

# Older people's attitudes towards their regular medicines

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## ABSTRACT

**INTRODUCTION:** Many qualitative studies examine older people's attitudes towards their medicines. Often these studies focus on the topic of medicines adherence. In contrast, this study aims to explore the attitudes of older people, aged 75 years and older, towards their regular prescription and non-prescription medicines.

**METHODS:** This study comprised two investigations of people aged 75 years and older. In the first investigation, 20 people were purposefully selected and interviewed, using an oral history approach, about their experiences of medicines over a lifetime. In the second investigation, 40 people were recruited from two internal medicine wards. Semi-structured interviews were undertaken with participants about their experiences of medicine changes after discharge from hospital. All 60 interviews were digitally recorded, transcribed verbatim, coded using NVivo and analysed thematically.

**FINDINGS:** Participants disliked having to take prescription medicines, but the majority believed they were necessary. They also trusted their doctor's expertise regarding medicines. Most participants believed it was important to take their prescription medicines regularly, even if they sometimes forgot to take them. They were not anxious about possible side effects. Most participants aimed to limit the use of analgesics and non-prescription medicines which they perceived as unnecessary.

**CONCLUSION:** Even taking into account participants' dislike of having to take prescription medicines, they were willing to accept medicines as part of their everyday routine, as they believed they were necessary. This suggests that many older people may be more willing to take their medicines than some studies on adherence in the wider population have indicated.

**KEYWORDS:** Attitudes; elderly; New Zealand; non-prescription drugs; prescription drugs; qualitative research

## Introduction

It is important to understand older people's attitudes towards their medicines. Older people are more likely to experience multiple illnesses that can result in more complicated prescription medicine regimens.<sup>1,2</sup> People taking multiple medicines are at greater risk of having medicines that may be unnecessary or that could react adversely with another medicine and this is referred to as polypharmacy.<sup>3</sup> Older people also have an increased risk of adverse medicine reactions due to physiological changes caused by ageing.<sup>4,5</sup> 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.<sup>6,7</sup>

Many qualitative studies in medical, pharmacy and gerontology journals examine older people's current and recent attitudes towards their medicines and medicine taking.<sup>8-10</sup> Often these studies are focused on the topic of medicines adherence. This study is not focussed on adherence or a medical view of participants' beliefs, but rather explores their attitudes towards their medicines in general. There is now a tradition, in multiple disciplines, of looking at illness and medicines

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from the perspective of the patient and analysing their life stories.<sup>11-14</sup> 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. This focus on the perspective of the people taking medicines underpins this study.

This study is based on the findings from two investigations using qualitative interviews to research the attitudes of older people, aged 75 and over, towards their regular prescription and non-prescription medicines.

## Methods

Investigation One explored participants' medicine experiences over their lifetime and Investigation Two explored participants' experiences of medicine changes after a recent discharge from hospital. Having these two particular investigations meant this article focuses on both a range of older people and a specific subset of older people. This focus on the present and the past means that a wider picture of older people's attitudes towards their medicines is presented.

## Recruitment

Both investigations received ethical approval from the Human Ethics Committee, University of Otago and the Lower South Regional Ethics Committee, respectively.

For Investigation One, 20 people were recruited and interviewed, using an oral history approach, regarding their experiences of medicines over their lifetime. The participants were purposefully selected on the basis of characteristics known by the authors in advance of the participant being contacted.<sup>15,16</sup> The criteria (diverse characteristics) for constructing the sample in Investigation One are shown in Table 1. No exclusion criteria were applied. The interview questions were open-ended and covered participants' experiences of medicines from childhood to the present day.

For Investigation Two, 40 people were recruited from two internal medicine wards and interviewed regarding their medicine experiences during their stay in hospital and after their dis-

## WHAT GAP THIS FILLS

**What we already know:** Older people take a relatively high number of prescription medicines and, as a result, are more susceptible to medicine-related problems. Studies have found that older people sometimes forget to take their medicines or choose not to take them due to concerns about side effects.

**What this study adds:** This study gives an in-depth look at older people's perspectives on their regular prescription and non-prescription medicines. It shows that, despite an apparent dislike of taking medicines, older people are generally willing to accept them as part of their everyday routine.

Table 1. Criteria for constructing the sample—Investigation One

Sex	Male and female
Age range (years)	75–79, 80–84, 85–89, 90+
Ethnicity	New Zealand European, Maori, Pacific, Chinese
Occupation	range of occupations
Medical professionals	nurse, doctor, pharmacist
Geographic location	people who grew up in urban and rural areas

charge. Participants were included in the study if they were discharged from hospital to their own home, were taking four or more prescription medicines on admission to hospital, and had changes made to their medicine regimen during their stay in hospital. Participants' admission and discharge diagnoses were not part of the sampling frame.

Sixty interviews, a relatively high number for a qualitative study, were conducted because the research was completed as part of a PhD thesis and the two investigations were designed to be analysed both separately and jointly. The interview schedules for the two investigations can be found in full in the Appendices (see the web version of this paper).

## Interviewing

Interviews were conducted between May 2009 and July 2011. In both investigations, interviews took place in the participant's normal place of residence or a place of their choosing. Participants in Investigation One were interviewed two to

three times (in order to cover their life experiences) and participants in Investigation Two were interviewed once, a fortnight after discharge from hospital. Interviews lasted for an average of 60 minutes. All 60 participants were asked the same questions about their current attitudes towards medicines. The number of prescription and non-prescription medicines that participants took, both on a regular and on an as-needed basis, were recorded at the time of the interview.

### Data analysis

Interviews were digitally recorded, transcribed verbatim and coded using NVivo 8 software. 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 two investigations were initially coded separately and then jointly.

Interviews were analysed using the general inductive approach.<sup>17</sup> 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. However, there were no preconceptions about what themes would emerge from the data.

The two investigations for this study meet the criteria for 'trustworthiness' outlined by Lincoln and Guba in a 1986 article.<sup>18</sup> Lincoln's and Guba's criteria for credibility, which relates to the internal validity of the data analysis, were met through prolonged engagement with the data: field notes were recorded and reread; transcriptions were twice-read, checked and coded. The criteria for transferability, which relates to the external validity of the data analysis, were met through quoting participants in the text and development of detailed and in-depth descriptive data. The criteria for dependability and 'confirmability', which relate to the reliability of the data analysis, were met through an independent check of a selection of NVivo coding and interpretation.

Participants have been given pseudonyms and, where discussed or quoted, the name is followed in brackets by the number of prescription medicines (meds) they were taking at the time of the interview. For brevity, the terms 'Study 1' and 'Study 2' indicate whether the person was a participant in Investigations One or Two.

### Findings

Thirty males with a median age of 82 years (range 75–95 years) and 30 females with a median age of 85.5 years (range 75–94 years) were interviewed. Forty-six participants were of New Zealand European ethnicity, five were English, four were Maori, two were Pacific, one was Chinese, one was Irish and one was Australian.

In Investigation One, the participants were taking a median of six (range 0–15) prescription medicines per person and in Investigation Two they were taking a median of 13 (range 6–21). Table 2 shows the top five Anatomical Therapeutic Chemical (ATC) codes for medicines taken by participants: 73% of prescription medicines were for the cardiovascular system, nervous system or

Table 2. The top five Anatomical Therapeutic Chemical (ATC) classification codes for medicines taken by participants

ATC category	Medicines (N=645) n (% of total medicines)
Cardiovascular	208 (32%)
Nervous system	149 (23%)
Alimentary tract and metabolism	120 (18%)
Respiratory system	39 (6%)
Blood and blood forming organs	29 (4%)

Table 3. The top seven prescription medicines taken by participants

Medicine	Participants taking this medicine n (%)
Paracetamol	43 (72%)
Aspirin	41 (68%)
Simvastatin	31 (52%)
Metoprolol	28 (47%)
Cilazapril	24 (40%)
Cholecalciferol	24 (40%)
Glycerol trinitrate	24 (40%)
Total	215 (33% of all medicines taken)

the alimentary tract. Table 3 shows the top seven prescription medicines taken by participants.

The main themes emerging from the interviews were that participants took medicines because they believed they were necessary and good for their health, were not concerned about side effects and were reluctant to take certain medicines, such as sleeping tablets, analgesics and non-prescription medicines.

### Taking medicines as a necessity

The majority of participants said that they did not like having to take prescription medicines but took them because they believed they were necessary. Examples of this can be seen in Table 4.

Many participants seemed resigned to the fact that they had to take medicines. 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.

Most participants from Investigation Two were willing to accept the changes to their normal medicines which were made during their recent visit to hospital. However, some of them experienced concerns with their medicine changes once they were discharged home, such as not understanding why a change had taken place, and discussed these concerns with their general practitioner (GP).

Some participants used stronger language when describing their negative attitudes towards taking medicines. These tended to be participants from Investigation Two. Charlotte (13 meds, Study 2) reported that she 'hates taking medicines' and alluded to how the increasing number of medicines she takes has added to her anxiety. Hazel (9 meds, Study 2) also stated that she 'hates taking medicines' because she has had to take a large number daily and says she has been healthy for all her life. In contrast, Nicolas (15 meds, Study 2) and Beatrice (19 meds, Study 2) were not concerned about the high number of medicines they were taking.

Over half of the participants believed that their medicines improved their health and some said that they would not be alive without them. Some

Table 4. Participant's belief in the necessity of their medicines

<b>Martha*</b> (15 meds, Study 2)	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.
<b>Charles</b> (9 meds, Study 2)	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, so.
<b>Abigail</b> (20 meds, Study 2)	I'm not happy about it. But as I say, I trust my GP. And if she tells me I need something I take it.
<b>Ingrid</b> (4 meds, Study 1)	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.
<b>Aaron</b> (17 meds, Study 1)	It is fairly tough sometimes because you have side effects but you've just got to accept them because if you don't I would be the one who has to suffer for it, ultimately.
<b>Denis</b> (4 meds, Study 2)	I don't like doing it but I do it. Okay, I suppose it keeps you going. I'd rather not take any if I could help it.

\* All names given are pseudonyms.

participants said that their medicine maintained or helped their health rather than improved it. A few participants were not sure if their medicines improved their health or not. One said that 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.

Well the doctors wouldn't give them to you if they weren't [good for your health] would they? (Katherine, 8 meds, Study 2)

A number of participants made the same assumption. Most participants said they trusted the medicines advice given to them by their GPs and the doctors in hospitals. Most participants also had a positive view of their pharmacists, but only a few talked to them about medicine concerns.

### Side effects

Most participants said that they were not concerned about possible side effects from their regular medicines (prescription and non-prescription) and said they would trust their GP's advice if any side effects did eventuate.

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. (Ruth, 11 meds, Study 1)

David (6 meds, Study 1) said that he had been taking his medicines for 25 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 how this meant they were not concerned about side effects. Some participants referred to instances in the past where they had experienced a side effect but this did not seem to prejudice them against the use of prescription medicines in general.

### Dislike of taking certain prescription medicines

Participants' attitudes to sleeping tablets, antidepressants, warfarin and analgesics were different from how they viewed their other regular prescription medicines. Participants were reluctant to become dependent on sleeping pills and antidepressants. In contrast, the participants who had been taking sleeping tablets long-term were reluctant to stop taking them. Participants expressed that they disliked warfarin because they were aware of the problems related to its use: side effects, interactions with other medicines and the fact that its effect needs regular monitoring. Many participants were reluctant to take analgesics when they were prescribed on an as-needed basis, even if they were experiencing pain. One participant's 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. (Martha, 15 meds, Study 2)

Participants referred to certain types of pain as a natural part of ageing and not as something which could, or should, be treated with medicines. Some participants were only willing to take one paracetamol tablet intermittently. Participants talked about how they grew up at a time when the current range of medicines for alleviating pain, and prescription medicines in general, were not available. Participants also referred to how, when they were young, people continued working despite experiencing pain, and it was not something that they were encouraged to complain about or seek to alleviate.

### Reluctance to take non-prescription medicines

Participants' attitudes towards taking non-prescription medicines were also different from their attitudes towards prescription medicines. Participants in Investigation One took a total of 19 regular non-prescription medicines with a median of one (range 0–4). Participants in Investigation Two took a total of 28 regular non-prescription medicines with a median of zero (range 0–9). The majority of these non-prescription medicines can be defined as health or dietary supplements, such as vitamins, minerals, fish oils, and herbal supplements. The next most common non-prescription medicine was paracetamol. Participants also indicated that sometimes they would purchase non-prescription medicines to take for a short time for coughs, colds, or for general good health.

Some participants, especially those from Investigation Two, said they were already taking a lot of prescription medicines and were not keen to take any regular non-prescription medicines that they perceived as unnecessary. Some participants said that they preferred to get their vitamins and minerals from food sources. A small number of people expressed a strong distrust of non-prescription medicines and questioned their effectiveness.

Most participants who did take non-prescription medicines only took one or two different products. Some participants believed non-prescription medicines were more natural than prescription medicines. For example, Christine (14 meds, Study 2) had been struggling with sleep but did not want to take prescription sleeping tablets so that is why she had started using non-prescription tablets.

Liam (19 meds, Study 2) takes nine non-prescription medicines, the most of any participant. He takes supplements because he believes that some can provide the same benefit as prescription medicines but without the side effects, which he reports have been the most difficult aspect of using prescription medicines.

### Forgetting to take medicines

Many participants talked about forgetting to take certain medicines at the correct time or forgetting

to take them altogether. The majority of participants said that they aimed to take their medicines regularly at the correct time of day. Many of the participants had been taking a regular prescription medicine for 10 to 20 years. Beatrice (19 meds, Study 2) said that she had become used to taking medicines because she had been doing it for so long.

It's sort of part of my life now, and I just don't think about it. (Beatrice, 19 meds, Study 2)

Participants also referred to the importance of their daily routines for taking their medicines. For example, Alice (17 meds, Study 2) said that she has to be very careful with taking her medicines because she could forget things quite easily. Each week she puts her medicines into a medicine box (plastic container with a compartment for each day of the week).

## Discussion

### Willingness to take medicines

The findings outlined in this article highlight the willingness of the participants to take their prescription medicines despite their dislike of having to take them. A dislike of taking medicine is not exclusive to this cohort of older people.<sup>19,20</sup> However, the participants in both investigations grew up at a time when there was relatively little use of prescription medicines. They said it was challenging for them to accept the regular use of a relatively high number of prescription medicines. Many participants had negative attitudes towards medicines and studies have found this can lead to non-adherence.<sup>21,22</sup> In a review article, Pound et al.<sup>19</sup> argued that people's attitudes can best be summarised as resistant to taking medicines. Few of the studies reviewed by Pound and colleagues included older people, who may differ from younger people in their experiences and concerns about medicines. Participants in the present study indicated they were willing to overcome their resistance to medicines and to attempt to take them regularly. This suggests that many older people may be more willing to take their medicines than some studies on adherence in the wider population conclude.<sup>19,23</sup>

The relatively high median number of medicines in both investigations indicates that all of the participants are at potential risk of experiencing the consequences of polypharmacy.<sup>24</sup> Participants in Investigation Two had a higher median number of medicines per person because they were acutely unwell and had experienced changes to their medicines in hospital, which resulted in the addition of new medicines. The top five groups of medicines by ATC category (Table 2) and the seven most prescribed medicines (Table 3) for participants in this study are very similar to findings in other New Zealand studies.<sup>25,26</sup>

**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.**

Participants talked about the importance of their medicine routines. Establishing a routine is evidence of how willing older people are to try to take their medicines regularly, even if they sometimes forget or purposefully choose not to take a certain medicine at a particular time.<sup>27</sup> Other studies have also found that older people use a number of methods to aid them in remembering to take their medicines.<sup>25,28,29</sup>

People appear willing to accept the need for medicines and the risks/costs associated with them if they believe they are necessary.<sup>22,30</sup> Horne and Weinman found that people who perceived their asthma as a chronic illness with negative consequences were more likely to take their medicines.<sup>31</sup> Many participants in Investigation One and Two referred to their medicines as necessary treatments for long-term illness.

### Side effects

Studies have found that people's fear of side effects can lead to non-adherence.<sup>19,32</sup> However, these studies were based on people of all ages or people aged 65 and over (with a lower median age than the investigations in this study).<sup>19,32</sup>

Most participants in this study expressed the view that they were not concerned about side effects from their regular medicines because they had been taking them for so long and because they trusted their GP's decisions if a side effect should arise. Participants seemed more concerned with the fact that they now had to take medicines regularly, in comparison to earlier in their lives when they took few, if any, regular medicines.

There were specific medicines, such as sleeping tablets, that participants were less willing to take due to concerns about addiction and side effects. This highlights that primary health care workers need to be aware that older people are more wary about taking certain medicines. It is also possible that participants who had been taking sleeping tablets for a long time had become dependent and were, therefore, reluctant to discontinue them.

### Trusting doctors

Some participants who were not sure if their medicines were beneficial still took them because they trusted their doctors' expertise, a finding consistent with that of Moen et al.<sup>32</sup> in their study of people aged 65 years and older. These responses show the importance of the relationship between doctors and older patients. It suggests that if medicines are properly discussed with older patients, and the benefits outlined, older patients are much more likely to take them. It also emphasises the need to regularly review older people's medicines to ensure that they are necessary. Some of the participants who had been discharged from hospital were also eager to discuss their medicine concerns with their GP. This highlights the importance of older people seeing a GP soon after discharge from hospital. Most participants did not talk to their pharmacist regarding medicine 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.<sup>25,33</sup>

### Reluctance to take medicines

In general, participants from Investigation Two tended to have more negative attitudes towards

their medicines, possibly because overall they were taking a higher number of prescription medicines than participants in Investigation One. However, some participants were unperturbed by 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 taking a large number of medicines is not necessarily a predictor of non-adherence in older people.<sup>34,35</sup>

Participants were reluctant to take analgesics and this is consistent with findings from other studies.<sup>8,36</sup> Participants reported tending to avoid taking what they perceived as unnecessary medicines. There also seemed to be a link between participants' current views towards pain relief and their experiences growing up at a time when the current range of medicines for alleviating pain were not available and when people were expected to be more stoic in their attitude towards pain. Hua-Hie found that attitudes such as stoicism were significant factors in older people's lower report of chronic pain.<sup>37</sup> This acceptance of pain, combined with older people's reluctance to take medicine, provides a strong reason for not taking medicines for pain relief.

Many participants were also reluctant to use regular non-prescription medicines. While some New Zealand studies have found that people aged 75 years and older use relatively few non-prescription medicines,<sup>25,38</sup> another study found that older adults were higher regular users of dietary supplements whereas younger adults were higher episodic users.<sup>39</sup> There were a few participants in this study who used a relatively high number of non-prescription medicines and this shows that GPs need to ask their older patients about the full range of medicines that they take.

### Positive and negative attitudes towards medicines

Participants' attitudes towards their medicines were complex. Many participants said they do not like taking medicine, but also believe they should take it because their doctor has prescribed it and they need it for their health. Other studies have

also found that older people can have both negative and positive attitudes towards their medicines.<sup>32,40</sup> Sometimes, when asked direct questions about their medicines, participants talked about medicines positively; however, in general conversation about medicines, they talked more openly about their negative attitudes. In some interviews, it was only later in the discussion (after 30 minutes or more) that participants shared some of their more negative attitudes. This again highlights the importance of GPs taking time to listen to older people regarding their medicines.

### Limitations

The majority of older people in Dunedin where this study was undertaken are New Zealand Europeans and this means that the findings outlined in this article might be different to communities in the North Island of New Zealand where there are a higher proportion of Maori and Pacific Islanders. However, a wide range of participants were interviewed and this allowed for thorough discussion of the topics. Participants may have given socially desirable answers or withheld information they considered to be irrelevant. However, the qualitative nature of the interviews allowed the interviewer to explore some of these issues during the interviews.

### Final comments

Even taking into account the negative attitudes referred to in this article, participants were willing to accept medicines as part of their normal routines. Many of the participants seemed to have adopted a pragmatic attitude towards their medicine taking. They would rather not take the medicines, are aware of the possibility of side effects and at times seem dismayed at the number that they do take. Participants also believe that their medicines are good for their health and are willing to trust their doctor's advice regarding the necessity of medicines. This highlights the importance of the relationship between doctors and their older patients and honest discussion regarding the importance of medicine and older people's attitudes towards them. It also emphasises the need to regularly review older people's medicines. It is concerning that participants did not talk to pharmacists

regarding their medicine concerns and this highlights the importance of pharmacist involvement with older people when they are acquiring their medicines from a pharmacy.

The majority of participants had been taking their medicines for a long time and, while they still reported disliking having to take them, they had become accustomed to it. Many participants have routines in place to help them remember to take their medicines and most are not overly concerned about the possibility of side effects from their regular medicines. Nonetheless, this study 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 that persists alongside their willingness to regularly take prescription medicines. Participants also viewed certain medicines, including warfarin, antidepressants and analgesics, differently from their other prescription medicines and were reluctant to take these medicines. Again, this highlights the importance of an in-depth understanding of older people's perspectives on their medicines.

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## COMPETING INTERESTS

None declared.

## APPENDIX 1: Investigation One Interview Schedule

### *About the interviews*

This is not necessarily the exact wording 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 that were unique to only one participant are not included here; for example, questions based on a participant's particular profession.

### **Preamble**

'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.'

The preamble normally led into the first question.

### **Questions**

#### **Childhood**

- When 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 products?
  - 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 parents' 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 products?
  - 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 products?
- 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 Two Interview Schedule

### *About the interviews*

This is not necessarily the exact wording 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 that were unique to only one participant are not included here; for example, questions based on a participant's particular profession.

### **Preamble**

'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 in 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.'

The preamble normally led into the first question.

### **Questions**

#### **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?
  - about how you should be taking them?
  - 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 12 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 12 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?
- Gender:  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?