby consent to take part in this study.

....
(Signature of participant) (Date)

Appendix 7: Presentations

Refereed conference proceedings

Bagge M, Norris P, Tordoff J, Heydon S. Medicines over a lifetime: an oral history of medicine taking. Pharmacy Practice. 2010;8(suppl 1): 78. Sixteenth International Social Pharmacy Workshop, Lisbon, 23-26 August 2010, Poster.

Other significant conference involvement

Bagge M, Norris P, Tordoff J, Heydon S. Older people's experiences of medicines on leaving hospital. Ninth Asia/Oceania Regional Congress of Gerontology and Geriatrics, Melbourne, 23-27 October 2011, Oral.

Bagge M, Norris P, Tordoff J, Heydon S. Medicines over a lifetime. Division of Health Sciences Research Forum, University of Otago, Wellington, 15 September 2009, Poster.

Other presentations

School of Pharmacy PhD Seminar: University of Otago, August 2009. Medicines in the context of older people's lives.

Presentation: Quality Control Meeting, Wards 8A and 8B, Dunedin Hospital, 20th October 2010. Preliminary findings from Investigation Two. (Information regarding problems with discharge summaries: sent to the Clinical Leader of Wards 8A and 8B, Dunedin Hospital, November 2010)

Presentation: The University of the Third Age in New Zealand, Dunedin, September 2011. Medicines in the context of older people's lives.