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"That's What I've Got On The Counterfeit"

A Study Of The Factors Influencing The Completion Of Death Certificates By General Practitioners

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A thesis submitted for the degree of Master of General Practice

at the University of Otago, Dunedin, New Zealand.

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ABSTRACT

Death certificates are used for various purposes, including research, public health planning and settlement of estates. The evidence of inaccuracies in death certification is well documented in the medical literature. The cause of inaccurate death certificates is attributed principally to inadequate training, and the proposed solutions to date focus on this. The incongruity of continuing to use data which are known to be inaccurate, and the persistence of calls for "more training" as the solution, were stimulants for this research.

This study looked for factors that influence general practitioners that certify the cause of death. Both quantitative and qualitative methods of data gathering were used. The quantitative arm of the study was a questionnaire sent to 220 randomly selected New Zealand general practitioners. The qualitative arm consisted of four focus groups that were held by teleconference. Each focus group had four participating general practitioners, a facilitator and the researcher as a silent participant recording the discussion. The participants were chosen to reflect the diverse settings in general practice. The focus group discussions were semistructured with minimal facilitation.

The questionnaire was analysed by frequency analysis, and 95% confidence intervals (CI) were used. Logistic regression was used to examine the relationship between independent variables and p values applied to the findings.

There was an 87% response rate to the questionnaire. Of the respondents 53% (CI 46% to 61%) received no training or could not recall receiving training. Frequency analysis of the questionnaire showed that 72% of general practitioners (CI 63% to 77%) had experienced doubt at some time when completing death certificates. Factors that were shown to influence some general practitioners when certifying the cause of death were the wishes of the family, the access to postmortem examinations, stigma of certain diagnoses, the use to which death certificates were put, and confidentiality issues. However, the wishes of the
family and relatives were the most influential, always being considered by 7% (CI 4% to 13%) and sometimes being considered by 53% (CI 46% to 61%) of general practitioners.

Substantive thematic analysis of the transcriptions of the focus groups identified and elaborated on each of the factors described in the questionnaire. The issues of certainty and uncertainty in clinical diagnosis, and of the nature of general practice were dominant. The expectation to provide a precise clinical diagnosis and the reality of achieving this in given clinical circumstances was a dilemma familiar to the general practitioners. The nature of general practice (focused on the person who is the patient and the people important to the patient) creates a bias for the certifying general practitioner.

Although inadequate training is a factor contributing to inaccuracy of death certification, there are other factors involved. The role of clinical certainty and the bias of the certifying medical practitioner need to be taken into consideration when strategies to improve the situation are planned.

There are contemporary thinkers who already acknowledge the role of certainty and uncertainty in clinical medicine, and have proposed strategies how to manage this when making health policy. The strategies they propose are integrated with the findings of this study.
"That's what I've got on the counterfeit" said the general practitioner as he was flicking through the counterfoils of his death certificate pad. He was one of the participants in the focus groups of this study. A Freudian slip, a cryptic title for a thesis - but possibly no more cryptic than some diagnoses on death certificates.

The pursuit of knowledge in the instance of certifying the cause of death is critical on several counts. Without knowledge of the factors contributing to inaccurate death certification, it is difficult to effectively reduce the rate of inaccuracy. This study sets out to increase the understanding and knowledge required.

There are two more issues, which are also important. One is the source of knowledge; the other is the integrity of knowledge. The work that follows has drawn on the knowledge of many who are acknowledged through my references. Without that collective knowledge, this work would not be. I leave the subject of the source of knowledge de novo to able philosophers. Yet I recognise that once there is knowledge, its nature is dynamic, it grows or merges from pre-existing knowledge. I express my respect to those who have gone this way before.

The other issue is that of the integrity of knowledge. To promulgate statistics and research findings, which are based on data, which is known to be inaccurate, is not a sign of integrity. The medical profession as a whole condones this if it continues the practice without change. If the integrity of certain knowledge is doubtful, so too are the purveyors of that knowledge, particularly if they are aware of the fault. In a very small way this work is offered with a vested interest in the integrity of the medical profession.

To this end there have been significant others involved. The Charitable Trust of the Auckland Faculty of the Royal New Zealand College of General Practitioners supported the
study with a grant of $2,000. As the Trust was the sole financial supporter I was especially appreciative of the practical assistance afforded by this grant.

I was touched by the contributions from my general practice colleagues. With humour, frankness and passion they trusted to share their experiences. I will always respect them for that.

I owe a lot to my supervisors Ian St George and Gillian White whose candour was always delivered with encouragement and sensitivity. I could not have done better.

And certainly, if any of the work here does contribute to a better understanding of a small aspect of our complex lives, then the people who really deserve the praises are those at home - Jeroen, Tristan and particularly Rebecca. My words cannot do justice to their unconditional support.
ETHICAL APPROVAL

In 1996 all research projects relating to health matters were required to be submitted to Ethics Committees for approval. There were four Regional Health Authorities (RHAs) responsible for funding the health services of New Zealand. Each RHA had an Ethics Committee responsible for granting ethical approval for research that involved any residents in their RHA region. Each RHA needed to be applied to separately if subjects came from more than one region. The Northern RHA (North Health) was the principal "clearing house".

Ethical approval was sought initially from two RHA Ethics Committees, North Health and Wellington. Ethical approval was granted by the Wellington Ethics Committee and was not considered necessary by the North Health Ethics Committee (Appendix A). There was no explanation supporting this. If nothing else, this allowed the selection of participants from any RHA region without further application to the remaining two RHAs.
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1. INTRODUCTION

I am a general practitioner who has always had difficulty summing up in one or two words why a person has died, and consequently have had difficulty completing death certificates. It seems I have struggled to convert a person's life and death to a few words on some paper; to reduce the three dimensional to the two dimensional. I have thought that there must be an easier way around this. When talking with my colleagues, I hear them speak of dilemmas and difficulties I recognise.

I am concerned about the consequences of the death certificates I have completed in good faith but perhaps not with absolute accuracy. The mortality statistics I use are derived from the data on death certificates. These statistics become an integral part of the resources I use when patients consult me. I doubt the integrity of that data because I know how I personally have had difficulty completing death certificates. I believe there is discordance between the circumstances in which death certificates are completed and the certainty with which the data derived from them are applied.

These incongruities are the source of this thesis.

1.1 The research question

The focus of the thesis was the question "What are the factors that influence the general practitioner when he/she completes the death certificate?"

1.2 The aims

There were two aims at the outset of this study.

The first aim was to accurately identify the factors that influence general practitioners certifying the death of a person, from the certifying practitioner's perspective.
The second was to make a practical contribution to improving the accuracy of death certificates.

1.3 The literature search

Although I was unable to find any specific references about factors influencing general practitioners completing death certificates, the medical literature provided most of the material that justified my proceeding with the research question. The findings of the literature search are integrated into this introductory chapter.

The principal source of references was the computerised form of Index Medicus, "Medline". The key words of the search were "death certification", "clinical decision making" and "decision theory". Further references were sourced from course material of the Master of General Practice degree, University of Otago, and from course material of the 1996 Short Course on Qualitative Methods in Health Care Research, run by the Health Research Council of New Zealand. I also used additional references and readings suggested by both supervisors.

1.4 The origin of the death certificate

Davis gives an interesting account of the history of the coroner's role over the last eight hundred years (1). The position of coroner was a public office, and allegiance to the king was an important consideration for tenure of that position. One of the tasks of the coroner was to determine the manner of death. There were then, as there are now, financial implications dependent on the cause of death. In those days the property of all felons was forfeit to the crown leaving the next of kin nothing. As both suicide and homicide were acts of felony, determining the manner of death had significant implications. History records that the coroner was susceptible to bribery and corruption. The position was not always considered an honourable one.

As an understanding of anatomy and physiology developed during the eighteenth and nineteenth centuries, the "educated" person started to know more than the "lay" person
about the cause of death. The qualifications of the coroner changed from coronal allegiance to knowledge. With the passage of time coroners were required to have medical or legal qualifications.

Gathering information in the English speaking world started in England in 1538, with the weekly register of christenings, marriages and burials. However these ceremonies did not correspond with all births and deaths. In 1837 a central registration office for the recording of births, marriages and death (by cause) was established. In the United States of America in 1844, law was passed making collection of this information a state function. Death certification continues to be a statutory obligation.

1.5 The purpose of the death certificate

The death certificate records the fact of death and the cause of death. As society has became more organised it has become compulsory to prove death legally and improve mortality data. If the cause of death is not deemed to be due to natural causes the coroner is responsible for determining the cause of death.

1.6 How the death certificate is used

The death certificate has significance beyond its principal purpose of stating the fact and cause of death.

Nowadays death duties and taxes are less dependent on the content of the death certificate than on the fact the certificate is complete. Yet the death certificate per se and its content, are often critical to the settling of estates, pension entitlement and/or insurance payments (2).

The data derived from death certificates are commonly used for original research. Zumwalt and Ritter reviewed the original articles published in JAMA, over a one year period, and found that 9% used some data on causes of death which were from death certificates (3).
Death certificates provide information on which public health related activities are based. These include targeting health promotion, planning services, allocating resources, determining priorities, assessing quality, and participating in audit (4).

Use of data derived from death certificates has been used by the World Health Organisation for ten decades. Trends and patterns in diseases are described (5-9), and strategic plans made, based on the findings. The data sourced for these trends are taken from death certificates completed internationally.

The entry on the death certificate has personal meaning for the family (4), and increasingly may have personal meaning for the certifying practitioner. Lawsuits arising from the cause or manner of death stated on the death certificate have been infrequent. Hanzlick's review revealed that ten of the sixteen lawsuits conducted between 1948 and 1995 have occurred since 1985 - a rate of one annually compared with the former rate of one every six years (10).

The role of the coroner is to examine deaths resulting from unnatural causes and those deaths which a medical practitioner cannot certify. The fact that unnatural deaths go undetected is evident occasionally (11,12). Beyond the statutory status of the death certificate there are legal implications for the certifier.

1.7 The inaccuracies of death certificates

The fact that data on death certificates are inaccurate has been reported since the 1970s and continues to be so (4). This lamentable situation is described by pathologists and researchers whose interest is overtly that of the effect on research, subsequent misinformation, inappropriate planning and possible misapplication of funds.

McKelvie discovered errors in 59% of certificates of people who underwent postmortem examinations (13). Gwynne found a similar rate of inaccuracy: 64.7% of certificates had errors of epidemiological significance, and 57.5% had errors of individual diagnoses (14).
Leadbeatter recorded a rate of inaccuracy of 20.7 to 31.7%, of death certificate completion over a five year period (15). Inter-practitioner disagreement has been found to correlate with the age and condition of the deceased person, the social class of the deceased, the practitioner's nationality and the practitioner's age (16).

The reliability of the death certificate data concerning asthma was investigated by Hunt et al (17). They found the death certificate to have a sensitivity of 42%, and a specificity of 99%! Model found that of eighteen deaths with asthma as the certified cause of death, only in ten was asthma the actual cause of death (18).

A study by Slater in 1991 examining wording inaccuracies independently of clinical circumstances revealed an error rate of 29%. Another 5.8% were found to warrant further action from the Registrar of Births and Deaths or referral to the coroner (19).

1.8 The factors contributing to inaccurate death certificates

A lack of training has been the most commonly cited reason for inaccurate death certificates (3,13,15,19-23,26). Not enough is known about the appropriate terms to use, about the difference between mode of death and cause of death, and of which situations require coroner referral (3,13,14,19,24-26). There appears to be insufficient skill in describing the sequence of events leading to the cause of death, and in detailing "conditions contributing to death, but not related to those listed" (3,13,19). Illegibility and failing to complete all sections contribute significantly to the rate of inaccuracy (24).

The importance of the medical practitioner's attitude to the procedure of death certification has also been acknowledged. Some consider it affects the quality of information supplied on certificates (15,16). Bloor describes the activity as one of a number of activities where "wide and largely unacknowledged variations in practice occur with each practitioner investing his or her own practices with moral worth" (16). Medical practice variations are also described by McPherson (27).
Some authors have sought reasons beyond the oft cited poor training as the cause of the inaccuracies. Goodin and Hanzlick explored other factors which they surmised may contribute to the way death certificates are completed (28). They concluded that manner of death classification by medical examiners/coroners did not appear to be "substantially influenced" by forensic pathology board status, or by previous threats of lawsuits over manner of death certification. They found that there was no obvious text or individual considered authoritative in this matter. These negative findings indicate that other factors should be considered.

1.9 The impact of inaccurate death certificates

Those who write about the inaccuracies of death certificates often acknowledge the significant consequences in general rather than specific terms. Quantifying the impact of the inaccurate death certificates is probably impossible. For example: Kelson and Farebrother demonstrated that within and between countries, discrepancies occurred both in the death certification and the subsequent coding from the death certificates (29). They concluded in general terms that these differences had "serious implications for the comparability of mortality data for cancers of the cervix and uterus, and mesothelioma".

Maudsley and Williams call for quantified examples of inaccuracy. They examined the financial implications of under-reporting of fracture of the neck of femur and estimated the cost of that under-reporting to be two million pounds sterling (4).

Compounding the problem of inaccurate detail on death certificates, is the known variation in classification and coding practices. It is commonly acknowledged that the classification and coding of diseases need refining (22,29-31). The effect of inaccuracies relating to coding and disease classification is not elaborated on here.
The extent of the consequences of inaccurate death certificates has not been measured (3). There are implications in each of the following areas:

- Public health - identifying problems, high risk groups; evaluating effectiveness of programmes (30,31)
- Allocation of funds - for intervention and prevention programmes, for research (4,31,38)

1.10 Training in completing death certificates

Many studies state that medical practitioners are inadequately trained in the completion of death certificates. The possibility that what training is provided may be ineffective does not appear to be considered.

The principal method of teaching the completion of death certification seems to be the provision of booklets of instructions and guidelines for the certifier. These are published by government departments, such as the Ministry of Health in New Zealand (33) and the Bureau of Statistics in Australia (13). Beyond the provision of such printed matter, there are individuals who use the current medical journals to publish guidelines, and exhort their colleagues to improve their performance (25,26).

Current teaching of medical graduates varies from institution to institution. Aspects of death certification are incorporated into forensic medicine or pathology curricula. Kielkowski et al report that in undergraduate curricula in South Africa, the emphasis is on medicolegal aspects of death, "with a median time of two hours spent on teaching the topic, in the six year course" (22). In the University of Cincinnati College of Medicine, a workshop on death certification has been introduced, as the final didactic teaching session of the pathology course (3).

In New Zealand, the Ministry of Health currently sends a staff member to talk to the Universities' final year medical students, for an hour on the technicalities of death certification. This is the entire undergraduate component.
Zumwalt and Ritter believe that "most physicians probably learned how to fill out death certificates by imitating senior residents or attending physicians" (3). Comstock and Markush report that "most physicians have had no training in the purpose and process of death certification" (32). Hunt et al state that "Physicians rarely, if ever, receive any formal instruction in proper death certificate completion, and understand neither the terminology nor the methodology for completing the form itself" (17).

In Cardiff, a computer programme has been written to simulate sixteen postmortem examinations. The undergraduate medical students' objective is to determine the correct immediate causes of death (34).

Postgraduate training is not formally established. Once New Zealand interns are working in hospitals, their intern supervisors are responsible for their continuing supervision or education. The intern supervisors are part-time employees of the Medical council, and each has his or her own programme for the interns.

Neither is there evidence of evaluation of the training programmes in place. Weeramanthri et al attempted to evaluate the effect of giving written education material on death certification, to hospital doctors (35). The results were "disappointing" on account of the low response rate of 19%. However this work introduces the concept of continuing medical education and evaluation.

In addition to more education audit is mentioned as a method of improving the current situation. Walker and Duffy audited the accuracy of death certification in their hospital for three years from 1990 (36). They report that this information combined with fortnightly clinicopathological meetings has allowed discussion and more attention to be paid to the task of death certification.

The creation of a death register for general practice has been described by Berlin et al (37), with the proposition that it could provide an opportunity to audit the quality of death certification. Tudor Hart describes an audit of five hundred consecutive deaths in a general
practice but applies it principally to preventable deaths, trends, and changes that could be made in the population and the organisation, rather than using it as a tool to improve death certification.

It is plausible that the education initiatives relating to death certification as described in the medical literature underestimate the true amount of education that takes place. However, the education that exists is variable and there is little evidence of evaluation of its effectiveness.

1.11 The approaches used to solving the problem of inaccurate death certificates

There has been a dogged determination to continue to publish evidence of the inaccuracies of death certificates, along with an insistence that more training (with the additions of audit and clinicopathological conferences) is needed. There is also no stop to the publications that continue to use data from these "inaccurate" death certificates. To give those publications their due, there is often a qualifying comment about needing to take into consideration the likelihood of inaccuracy from death certificate data. Such acknowledgement is an attempt to cope with the problem and an honest statement, but it is hardly practical.

Messite and Stellman believe five approaches could be used to improve physician completion of death certificates. Four of these five approaches are: formal instruction in medical school and residency (including more booklets of guidelines); consulting the patient's physician whenever possible; rigorous query of inconsistent entries by the health department; using autopsy results routinely to update information. In addition, they suggest the development of software programmes to guide physicians through death certificate completion, and dissemination of these to hospitals.

More postmortem examinations have been advocated even although it is recognised that the rate of postmortem examinations is decreasing. Black reported that over an eighteen year period in a general practice 3% of decedents received postmortem examinations.
Inclusion of further information available after a postmortem examination is reported not to take place routinely \(^{17,30,32}\), and the inference is that if such data were added to the death certificate there would be improvement of quality of death certificate data. There are also reports about the poor correlation between postmortem examination findings and the clinical and pathological diagnoses \(^{40,41}\) implying that more postmortem examinations may not provide the improvement desired.

Having death registers and accurate records of death in general practice \(^{20,37}\) are suggested means to better death certification. Revision of the certificate format \(^{4,14}\) is suggested, as an additional problem appears to be the form itself \(^{22}\). "There's no more room Doc, the box is too small" exemplifies the practical problems \(^{30}\) which lead to alternative designs being considered.

Every decade there are coding revisions to account for new diseases or new disease classification \(^{17}\). Huffman suggested that licensing examinations should include questions about cause of death, and long term health care facilities should demonstrate compliance with policies about training in death certification \(^{2}\). Kaplan advocates a team approach to death certification with an experienced principal who oversees the process \(^{42}\). Vigilant examination of death certificates by medical administration staff of hospitals is a method of feedback and consequent improvement mentioned by McKelvie \(^{13}\).

However, Maudsley and Williams sum it up when they say, "The traditional perspective on improving the quality of death certification has not worked." \(^{4}\). In 1977, Gwynne made four recommendations to improve the situation \(^{14}\). The four (abbreviated) recommendations were to increase the number of postmortem examinations; change the current attitudes to the death certificate; modify the death certificate; and remind the profession that it is responsible for the quality of morbidity and mortality data.

It is now twenty years later and there is evidence in the emotive and urgent (perhaps exasperated) pleas of Maudsley and Williams that little has changed. They state that, "Those interested in improving death certification cannot help taking a swipe at the certifier
and urging the customary quota of education." and "It took 'murder in the NHS' for the
death certification 'crisis' to become a 'drama'. What will it take for an overhaul of the
whole recording system around death?" (23).

The solutions so far can be considered under broad categories. Each of the above
suggestions could be considered as:

- educational (viz. training, provision of guidelines)
- procedural (viz. implementation of more postmortem examinations, audit, peer review,
  consultation)
- administrative (viz. different format of certificate, inclusion in licensing examinations,
  formal review by third parties).

However described, in addition to these categories educational, procedural and
administrative, a new category called "alternative" seems to be needed.

1.12 Where to now? A new perspective?

It is time for different action. The situation has been recognised for what it is - a difficult
problem that is not being solved and is not going away.

As I sought to improve my own completion of death certificates the only resource I found
available to me was the latest New Zealand publication "A Guide to Writing Death
Certificates", published by the Ministry of Health, prepared by Information Standards and
Quality, New Zealand Health Information Service, 1994 (33). This did not help me at all with
my difficulties.

I talked with my peers, my general practice colleagues. In so doing, I recognised the
thoughts and feelings being expressed. They were familiar which was comforting, because I
found myself feeling vulnerable by raising the subject, which was uncomfortable. I
wondered about the dismal performance we supposedly provided, and about the much
declared need to train us better. I wondered if in fact there were other reasons for that
behaviour (inaccurate completion of death certificates) besides laziness, carelessness, and incompetence. If there were other reasons there could be other solutions.

I am in my fifteenth year of general practice and know my skills become increasingly specialised in that environment while simultaneously other skills wither. I know that an aspect of my work environment is a closer association with other general practitioners than with specialists, academics and researchers. Both the medico-political and the medico-legal environments have an effect upon my professional practice. I know however that the person in front of me, the person who is 'my patient', has the greatest influence on my decision making. I wonder if my professional environment and inherent biases have something to do with the "inaccuracies" on death certificates.

Data from the Ministry of Health show that for 1993 and 1995 about 31% of death certificates in New Zealand were completed by general practitioners. This means that the balance was completed variously by coroners, hospital appointed doctors and specialists. This study explores the behaviours and impressions of general practitioners but does not speak for other certifiers. Just as there are probably features in common among the various groups of certifiers, there are possibly distinguishing features between the groups.

New strategies may require alternative perspectives on death certification. It is possible to identify glimmers of new strategies in the following:

- Ashworth acknowledges that the "attitude of the public to the necropsy needs to be taken into account".

- Comstock & Markush ask if it is appropriate for the co-operation between the American College of Epidemiology, the American College of Preventive Medicine, the American Public Health Association, the Society for Epidemiological Research (together with others with similar interests) and the National Center for Health Statistics, to improve "this elementary and fundamental surveillance of the health of a nation."

- McPherson collates information about "medical practice variations", and their significance for policy making on health issues. He also discusses the role of uncertainty in clinical medicine.
Eddy talks about clinical decision making, and why clinical decisions are vulnerable to error (44).

Werner acknowledges the intuitive component of decision making and argues that it needs to be managed as skillfully as the rational component (45).

Marinker makes the following three observations about policy making in health care (46):
* There are profound uncertainties and ambiguities in medicine that masquerade as facts.
* There is a pervasiveness of conflicting ideas and values.
* There is significant complexity of the group process by which we make decisions.

I hope to provide the substance of a different perspective on death certification - the perspective of the certifying practitioner. When this new perspective is considered in terms of the contemporary thoughts about medical practice variation, decision making, clinical uncertainty and policy making in health care, new strategies are become apparent.
2. THE METHOD

2.1 Introduction

The method I used to answer the research question had quantitative and qualitative components. The quantitative component (the questionnaire) was used to determine what general practitioners did in certain circumstances. The qualitative component (the focus groups) was used to explore why general practitioners did what they did.

The methods of the questionnaire and focus groups are described here separately. This is followed by a description of the use of the mixed quantitative/qualitative method in general practice research, and a comment on ethics.

2.2 The quantitative component - the questionnaire

2.2.1 The questionnaire design

The hypothesis was that there are factors beyond the clinical situation of the deceased that affect a general practitioner's entry on the death certificate.

I designed the questionnaire (Appendix B) with advisory support from my supervisor ISG and biostatistician JS. It aimed to elicit information about:

- certain actions (such as consultation, postmortem requests) in certain circumstances
- influence by certain variables (such as family feelings, knowledge of application of death certificates), on death certificate completion
- training in death certification
- the use of "preferred terms" in certain circumstances
- doubt experienced by the certifying practitioner.
The questionnaire had a section for recording age, gender and nature of practice. No personally identifying information was gathered. Comments were invited throughout the questionnaire.

2.2.2 The layout of the questionnaire

The questionnaire was designed to fit on a single A-4 sheet of paper, using both sides. Most questions required a response with a tick and a few required one or two word responses. Enclosed with the questionnaire were a letter of introduction and a copy of the research protocol (Appendix C).

This format for the questionnaire was selected with the intent to:
- make it apparent that minimal time was needed to complete the questionnaire
- minimise the amount of paper to add to the ever increasing pile of papers general practitioners receive
- appeal from one general practitioner to another to participate in something of interest and practical importance to general practice.

2.2.3 The pilot questionnaire

The questionnaire was piloted by ten general practitioners. The feedback was positive. The questionnaire was understood, simple to complete and did not take long. Some minor semantic changes were suggested and incorporated into the final draft.

2.2.4 Sample size

The intent of the questionnaire was to document the occurrence of certain events (e.g. experiencing doubt when completing a death certificate) rather than to identify trends or make generalisations applicable to a population of general practitioners. For this reason I chose an absolute number for the size of the sample, as distinct (for example) from a certain percentage of the total number of practising general practitioners.
I planned to have 100 completed questionnaires to analyse. I assumed a response rate of 50%, and allowed for some questionnaires not to reach the addressees. Therefore the sample size was 220.

2.2.5 Selection of participants

I sought participants who were in active general practice and representative of all New Zealand general practitioners in terms of age and gender, and practice setting (rural vs urban, solo vs group).

In 1996 it was difficult to get a list of all active general practitioners from the New Zealand Medical Council. The Vocational Register for General Practitioners was not complete, and privacy laws prevented direct access to other Medical Council data indicating occupational groups of medical practitioners. The General Register included many doctors who were not general practitioners.

The database I finally had access to was the one used by the Royal New Zealand College of General Practitioners (RNZCGP) General Practice Research Unit at the University of Otago. This database was the mailing list of all known active general practitioners in New Zealand, and was provided by the pharmaceutical company Bristol-Meyer Squibb. It was compiled from data provided originally by the Medical Council.

A computer generated and random selection of general practitioners was made from this database.

2.2.6 Mailing the questionnaire

To maximise the number of questionnaires returned two mailings were made. The first was mailed in November 1996 and the second to non responders in January 1997.
2.2.7 Addressing the questionnaire

Each questionnaire was placed in an envelope addressed by hand. The words “Personal and Confidential” were added to the front of the envelopes.

The purpose of these actions was to:
- ensure as far as possible that the questionnaire reached the general practitioner and was not intercepted by staff opening the mail
- make it apparent that the questionnaire was being administered by an individual rather than an "institution" or "organisation".

2.2.8 Returning the questionnaire

A stamped addressed envelope was enclosed with the questionnaire, and respondents were asked to return the completed questionnaires in these envelopes. The return address was my business/surgery address. There was no identifying data on either the return envelope or the questionnaire.

There was also a plain stamped addressed postcard sent in each envelope. These were numbered from 1 to 220. Respondents were asked to return these numbered postcards at the same time as they returned the completed questionnaires.

This was done to:
- ensure anonymity of participants
- identify those people who did not return the questionnaire after the first mailing
- enable the questionnaire to go again to those who did not respond to the first mailing.

2.2.9 Collating and analysing the data

I designed a spreadsheet and entered all the data from the returned questionnaires onto it. As a trial, twenty questionnaires were entered on the spreadsheet and then viewed by biostatistician JS. This trial led to discussions with JS, which ensured unambiguous codes were entered for each question and answer.
The data in spreadsheet form were sent to JS on a floppy disc. JS then analysed the data using frequency analysis to give the frequency of certain variables with respect to death certificate completion. These are expressed with 95% confidence intervals where relevant. Logistic regression was applied to the data to see if there was any relationship between the demographic characteristics of general practitioners and variables such as requesting postmortem examinations, using preferred terms, consulting when in doubt and p values were applied to these findings.

2.3 The qualitative component: The Focus Groups

2.3.1 Introduction

I required a framework in which to manage the qualitative component of the study. The most fitting was that described by Lincoln and Guba called Naturalistic Inquiry (47). Lincoln and Guba described fourteen characteristics of naturalistic inquiry, most of which were present in this study. Features in common were:

- Natural setting - the general practitioner's environment
- Human instrument - the researcher and other people were the primary data gathering instruments
- Utilisation of tacit knowledge - the study used tacit (intuitive) knowledge in addition to knowledge expressible in language form
- Qualitative methods - used because they were more adaptable to dealing with multiple (and less aggregatable) realities, and were more sensitive to the expression of values and feelings
- Purposive sampling - non random sampling was used to increase the scope or range of data
- Inductive data analysis - analysis was inductive (as opposed to deductive) to identify the multiple realities
- Case study reporting mode - the results were descriptive and detailed, rather than in a scientific or technical report format, because it was a more appropriate and accurate representation of the multiple realities encountered
• Idiographic interpretation - the interpretation of the results was idiographically (in terms of the particular situation) rather than in terms of lawlike generalisations
• Tentative application - the application of the findings was essentially tentative rather than conclusive, because the of the different and multiple realities
• Special criteria for trustworthiness - the conventional trustworthiness criteria of internal and external validity, reliability and objectivity were replaced with the substitute criteria of credibility, transferability, dependability and confirmability.

There were four other characteristics, which Lincoln and Guba described, but which were not directly applicable to this study. The principal reason for this was the practical limitations inherent in the study, undertaken at a thesis rather than doctorate level.
• Grounded theory - it was beyond the scope of this study to describe the theory underlying the findings
• Emergent design - the design of this study was constructed prior to its inception and did not emerge as the study progressed
• Negotiated outcomes - financial and temporal constraints did not allow for the meanings and interpretations of the data gathered from the participants in the study to be clarified with them
• Focus-determined boundaries - this research stopped at the stage when it would have been necessary to determine boundaries to be able to proceed.

2.3.2 Why focus groups?

Although I expected the questionnaire to provide answers to the research question, I was aware the questionnaire would give the perspective prompted only by the questions in it. There may well have been other factors or a perspective I had not considered. The general practitioners needed to speak for themselves. From this need arose the focus groups. The focus groups provided an opportunity for the dialogue to be determined by the participants rather than the researcher.
2.3.3 Why focus groups by teleconference?

There were three reasons for holding the focus groups by teleconference. These were:

- administrative
- financial
- participant access

Working in a full-time solo semi-rural practice myself, I did not have the time or funds to attend focus group meetings held at different centres in New Zealand. By using teleconference facilities I was able to allocate funding with some precision, based on a certain number of teleconferences, each of sixty to ninety minutes' duration. This was significantly less expensive than arranging face to face meetings, particularly as I intended to have participants from the different settings in general practice (group and solo practices, urban and rural, practitioners with commitments to rest homes or hospices).

By using teleconferencing each participant was able to be involved from his/her own home in any part of New Zealand. There were then no restrictions on participation on the grounds of access.

I arranged a PIN number for the teleconferences, which ensured that I received the bill for all connections.

2.3.4 The number of focus groups

Constraints on time and funding were also determinants of the number of focus groups teleconferences held. I initially planned four teleconferences with a preparedness to arrange additional ones if needed.

Patton states "there are no rules for sample size in qualitative inquiry." \(^{(48, \text{p184})}\) and quote Lincoln and Guba as recommending sample size "to the point of redundancy.... In purposeful sampling the size of the sample is determined by informational considerations. If the purpose is to maximise information, the sampling is terminated when no new information is forthcoming from new sampled units; thus redundancy is the primary criterion." \(^{(48, \text{p185})}\)
The need for additional focus groups would become apparent if new issues were arising either:

- as the third and fourth focus groups were being held or
- when the data were being analysed.

2.3.5 Selection of participants

Most of the general practitioners I invited to participate were known to me through my associations with fellow members of the local Independent Practitioners Association (IPA), colleagues in the Royal New Zealand College of General Practitioners (RNZCGP) and fellows of the Master of General Practice (MGP) degree with the University of Otago.

I invited general practitioners so that the participants of the focus groups:

- came from different clinical settings (urban versus rural, group versus urban)
- were likely to have used teleconference for meetings in the past (this being applicable to RNZCGP and MGP fellows)
- had experience in different types of general practices - such as practices predominantly of "older" or of "younger" populations, or practices with rest home and/or hospice commitments

It was important for both males and females to be involved, and for the general practitioners to have had "some" (but an unspecified) number of years of experience rather than to be new graduates.

This was not a random process of selection. Instead it was a process of deliberate selection done to gather data from a wide range of general practitioners and to seek a wide range of views. By having the participants coming from different clinical settings I also hoped that contrasts would provide a stimulus for discussion.
2.3.6 The number of participants

Each focus group was comprised of six people, the four participating general practitioners, the facilitator and myself as a silent presence recording the discussion.

The number of participants in focus groups varies from four to twelve (49-52). One study, which used teleconferences, reported twenty-seven participants involved in six teleconferences (53), with four to six participants in each teleconference. I elected to have four general practitioners participating in each teleconference because:

- the participants would probably not be known to each other and having a small number of unfamiliar voices to recognise might help the flow of an interactive discussion
- this would allow each general practitioner approximately fifteen to twenty minutes of "air time"
- the issues being discussed were potentially personal and I wanted to reduce the effect of being vulnerable in a larger group, by having a smaller group.

2.3.7 The facilitator of the focus groups

The facilitator of each focus group was one of my supervisors, ISG who was a general practitioner in clinical and academic practice. Prior to the teleconferences we discussed the format and groundrules of the focus groups. In principle the role of the facilitator was to:

- welcome participants and ask them to introduce themselves by first names only
- emphasise the groundrules of anonymity, confidentiality and respect for other participants' contributions
- remind participants that the proceedings were being recorded on tape
- ask if clarification of the subject was wanted
- ensure all participants had opportunity to participate and be heard
- use one of three "prompts" to stimulate discussion if there was a lapse in the discussion - viz.: what training general practitioners had had; what feedback general practitioners received after death certificate completion; and how general practitioners would complete the death certificate in the instance of a man being seen to suddenly clutch his chest and die.
ISG also agreed to be a mentor to assist any participant following the teleconference, if there was a need to "debrief" or discuss any issue that had created discomfort or difficulty for that participant. If he was not able to provide that mentor role, he would assist identify another person who would.

2.3.8 The process of inviting general practitioners

Using the selection process described in Section 2.3.4, I identified twenty general practitioners. I telephoned each of the first sixteen and introduced myself and my intention. I explained the nature of the invitation and asked each to consider being involved. During this telephone call I did not want a commitment, but did ask if I could send the Research Protocol, a covering letter and outline of the teleconference format (Appendix C). I made it clear that the general practitioner was under no obligation to participate.

Each general practitioner was sent the invitation and supporting information. Several days after that was sent, and at least two days after each would have received the material, I made telephone contact with each person again to ask if he/she wanted to participate.

Of the first sixteen asked, two declined because at that time they had too many evening commitments. Both were full time practitioners with IPA and MGP commitments. The next two on the original list of twenty were contacted in the same way as the other general practitioners, with two telephone calls. Both agreed to participate.

Prior to the second telephone call I had planned time slots for four teleconferences, each on different nights of the week (to allow for "After Hours Rosters" commitments) and spread over three weeks in September and October 1996. The time slot was from 8.00pm for sixty to ninety minutes.
During the second telephone call the participants indicated their preferences for one of four dates of the teleconferences. With no exception each teleconference slot was taken up by general practitioners getting their first preference!

The day prior to each teleconference I faxed participants reminding them of the time and giving them the directions on how to connect.

2.3.9 The recording of the focus groups

My role during the focus groups was to record the proceedings on tape. I introduced myself with everyone at the beginning and thanked all participants at the end. I remained silent during the discussion and took notes on the content.

2.3.10 After the teleconferences

The day following each teleconference I again contacted each participant by telephone to:
- ask if a mentor was needed, if the participant had any difficulty or concerns arising from the discussion
- ask if he/she wanted a copy of the transcript when the research was complete
- thank each for their participation.

No-one expressed difficulties arising from the discussions and no-one requested the support of a mentor.

2.3.11 Transcribing the focus group discussions

A medical typist transcribed the recordings of the focus group discussions. Letters of the alphabet substituted all identifying names of places and people. The medical typist signed an agreement of confidentiality prior to starting the work.

To check for accuracy I read the written transcriptions in conjunction with the tape recordings. I then destroyed the tapes.
2.3.12 Analysing the data in the transcriptions

I analysed the data without the use of computer software designed for qualitative data analysis. Although there were about ten thousand words in the transcriptions I did not feel this was large enough to warrant learning and using software with which I was not familiar, and both supervisors supported this.

In the margins of the transcriptions I noted issues that were raised. I then used highlighters to highlight phrases or words relating to these issues. I cut out these phrases or excerpts with scissors, and categorised them according to topics. Each topic was assigned to an envelope in which the relevant highlighted quotations of the participants were placed.

The results of the focus groups were based on the content of each envelope/topic. The 280 quotations were initially arranged into 36 topics. Some of these 36 topics had a common basis and merged to become 17 topics, which were then categorised into one of four issues.

2.3.13 Trustworthiness

Lincoln and Guba described trustworthiness in terms of credibility, transferability, dependability and confirmability. This study has features supporting each of these elements.

2.3.13.1 Credibility

As a general practitioner myself I was a participant observer, a member of the group being studied. I had had both prolonged exposure and persistent observation of the setting in which the research took place.

In the absence of taking the transcriptions and analysis back to the participants of the focus groups, the principal member checking that took place was with both supervisors. Each supervisor had a different role in this regard.

ISG as general practitioner and facilitator of the focus groups had several roles. He read the transcriptions of the focus group discussions and the provisional findings. He attested to the accuracy of the transcriptions and consistency of the analysis with the content of the
discussions. In particular he believed the analysis was a valid representation of the participants' contributions. In both of his roles as general practitioner and facilitator he affirmed the findings.

GW as supervisor and qualitative researcher read the method of analysis and the provisional findings. As GW was not a general practitioner it allowed her to comment on process rather than content. The provisional analysis although detailed was consistent with the nature and depth of data from qualitative research methods. The clear description of the derivation of the focus group findings provided a clear audit trail. Constructive criticism from both supervisors was a continual process from inception to completion of the study. Although both were supportive I sought their critical appraisal at each phase of the study, as time and funding did not permit full member checking or a wider peer review process. Both were aware of this circumstance, and contributed actively with verbal and written critical feedback.

2.3.13.2 Transferability

The participants in the focus groups were selected general practitioners, and this process of selection was detailed allowing the reader to assess the pertinence to his/her own situation. The data arising from the focus group discussions alone cannot be assumed to apply to all other general practitioners. This is consistent with this arm of the research, which intended to explore the range of experiences and issues, rather than the generalisability.

2.3.13.3 Dependability and confirmability

There were two considerations, which contributed to the dependability and confirmability of the study. The first was that the findings from the two different methods of data collection (viz. the questionnaire and the focus groups) were mutually reinforcing. This was not apparent until after the data were independently collated and analysed, and this strengthened the study's dependability. This is discussed further in Section 6.6.

The second consideration was the detail provided to describe the methods of data collection and analysis (in Sections 2.3.5-2.3.7, 2.3.12 and 4.2). It was written to provide a clear audit trail. To support this, the original documents are available as archives and will be held for
ten years. These documents include papers on designing the research question, research protocols, timelines, planning and undertaking the pilot questionnaire, the focus groups, the selection processes; the original transcripts with annotations and excerpts removed; the excerpts used and accounted for; the extensive written correspondence with supervisors which provided criticism and challenge and stimulated reflection.

2.4 Research methods in contemporary general practice

In 1970 Feinstein discussed research and clinical medicine, and described clinicians as making two different types of decisions, the explanatory and the managerial (54). The explanatory was the diagnostic, highly developed, relatively precise decision with its foundation in laboratory research and basic sciences. The managerial was the therapeutic, relatively imprecise and its foundation was in disciplines not usually considered part of the basic medical sciences.

Stephens endorsed this model in 1982 and elaborated on it (54). "It will not do for us merely to imitate the laboratory researcher or to suppose that we can do the work that needs doing by retiring to a laboratory and 'doing research'. Our arena is our practice and whatever we do must be done there." (54, p202).

McWhinney wrote about a research method in general practice; "I have not given a name to this research method, for it goes by a number of names, and I think it is better at this point not to settle on a single one." (55, p298). He elaborated on five features of this method:

- the meaning of events, experience, symbols, utterances and behaviour and how to capture these
- the importance of the context in which the study is made as no human event is ever repeated in the same way; generalisability is not realistically achievable therefore context needs to be understood
- that cause and effect are not linear or unidirectional; a complex self-organising system does not respond to change in a simple unidirectional manner
- the goal of understanding not prediction
• the interactive nature of the research, person to person; no objective tests to validate the meaning of experience; the investigator and the "subject" may both be affected by the dialogue and the division between both investigator and subject can disappear.

McWhinney acknowledged these were features of qualitative research and stated "We use qualitative methods because they are the only ones that can answer certain questions." Ethnography, phenomenology, ethnomethodology, symbolic interaction, co-operative inquiry and action research are only a few of the qualitative research methods which have come from twenty or more disciplines, each with its own language. General practice is a relative latecomer.

Baum unlike McWhinney, assuredly described these methods of research as qualitative. He argued that combined with quantitative methods they are essential to contemporary public health debates. Not only is there a need to describe, but a need to understand. Epidemiological methods lead to description, qualitative methods to understanding. "Recognition of the value of qualitative methods implies a recognition that the epidemiological methods alone are not able to do justice to the complexities of public health. Even when methodologies are combined the job of understanding and interpreting the rich tapestry against which public health strategies are implemented and evaluated is extremely challenging." 

Murphy and Mattson believe that qualitative and quantitative methods of research are complementary in the context of family medicine, and that they can be used individually or in combination. They advocate that family practice research needs to make use of the range of research methodologies to exploit its full potential. In particular qualitative methods give access to data, which are often difficult to acquire otherwise and can be more effective in sensitive situations. These methods "are more likely to give access to an understanding of people's 'private' as opposed to 'public' worlds."

For this study on death certification the data was gathered by both quantitative and qualitative methods, with the absolute intention of providing not only a description of the
situation but an understanding. The methods used for this thesis were consistent with contemporary methods of research in general practice.

2.5 Ethics

The ethical issues that were important for this study were those of informed consent, confidentiality and protection of participants.

2.5.1 Informed consent

Respondents to the questionnaire and participants in the focus groups were provided with a copy of the research protocol (Appendix D) and invited to participate. Questionnaire recipients were able to choose not to participate by not returning the questionnaire. Focus group participants had the opportunity to decline at any stage from first contact by telephone. Involvement was entirely voluntary and the intent of the research was clearly stated.

2.5.2 Protection for participants and confidentiality

The design of the questionnaire and its return for collating ensured complete anonymity for respondents. There was no identifying information on the questionnaire or the envelope it was returned in.

Participants in the focus groups were asked to abide by groundrules of confidentiality and respect for other participants' contributions. There were instances when the discussion involved sensitive and personal issues. In the context of the discussions the facilitator assured anonymity, if a participant sought reassurance.

Lest there was an unintentional revelation of a difficult personal or professional situation, the offer of a mentor was clearly made and reinforced by asking each participant after the teleconferences if any assistance was needed.
The transcriber was a medical typist who signed an agreement of confidentiality and who was accustomed to working in the environment of medical practice and the confidentiality it assumes. The transcripts have had all name places and people's names substituted by random names or letters of the alphabet. The tape recordings of the teleconferences have been destroyed.

It was important to protect the participants, not only to respect their contributions, but also to allow them freedom to speak.
3. THE RESULTS OF THE QUESTIONNAIRE

3.1 Introduction

The results were tabulated to demonstrate how all responses were accounted for. Accompanying each table is a comment, which highlights the more significant findings. The confidence intervals at a 95% level are +/-6% for the final sample size of 167, and are given for significant findings.

3.1.1 The response rate

Questionnaires were mailed to 220 general practitioners. All together 192 general practitioners (87%) returned questionnaires; 160 following the first mailing and a further 32 following the second.

Table 1 Response rate

<table>
<thead>
<tr>
<th>QUESTIONNAIRES</th>
<th>NUMBER</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number returned completed</td>
<td>192</td>
<td>87%</td>
</tr>
<tr>
<td>Number with no response</td>
<td>28</td>
<td>13%</td>
</tr>
<tr>
<td>TOTAL number sent</td>
<td>220</td>
<td>100%</td>
</tr>
</tbody>
</table>

Of the "no responses"
- address not known 2 1%
- declined to complete 1 0.5%
- not in active practice 1 0.5%
- no reply 24 11%

3.1.2 Profile of respondents

On 30 June 1996 there were 2899 registered general practitioners in New Zealand (58,59). This figure was based on the "active" workforce, meaning those who responded to the 1996 New Zealand Medical council workforce survey and indicated they worked four or more hours per week with general practice as their primary worksite. The epidemiological details given by general practitioners in the questionnaire are compared with this Medical Workforce Report. The respondents of this questionnaire were similar in gender and age to their general practitioner colleagues in New Zealand.
### Table 2  Gender

<table>
<thead>
<tr>
<th>GENDER</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
<th>95% CI</th>
<th>NATIONAL PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>49</td>
<td>25.2</td>
<td>19 – 33</td>
<td>32.5</td>
</tr>
<tr>
<td>Male</td>
<td>133</td>
<td>69.3</td>
<td>62 – 76</td>
<td>67.5</td>
</tr>
<tr>
<td>No reply</td>
<td>10</td>
<td>5.2</td>
<td></td>
<td>5.2</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 3  Age

<table>
<thead>
<tr>
<th>AGE</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
<th>95% CI</th>
<th>NATIONAL PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>5</td>
<td>2.6</td>
<td>1 – 7</td>
<td>4.9</td>
</tr>
<tr>
<td>30-39</td>
<td>77</td>
<td>40.1</td>
<td>33 – 48</td>
<td>41.3</td>
</tr>
<tr>
<td>40-49</td>
<td>63</td>
<td>32.8</td>
<td>26 – 41</td>
<td>31.5</td>
</tr>
<tr>
<td>50-59</td>
<td>19</td>
<td>9.9</td>
<td>6 – 16</td>
<td>12.3</td>
</tr>
<tr>
<td>60-69</td>
<td>15</td>
<td>7.8</td>
<td>4 – 13</td>
<td>7.3</td>
</tr>
<tr>
<td>70+</td>
<td>6</td>
<td>3.1</td>
<td>1 – 7</td>
<td>2.6</td>
</tr>
<tr>
<td>no reply</td>
<td>7</td>
<td>3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 4  Type of practice

<table>
<thead>
<tr>
<th>TYPE OF PRACTICE</th>
<th>NUMBER OF GPs</th>
<th>PERCENT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>28</td>
<td>14.9</td>
</tr>
<tr>
<td>Semi-rural</td>
<td>24</td>
<td>12.5</td>
</tr>
<tr>
<td>Urban</td>
<td>115</td>
<td>59.9</td>
</tr>
<tr>
<td>No reply</td>
<td>25</td>
<td>13.0</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>

* National breakdown not available

### Table 5  Nature of practice

<table>
<thead>
<tr>
<th>GROUP vs SOLO PRACTICE</th>
<th>NUMBER OF GPs</th>
<th>PERCENT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group practice</td>
<td>114</td>
<td>59.4</td>
</tr>
<tr>
<td>Solo practice</td>
<td>46</td>
<td>24.0</td>
</tr>
<tr>
<td>No reply</td>
<td>32</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*National breakdown not available

### Specialist Practices

<table>
<thead>
<tr>
<th>SPECIALIST PRACTICES</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospice doctors</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Rest Home attachment</td>
<td>35</td>
<td>18</td>
</tr>
<tr>
<td>Other specialist GP practices</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>24</td>
</tr>
</tbody>
</table>
3.2 \textit{The number of death certificates completed}

Of the 192 general practitioners who returned the questionnaire 25 (13\%) had not completed any death certificates in the preceding two years and 8 (4\%) did not indicate how many certificates they had completed. The remaining 167 (87\%) had completed certificates in the preceding two years and these general practitioners comprise the group studied.

Of the 167 who completed death certificates a majority of 106 (63\%) completed less than 10 certificates in the previous two years. Only 28 (7\%) completed more than sixteen certificates in two years and of these 14 (3.5\%) were practitioners with either a hospice or rest/geriatric home commitment.

Table 6 Number of death certificates completed in previous two years

<table>
<thead>
<tr>
<th>NUMBER OF CERTIFICATES</th>
<th>HOSPICE</th>
<th>REST HOME COMMITMENT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>1 TO 5</td>
<td>0</td>
<td>5</td>
<td>57</td>
</tr>
<tr>
<td>6 TO 10</td>
<td>0</td>
<td>6</td>
<td>38</td>
</tr>
<tr>
<td>11-15</td>
<td>0</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>16-20</td>
<td>3</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>21+</td>
<td>1</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>No Reply</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>35</td>
<td>152</td>
</tr>
</tbody>
</table>

3.3 \textit{Factors influencing the entry on a death certificate}

The immediate past medical history was the most commonly cited factor \textit{always} influencing the entry on death certificates for 162 general practitioners (97\%). The deceased's full medical history was \textit{always} an influencing factor for 143 general practitioners (86\%).

The next most commonly reported factor \textit{always} influencing the general practitioner was the family's feelings about postmortem examinations, and this was reported by only twelve (7\%). A further 90 (53\%) reported that the family's feelings were \textit{sometimes} a factor in their decision making. Thirty-three (20\%) stated that they \textit{never} considered this, and 33 (20\%) stated it had not been applicable to date.
For more than half of the general practitioners, three factors never influenced their entry - these were the stigma of certain diagnoses (105, 63%), details held in confidence with the patient prior to death (90, 54%) and ease of access to postmortem facilities (89, 52%). The corollary being that each of these factors always or sometimes influenced a small number of general practitioners.

Table 7  Factors influencing the entry on death certificates

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>ALWAYS*</th>
<th>SOMETIMES</th>
<th>NEVER</th>
<th>NOT APPLIC</th>
<th>NO REPLY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate Past History</td>
<td>162 (97)</td>
<td>5 (3)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>167</td>
</tr>
<tr>
<td>Full Medical History</td>
<td>143 (86)</td>
<td>22 (13)</td>
<td>1 (0.5)</td>
<td>0</td>
<td>1 (0.5)</td>
<td>167</td>
</tr>
<tr>
<td>Stigma Of Diagnosis</td>
<td>9 (5)</td>
<td>26 (15)</td>
<td>105 (63)</td>
<td>23 (14)</td>
<td>4 (2)</td>
<td>167</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>4 (2)</td>
<td>17 (10)</td>
<td>90 (53)</td>
<td>52 (31)</td>
<td>4 (2)</td>
<td>167</td>
</tr>
<tr>
<td>Access Postmortem</td>
<td>5 (3)</td>
<td>52 (31)</td>
<td>89 (52)</td>
<td>21 (13)</td>
<td>0</td>
<td>167</td>
</tr>
<tr>
<td>Relatives' Feelings</td>
<td>12 (7)</td>
<td>90 (53)</td>
<td>33 (20)</td>
<td>32 (20)</td>
<td>0</td>
<td>167</td>
</tr>
</tbody>
</table>

* percentages in brackets

3.4  Does the use of a death certificate influence how it is completed?

The use of the death certificate was reported as being an influential factor by only a small number of general practitioners. The use of the death certificate by the deceased's family was a factor that influenced 17 (10%) of general practitioners. The four other "user" groups were influential for only two to eleven (1-7%) of the general practitioners.

Table 8  How a death certificate is used and how often this use was an influence

<table>
<thead>
<tr>
<th>DEATH CERTIFICATE USED BY</th>
<th>NUMBER OF GPs REPORTED THIS USE INFLUENCED COMPLETION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
<td>8</td>
</tr>
<tr>
<td>Original researchers</td>
<td>11</td>
</tr>
<tr>
<td>Patient's family</td>
<td>17</td>
</tr>
<tr>
<td>Insurance companies/social welfare agencies</td>
<td>4</td>
</tr>
<tr>
<td>World Health Organisation</td>
<td>2</td>
</tr>
</tbody>
</table>
3.5 **Frequency of reporting additional information**

The majority of general practitioners stated that they *never* report the co-existence of alcohol abuse (85, 51%), cigarette smoking (167, 64%) or drug abuse (109, 65%) if present. Only a minority of general practitioners *always* reported this information.

<table>
<thead>
<tr>
<th>ADDITIONAL INFORMATION</th>
<th>ALWAYS*</th>
<th>SOMETIMES</th>
<th>NEVER</th>
<th>NOT APPLIC</th>
<th>NO REPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Abuse</td>
<td>22 (13)</td>
<td>54 (32)</td>
<td>85 (51)</td>
<td>3 (2)</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Cigarette Smoking</td>
<td>10 (6)</td>
<td>46 (28)</td>
<td>107 (64)</td>
<td>2 (1)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Drug Abuse</td>
<td>17 (10)</td>
<td>22 (13)</td>
<td>109 (65)</td>
<td>16 (10)</td>
<td>3 (2)</td>
</tr>
</tbody>
</table>

* percentages in brackets

3.6 **Doubt and the entry on the death certificate**

One hundred and twenty general practitioners ie 72% (CI 63 – 77%), confirmed that at some time they had been doubtful about the main diagnosis on the death certificate.

<table>
<thead>
<tr>
<th>DOUBT at some time</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>120</td>
<td>72</td>
</tr>
<tr>
<td>No</td>
<td>43</td>
<td>26</td>
</tr>
<tr>
<td>Can't Remember</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No Reply</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>100</td>
</tr>
</tbody>
</table>

The variables of general practitioner age, gender, practice type and number of certificates completed were examined with respect to the element of doubt. Less doubt was reported by older general practitioners (p = .04) and by general practitioners in urban practices (p = .03). The greater the number of certificates completed the more doubt was reported (p = .03).

3.7 **Doubt and further consultation**

There were 120 general practitioners who reported feeling doubt at some time, and of these 115 (96%) reported they consulted with another either *always* or *sometimes*. Five general practitioners (4%) reported they *never* consulted in this circumstance.
Table 11  Consultation with other professionals when in doubt

<table>
<thead>
<tr>
<th>FURTHER CONSULTATION</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>Sometimes</td>
<td>70</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Can't Remember</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No Reply</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>100</td>
</tr>
</tbody>
</table>

General practitioners consulted most frequently with a medical colleague or a coroner and with neither one nor the other solely. "Other" people consulted included pathologists, medical referee, police, and hospital registrar.

Table 12  "Others" consulted when GP in doubt

Note: the combined number of GPs who always or sometimes consulted further was 115.

<table>
<thead>
<tr>
<th>PERSON CONSULTED</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Colleague</td>
<td>97</td>
<td>84</td>
</tr>
<tr>
<td>Coroner</td>
<td>92</td>
<td>80</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>12</td>
</tr>
</tbody>
</table>

3.8  The use of preferred terms on death certificates

The majority of general practitioners, 113 (68%) reported they did not have "preferred terms" which they used to complete the death certificate when the death was expected. However, 45 (27%) did have "preferred terms" they used in those circumstances.

Table 13  The use of preferred terms in non-sudden death

<table>
<thead>
<tr>
<th>GP USE of PREFERRED TERM</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>No</td>
<td>113</td>
<td>68</td>
</tr>
<tr>
<td>No Reply</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 14  The preferred terms used in expected death situations

<table>
<thead>
<tr>
<th>PREFERRED TERM</th>
<th>GP's USING THIS TERM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchopneumonia/terminal bronchopneumonia</td>
<td>25</td>
</tr>
<tr>
<td>Cardiac arrest/failure</td>
<td>3</td>
</tr>
<tr>
<td>Cachexia</td>
<td>2</td>
</tr>
<tr>
<td>Pneumonia/hypostatic pneumonia</td>
<td>2</td>
</tr>
<tr>
<td>Respiratory failure/arrest</td>
<td>2</td>
</tr>
<tr>
<td>Attrition</td>
<td>1</td>
</tr>
<tr>
<td>Cachexia/syncope</td>
<td>1</td>
</tr>
<tr>
<td>Cachexia/coma</td>
<td>1</td>
</tr>
<tr>
<td>Cachexia of uncertain cause</td>
<td>1</td>
</tr>
<tr>
<td>Carcinomatosis</td>
<td>1</td>
</tr>
<tr>
<td>Debility</td>
<td>1</td>
</tr>
<tr>
<td>Exhaustion</td>
<td>1</td>
</tr>
<tr>
<td>General deterioration</td>
<td>1</td>
</tr>
<tr>
<td>Old age</td>
<td>1</td>
</tr>
<tr>
<td>Old age debility – anorexia</td>
<td>1</td>
</tr>
<tr>
<td>Not specified</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 15  The use of preferred terms in sudden unanticipated death situations

<table>
<thead>
<tr>
<th>GP USE of PREFERRED TERM</th>
<th>NUMBER OF GP's</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>No</td>
<td>110</td>
<td>66</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>No Reply</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>100</td>
</tr>
</tbody>
</table>

Again the majority of general practitioners, 110 (66%) had no preferred term that they used in the situation of sudden unanticipated death. Twenty-eight general practitioners (17%) reported that in the circumstance of sudden unexpected death and absence of a postmortem examination, they did have a preferred term to use. The most common term used by nine (5%) of the general practitioners was "myocardial infarction/acute myocardial infarction".

Table 16  The preferred terms used for sudden death certification

<table>
<thead>
<tr>
<th>PREFERRED TERM</th>
<th>GP's USING THIS TERM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myocardial infarction/acute MI</td>
<td>9</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>7</td>
</tr>
<tr>
<td>Cardiorespiratory arrest</td>
<td>4</td>
</tr>
<tr>
<td>Acute cerebrovascular accident</td>
<td>2</td>
</tr>
<tr>
<td>Acute arrhythmia</td>
<td>1</td>
</tr>
<tr>
<td>C.A.D. [coronary artery disease]</td>
<td>1</td>
</tr>
<tr>
<td>Cardiac standstill</td>
<td>1</td>
</tr>
<tr>
<td>Cardiovascular collapse</td>
<td>1</td>
</tr>
<tr>
<td>Expected outcome, inevitable</td>
<td>1</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>1</td>
</tr>
</tbody>
</table>
3.9 Postmortem examinations

A minority of 27 general practitioners (16%) reported that they always requested postmortem examinations in the circumstances of sudden death. The majority, 124 (74%) reported that they sometimes requested postmortem examinations and 7 (4%) reported they never requested postmortems.

Table 17 Request for postmortem examination in circumstance of sudden death

<table>
<thead>
<tr>
<th>FREQUENCY OF REQUEST</th>
<th>NUMBER OF GPs</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>27</td>
<td>16</td>
</tr>
<tr>
<td>Sometimes</td>
<td>124</td>
<td>74</td>
</tr>
<tr>
<td>No, Never</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No Reply</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>99</td>
</tr>
</tbody>
</table>

None of the variables of age of the general practitioner, practice type, or number of certificates completed, was found to be associated with the request for postmortem examination.

3.9.1 Factors influencing the nonrequest for a postmortem examination

The most frequently reported factor influencing the decision NOT to request a postmortem examination was the "family's wishes", cited by sixty-two general practitioners (37%). The availability of a pathologist to undertake the postmortem examination was the next most commonly reported factor cited by ten general practitioners (6%).

Table 18 Reasons for the nonrequest of a postmortem examination

<table>
<thead>
<tr>
<th>CONTRIBUTING REASON</th>
<th>YES *</th>
<th>SOMETIMES</th>
<th>NO</th>
<th>NOT APPLIC</th>
<th>NO REPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathologist Availability</td>
<td>10 (5)</td>
<td>3 (2)</td>
<td>112 (58)</td>
<td>15 (8)</td>
<td>12 (6)</td>
</tr>
<tr>
<td>Coroner Availability</td>
<td>5 (3)</td>
<td>3 (2)</td>
<td>117 (61)</td>
<td>14 (7)</td>
<td>13 (7)</td>
</tr>
<tr>
<td>Family's Wishes</td>
<td>62 (32)</td>
<td>29 (15)</td>
<td>39 (30)</td>
<td>8 (4)</td>
<td>14 (7)</td>
</tr>
<tr>
<td>Cost Of Postmortem</td>
<td>5 (3)</td>
<td>4 (2)</td>
<td>119 (62)</td>
<td>10 (5)</td>
<td>14 (7)</td>
</tr>
</tbody>
</table>

* percentages in brackets
Table 19  GPs' comments when asked what other factors influenced the request for a postmortem examination

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;I can never see the point in pandering to the academic interests of the statisticians&quot;</td>
</tr>
<tr>
<td>&quot;I would discuss the need or otherwise with the coroner&quot;</td>
</tr>
<tr>
<td>&quot;The age and quality of life of the patient&quot;</td>
</tr>
<tr>
<td>&quot;Reported to the coroner, &amp; coroner satisfied without PM&quot;</td>
</tr>
<tr>
<td>&quot;Points favouring accurate diagnosis with postmortem outweigh reasons for postmortem.&quot;</td>
</tr>
<tr>
<td>&quot;Sudden death of unknown cause&quot;</td>
</tr>
<tr>
<td>&quot;Age of patient greater than seventy-five years&quot;</td>
</tr>
<tr>
<td>&quot;Obvious cause of death, age of patient&quot;</td>
</tr>
<tr>
<td>&quot;When I can't find a reasonable diagnosis&quot;</td>
</tr>
<tr>
<td>&quot;Person's past history - e.g. hypertension, increased risk of MI&quot;</td>
</tr>
</tbody>
</table>

3.10  Training in death certification

Eighty general practitioners (42% (CI 34 – 50%) recalled receiving training in the completion of death certificates. A further eighty-two (43%) recalled having no training, and twenty (10%) could not remember.

Table 20  Training in the completion of death certificates

<table>
<thead>
<tr>
<th>Training Received</th>
<th>Number of GPs</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>80</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>82</td>
<td>43</td>
</tr>
<tr>
<td>Can't Remember</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>No Reply</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>

The training was provided most commonly during hospital years, with some general practitioners reporting more than one source of training.

Table 21  Sources of training

Note: total number of general practitioners who received training: 80

<table>
<thead>
<tr>
<th>Source of Training</th>
<th>Number of GPs</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate/medical school</td>
<td>44</td>
<td>55</td>
</tr>
<tr>
<td>Hospital years</td>
<td>59</td>
<td>74</td>
</tr>
<tr>
<td>Vocational training years</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head orderly hospital:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer review meetings:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleague discussions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not specified:</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>
4. OUTLINE OF THE TELECONFERENCED FOCUS GROUP RESULTS

4.1 Focus group participants

Of the eighteen general practitioners invited to participate two declined citing too many commitments at the time (see Section 2.3.8). The following tables describe the participants by age, gender and practice type.

Table 22 Age & gender of focus group participants

<table>
<thead>
<tr>
<th>AGE</th>
<th>MEN</th>
<th>WOMEN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-39</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>40-49</td>
<td>6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>50-59</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>6</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 23 Practice type of focus group participants

<table>
<thead>
<tr>
<th>PRACTICE TYPE</th>
<th>NUMBER OF GPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>8</td>
</tr>
<tr>
<td>Rural</td>
<td>6</td>
</tr>
<tr>
<td>Academic (urban)</td>
<td>1</td>
</tr>
<tr>
<td>Locum (urban)</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 24 Practice size

<table>
<thead>
<tr>
<th>PRACTICE SIZE</th>
<th>NUMBER OF GPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group practice</td>
<td>13</td>
</tr>
<tr>
<td>Solo practice</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

There were four focus groups held by teleconference between 24 September and 10 October 1996. Each lasted between sixty and ninety minutes and was recorded on tape.

The discussions were transcribed in full, in the spoken form with the hesitations, the repetitions and nongrammatical utterances that characterise dialogue.
4.2 The presentation of the results

Verbatim quotations from the teleconferences were the substance of the results. Spoken English is less precise than written English and consequently some of the grammar and syntax may appear incorrect or clumsy to read. Apart from removing some of the interjections such as "ah" and "um", no editing to the quotations has been done.

The results of the focus group teleconferences are presented as a series of observations, each supported by the excerpts (verbatim quotations) from which the observations are derived. These observations on subjects are presented within categories, according to the nature of the issue they elaborate on. The four issues that arise from the focus groups are:

- professional
- personal
- administrative
- philosophical, or "the nature" of general practice

Each of the four issues encompasses a number of different subjects. For clarity of presentation all subjects and all excerpts have been assigned to one issue only, despite the boundaries of the issues often merging.

Each excerpt/quote is followed by a bracketed reference, which identifies the focus group from which it came. The reference also gives the page number of the original transcript where it is found. When a segment of dialogue is quoted, a unique letter of the alphabet consistently identifies participants.
4.2.1 Example

One of the results is the observation that "with respect to postmortems general practitioners felt an obligation to the family to meet the needs of relatives and minimise distress". (Section 5, 2.4)

"The pressure...the pressure from the family would be absolutely huge." [focus group A, p25]

is one of the excerpts that supports that observation. It comes from focus group A, and is to be found on page 25 of the original transcript of that focus group.

This quotation has been grouped with other excerpts, under the subject "On the obligation or duty of the doctor".

This subject has been placed with other subjects under the issue named "Professional issues".

The excerpt could also have been placed under the subject "On honesty and the doctor's comfort" and then been considered a "Personal issue".
5. THE RESULTS OF THE TELECONFERENCED FOCUS GROUPS

5.0 **Introduction – The four issues and their components**

The subjects raised in the focus group discussions are arranged in the following manner:

- **1. PHILOSOPHICAL ISSUES or THE NATURE OF GENERAL PRACTICE**
  1.1 Empathy amongst general practitioners
  1.2 Different general practice populations
  1.3 Meaning to the family
  1.4 Uncertainty
  1.5 Validating the diagnosis
  1.6 Sudden death and uncertainty
  1.7 Diagnoses, trends over time
  1.8 Hierarchy of users

- **2. PROFESSIONAL ISSUES**
  2.1 Problem solving
  2.2 Meaning of statistics
  2.3 Postmortem examinations
  2.4 Obligation/duty of the doctor
  2.5 Preferred terms
  2.6 Relationship with coroners
  2.7 Consequences of death certificate completion

- **3. PERSONAL ISSUES**
  3.1 Postmortem examinations
  3.2 Difficulty with completion
  3.3 Honesty, doctor's comfort/discomfort

- **4. ADMINISTRATIVE ISSUES**
  4.1 The format of the certificates
  4.2 The process following completion
  4.3 Training
5.1 On philosophical issues or the nature of general practice

5.1.1 On empathy among general practitioners

An obvious feature of each teleconference was the frequent laughter, play on words, repartee, affirmations reflected by reinforcing interjections such as "yes" and "mmms", and interactive discussion, generated among the participants themselves. The general practitioners shared their common experiences with ease, at times highlighting differences, and in so doing, acknowledging the common experience of their differences.

"...we don't want to go into the graphic details of the bone saw and the like, do we?" background of general laughter and agreement [focus group A, p8]

"Amazing the amount of discomfort that everyone seems to have aroused by this discussion." [focus group C, p27]

(following a discussion about family members requesting death certificates.)

A: "How early are you allowed to die of senile debility?"
S: "Well, yeah, um... I suppose you could die of pre-senile debility earlier!" [focus group D, p5]

W: "We end up seeing people with the disease....at the beginning and the end of their lives, don't we? We're sort of like a midwife at both ends."
General "mmmms".
W: "But I digress."
A: "No, it's not a digression. The midwife of death, eh? Interesting." [focus group D, p22]

5.1.2 On different general practice populations

Some general practitioners had reviewed their death certificates prior to the teleconference, and others described their practices. The general practitioners described themselves as frequent or infrequent certifiers.

"I've only done thirteen death certificates in eleven years." [focus group B, p2]

"I went and audited all my death certificates... which in fifteen years of general practice, I've done twenty five." [focus group A, p1]

I have done a count up, a little bit like K, how many people I'd written death certificates for. Between myself and my partner, we've done fourteen in the past four months." [focus group B, p3]

Practices were described as having mainly younger or older populations. Some general practitioners described their work as having a hospice or rest home component, others talked of their role as locums.
"Looking at my last ten death certificates, three have been over the age of seventy, and all the rest under the age of sixty-five." [focus group A, p22]

"I looked after six rest homes, all of mine were over sixty-five." [focus group A, p22]

"These are the only ones that I've had to write death certificates for. Obviously most of them have been in hosp... died in hospital, and it isn't my problem then." [focus group D, p2]

"A lot of mine are terminal care." [focus group D, p2]

"I'm doing locums, and I've got no long term relationship with the patients at all. And so I just breeze in, do the death certificates and wander out again. Whereas, back in my own practice, beforehand, I um would take more time and care over it and um. An opportunity to review the case." [focus group D, p21]

"My practice might be a bit different in that um I look after about three thousand people altogether. But I think pretty well all the very elderly, or almost all of the very elderly um, are in a sort of retirement village rest home." [focus group D, p11]

"I used to work as a hospice doctor, and I knew most of the time the diagnoses of the people who were dying." [focus group D, p2]

5.1.3 On meaning to the family

The general practitioners recognised that families vary in their degree of interest in the detail on death certificates.

"No. In fact, I've never come across the patient's family really being interested in the diagnosis." [focus group A, p17]

"I suppose all those relatives are quite happy as long as their relatives died peacefully as it were." [focus group A, p24]

"It's amazing how the number of people who you ask what their parents died of, they have no idea." [focus group A, p29]

They acknowledged some families do want to know detail, sometimes at a later date.

"But I think an over-riding concern is... is to um... the families, the added distress of a postmortem... on the other side there is um a degree of comfort in knowing for certain ah what happened." [focus group C, p25]

"I've had people who've said um when someone else has filled out the death certificate... the doctor wasn't certain but said that he would fill out the death certificate and we wish now we had an autopsy so it would... we would have known what dad did actually did die of." [focus group C, p25]

"I've found like S, that um, ah... the relatives at the time of the death don't necessarily want to talk about it, but often a week or two later..." [focus group D, p19]
"I've never had a family actually, or relatives, question me on the diagnosis. Sometimes they really want to have it explained." [focus group A, p17]

"I fancy that they want to know the diagnosis and... and question and might be inclined to question my making a diagnosis of a sudden death, if there hadn't been an autopsy." [focus group A, p28]

"I mean, if they are keen to know because of their future for their family and so on." [focus group A, p29]

The general practitioners commented on the importance of the death certificate to the family, as a symbol, which is essential for the next phases to proceed.

"Patients come up, or their relatives bring them up to see us, because they think they might be dying in the next sort of month or so. And they want to be sure that we will do a death certificate." [focus group A, p3]

"...one of mine who did curl up and die, was in a rest home. And they rang me up two days before, and said that she was going to die. And could I come out to make sure I could see her." [focus group D, p12]

"I think, for the relatives, it's as someone said... it's the final rite of ticketed passage, and it's almost a confirmation that they've done the right thing when the patient dies. I mean, if you don't give him a death certificate to allow the undertaker to come and so on, um, then they've got new problems to deal with. So I see it as quite an important ceremonial type process." [focus group D, p17]

There was mention of an unanticipated reason for a family to request details on the death certificate, in this instance to make a complaint about management.

"The first indication that they were going to cause trouble was their request for a copy of the death certificate." [focus group C, p28]

It was not possible for the general practitioners to generalise on the meaning of the death certificate to families. They recognised different meanings and needs in families.

5.1.4 On uncertainty

Uncertainty about the diagnosis on the death certificate was a recurrent theme. The general practitioners talked about uncertainty being the "norm". There were times this was communicated to families.

C: "Yeah. Well uncertainty is part of our day to day um life. And, ah, I guess that extends to what we certify as well. Ah... it's rarely possible to have it black and white... um, without a little uncertainty" [focus group C, p20]

R: "How do people feel about families that want copies of death certificates?"
C: "Yes, likewise. I, I'm really quite happy for them to be available, but, as L said, it's all ... a sense of discomfort and the degree of uncertainty can be communicated." [focus group C, p24]

"And then that uncertainty afterwards can actually be quite a difficult thing for people to deal with." [focus group C, p25]

"I think we are coming down to the fact that we're not certain what these people are dying of more often than not. And if we are certain, we're not certain that the family would be pleased to see it in print." [focus group A, p32]

"You know, even when you first thought what's going on, half the time you don't." [focus group A, p2]

Uncertainty about a diagnosis was compounded by circumstances of age, setting and culture.

"At what stage would we feel comfortable about writing a death certificate for someone who's fallen down stairs? That's a real beaut isn't it? I mean - did they fall downstairs because they tripped, or were pushed, or had an MI, or had a stroke?" [focus group B, p9]

"I think the... the major area where I probably write things where I may not be a hundred percent sure is, with um racial groups who don't cope well with people having postmortems." [focus group C, p2]

"What do I put, like, you know, if the lady is in her nineties? What is the direct cause, if the direct cause is the age, really?" [focus group A, p10]

O: "That's when mine died peacefully."
N: "Died of 'natural causes'." [focus group A, p10]

"Getting back to clinical correlations, though. I had to fill one in at the rest home the other day. And she um, she had heart failure for a while, and me and a colleague were treating her. And I actually didn't know what her heart failure was from. And then I thought she was getting better with my frusemide. And then she suddenly died in the night. Well, I mean, um, you know.... I sort of made something up to put on the form." [focus group D, p5]

The general practitioners described how they dealt with uncertainty by making an "educated guess".

"Well, I will make an educated guess. If it starts with twitching, then it's a cerebral ischaemia. If they sort of move up slowly off into a coma, then it's myocardial ischaemia." [focus group C, p20]

C: "The final analysis is really that what we certify is often a... best guess... um situation."
A: "But the uncertainty is the reality."
C: "And the uncertainty is the reality." [focus group C, p40]
"You're guessing a few of them, a lot of the time. I think it's probably where we're coming from a little bit, and in general practice it's not easy to put a firm thing on real life. A lot of it's just, you know, something happened, and somebody dies, and the note says 'died peacefully'. And then somebody wants to know what that really means." [focus group A, p2].

"But families seem to be into um... put credibility in... certainly in the sudden death situations that I've encountered, there has been quite a willingness to accept ah the probability of a diagnosis." [focus group C, p25]

5.1.5 On validating the diagnosis

In addition to making "educated guesses" the general practitioners discussed the lengths to which they went to gather information to validate the diagnosis.

"OK. Well. I'm going to have to have one or two things. If on the one hand, it's saying um haemoglobin um, in the end the blood pressure goes down. And I'm going to have to say arteriosclerotic disease of some sort. They're usually going to get cerebral ischaemia, and at ninety-five....as somebody was saying, they're going to die of something.' [focus group B, p30]

"We try very hard to make sure we um actually get a good history from the relatives." [focus group A, p3]

"I furnished a death certificate there. But that was sort of unusual, you know. Yeah, he'd had a couple of big infarcts before, and the circumstances and the panic sort of went along with having another one. But ah, ....I mean that was all based on history. She could have asphyxiated him for all I know." [focus group D, p20]

The general practitioners described seeking supporting information from laboratory investigations.

"Some of the conditions of course have been reasonably well investigated. Occasionally the terminal conditions in old folks homes haven't had ECGs and cardiac enzymes and all that sort of stuff..." [focus group B, p4]

"Wearing my geriatric hat, I should have had, you know, all the hospital tests, and the diagnoses there in front of me. But very often there were people who had given up on rehabilitation long ago, and um with sitting around in hospital, and um...a pulmonary embolism or a bronchopneumonia seemed to be the likely cause. And certainly once they got to that stage you wouldn't be throwing x-rays and scans at them to try and find out why they were suddenly going off." [focus group A, p23]

5.1.6 On sudden death and uncertainty

Sudden death situations were associated with concerns about death from unnatural causes.

"My first thought is, well, do I suspect foul play in this situation?" [focus group A, p25]
"When someone who is quite fit and well does drop... does... just dies suddenly. I mean it is carrying a large responsibility, isn't it, is to write out a death certificate. I mean, they c....something er could have been a mischievous event." [focus group D, p2]

Consultation with the coroner was also an early consideration of the general practitioners in the event of sudden death.

"Um, well, if there's a history of angina, like that, I'd be inclined to speak to the coroner, rather than um go straight for a postmortem." [focus group C, p13]

A: "A fifty-eight year old man clutches his chest and falls to the floor, dead. You haven't seen him for ten years."
O: "That's a situation that I would um not be prepared to sign a death certificate. I mean, it's only a very provisional diagnosis as an MI. I think it's got be a coroner's case, doesn't it?"
L: "Ditto. No problems about that." [focus group B, p 20]

Despite the element of uncertainty in sudden deaths the general practitioners described how they proceeded to complete certificates.

"I just often put down myocardial infarction, and I'm not sure at all what happened. You just don't know what has gone on in a sudden death." [focus group A, p2]

"It's the hardest bit I find, when you get somebody who suddenly drops dead. And you know, you're sort of tossing up whether it was a CVA or a um, or an MI. And you sort of say, well, hope that the family can say, well he did clutch his chest first." [focus group A, p22]

O: "I'm a bit stuck when it comes to old people. They just died in the middle of the night, and the nurses say, well, yeah, old Mrs. Smith died peacefully at three o'clock this morning. And you're thinking, oh yeah, she was a bit rattly when I saw her last week. So what happens next? And that's when the inventions come.
T: "And the outcome is acute myocardial infarction."
O: "Yeah." [focus group A, p22]

"I, for instance, always worry a little bit um... um... about things like, if the myocardial infarction was a stroke." [focus group B, p5]

"Yeah. I have a similar sort of problem. Most, er, all the people suddenly die. You think it's a catastrophic event. Is it a blood vessel in the heart, or is it a blood vessel in the head? And occasionally the coroner hasn't been that helpful in achieving an accurate pathological diagnosis. If there has been any hint of a pathological process in the past...even as simple as left ventricular hypertrophy on ECG." [focus group B, p6]

"When it's a death that could be sort of anticipated to be expected, like, you know, the person's got ischaemic heart disease and they... You get a history from the family, like they were just found cold in the morning, in bed, you really don't know how they've died, but you assume that it was an ischaemic event." [focus group C, p3]

"And in the area of sudden death...it's the area where there's a great deal of uncertainty. And that, both for people who have documented cardiac disease, we... we very... I certainly I very frequently would resort to a diagnosis of um acute MI, with ah a cardiac arrest. Although the certainty of that if examined closely is... is... is pretty unclear." [focus group C, p4]
5.1.7 On diagnoses - trends over time

The general practitioners described how diagnostic fashions change over the years. In the past euphemistic terms were used for socially uncomfortable conditions (suicide, syphilis, for instance), but nowadays euphemisms are less likely to be used. They talked of the current trend to manage "problems" rather than "diseases" and the effect of that diminishing accuracy of diagnosis at the time of death.

"Although we look back thirty years ago, or twenty years ago, when diagnoses were made then. Because they will sound different in twenty years, as well." [focus group A, p15]

"Diagnoses change over the years. Certainly there were some diagnoses that the um... relatives have brought up, with me, that would have been unacceptable with me in this instance, and um... one that crosses my mind was the person that died of lues' disease. [syphilis]" [focus group A, p14]

"As a GP, we tend to use diagnoses less and less, and talk about problems and more sort of um... whole person view of the problem. And then when it comes to someone actually dies, which is a natural end to all of our lives, and we then have to come up with some sort of um... label, that we don't tend to use a great deal in our day to day work." [focus group A, p16]

A: "I mean, do you hide certain diagnoses?"
N: "Not really."
O: "Not at all, now." [focus group A, p15]

"Recently we had a woman die of tabes dorsalis... which she contracted from her husband. The... she was, well, demented. And ah...the daughter knew. But it's...and I put that on the death certificate..." [focus group B, p11]

5.1.8 Hierarchy of users of the death certificate

The general practitioners were aware of the different ways completed death certificates were used. For the general practitioners the most important people to be considered were the families and relatives of the deceased person. Little priority was given to other users of the information.

"The patient is gone, you know. I mean, for him it doesn't really matter what you write on the death certificate. I mean it's important for the family." [focus group A, p27]
"The fact is... the families don't mind, we don't mind... the person involved obviously doesn't mind." [focus group A, p26]

"And you're not dealing with a criminal act. Therefore you're sort of opted to keep the family happy... and maybe keep the government happy." [focus group A, p5]

"If only the World Health Organisation could hear us." [focus group A, p12]

"All these insurance forms you fill out. And all the causes of death you have to put on for the parents." [focus group A, p30]

A: "Do they want to know what so and so died of?"
E: "They certainly do. I've had experience with having to address the local genealogy society, to explain to them what these diagnoses were in the death certificate, and these were death certificates from a long time ago." [focus group A, p14]

"Really, when I write out a death certificate, I never ever think that this is going to go into statistics." [focus group A, p17]
5.2 On professional issues

5.2.1 On Problem Solving

The general practitioners acknowledged the inaccuracy of their death certificates, and also discussed methods of addressing inaccuracy. In the process of discussing solutions they also outlined inherent difficulties with their suggestions. However, some solutions were still proposed. There was support for the provision of allowing a practitioner to state that a death was due to natural causes, which could not be accurately specified.

"I would actually be happy if there were a diagnosis that I could put on a death certificate... which was unknown natural causes or something." [focus group B, p14]

"I believe natural causes are responsible for the death... that... and there... there are no other factors that caused interference. Should that be the limit of our statement?" [focus group C, p32]

A: "Where you are certain of a diagnosis, and in other situations you are allowed to put down the words 'unknown but natural causes'."
S: "Yes, I think... I think that's a really good point. Because I think that would improve the... the validity of the statistics... that I've drawn much... much more um... because you know, in so many of the elderly, it is just natural causes." [focus group D, p25]

"I mean, how do we get around that problem of the over-representation of myocardial infarction, broncho-pneumonia. Should there be a section called 'natural causes'? " [focus group A, p12]

A: "Yeah. Some of those things where you know it's natural causes, the person has an illness, or hasn't had an illness, but has just been old, and they've got general organ failure, or something, but um... it just seems that if they are to be used in that way, then it might be better to give us a let out, rather than insist that we perform these procrustean crimes where you make things fit." O: "I think it would be very useful if it could be recognised." [focus group A, p13]

"It would be nice to have a more gentle bucket diagnosis to put people into... which we could feel comfortable with... and not just a bullshit... which could be acknowledged across the country. That if this happened or this happened, then it's reasonable to say died of old age, or something -or- other." [focus group A, p31]

A: "And those ones are not included in statistics?"
O: "Yes. In some sort of way that... that could be... yeah, acknowledged that if all the deaths happen, fifty per cent have this other 'non-diagnosis' made..."
N: "You could devise an age limit below which you weren't allowed to use that... you could say it had there... had to be at least two doctors signed it or..." [focus group A, p31]
More postmortems, audit and consultation with peers were methods suggested with reservation because of the practical limitations inherent in these strategies.

"The only way to make them more statistically um... accurate, is doing more postmortems on everybody. And from the point of view of the practising GP, that's often extremely difficult to achieve." [focus group B, p9]

"I think if we had an audit or something like that, it would make us more careful about us being accurate in our certificates, but it would also shift us towards requesting more postmortems to cover ourselves." [focus group B, p25]

"A small thing might be interesting, but I think it's totally impracticable, and that would be to justify what, what the diagnosis is." [focus group B, p25]

L: "Unless it was set up as a random audit... um system."
A: "So every, so one in every ten deaths has to have an autopsy." [focus group C, p30]

"I think another way of changing the whole of them....that would be to have....have to have it signed by two different people. So then, you'd have to discuss the case with somebody else, and you get um....dream up some more interesting diagnoses between you!" [focus group D, p26]

There were suggestions that the causes of death could be categorised according to the age of the deceased, or to the preventable/non-preventable conditions, before being used for statistical purposes.

"But maybe we should have a... should have a cut off like ah... I don't know, seventy-five. The data on people who die after seventy-five doesn't get handled in the same way in the health statistics." [focus group D, p9]

"I think that concept of targeting, if we could....we are going to take scientific data out of the figures, we should target the figures to the potentially preventable deaths, and put the deaths from natural causes and old age in different baskets." [focus group A, p29]

"Yeah, or deaths which may have been preventable. They're really the group that we should be...putting more resource and effort into." [focus group A, p28]

"All the people over eighty, sure, as near as possible, but divide the mortality statistics into old age, and then divide them down, the remaining ones, into causes to which we ah, take health initiatives and do research etcetera." [focus group A, p27]

"But the point I would make is, if when I'm sitting talking to someone about um.... I don't know, preventative health care, and their family history, I mean one, it's part of the pattern that I trot out as... um... you know... Is your mother still alive... um a... and what did they die from and what age. And if...if the parent was over seventy-five, I don't factor that too much into the preventative actions that we should take for the person's well being." [focus group A, p27]
There was the suggestion that two separate certificates be issued, one to attest to the fact of
death and the other to be available for statistical purposes.

"We're fulfilling two functions. One is the legal and the other is a sort of statistical function and
whether they should be combined on one certificate, or whether there should be two. I er, er, I
mean (pause) Yes. I'm not that keen on having more than one." [focus group A, p20]

N: 'There probably should be two separate certificates. One should be for the legal requirement to
um, er to allow a body to be buried, and maybe sometime closely at the same time, there should be
some sort of less official way of the doctor actually giving an opinion on what caused the person's
death."
T: "Well, maybe there should be an extra place where you could say, without an autopsy, I cannot
give an um exact diagnosis."
A: "That would be honest, wouldn't it?" [focus group A, p31]

Through this desire to solve the problem the general practitioners demonstrated a concern
about the inaccuracy of death certificates rather than a carelessness.

5.2.2 On the meaning of statistics

The general practitioners were concerned about the accuracy of statistics if they were
derived from data from death certificates.

"More ... more is read into the information than is justified." [focus group D, p9]
O: "It's the person who has the statistics mucked up who is going to be... the one that worries the
most."
N: "Well, they're not going to know." [focus group A, p26]

"We... the same situation here is manifest overseas. And sort of the large studies like Framingham
study of um, ah coronary event rate... are those... are those data quite inaccurate also. And what
were the postmortem rates in... involved in those situations?" [focus group C, p33]

"Yes. I feel the same. I wish I were more accurate, but um, I often can't be. Um and having
discussed things with the coroner over the years um... some people who are ill in a general sense,
and losing weight, and just unwell - he's happy to take that as um bowel cancer, as indeed is the
Cancer Society - to take as bowel cancer, and give free nursing services, to those sort of people,
even though there has never been a proctological, pathological or even clinical diagnosis of
cancer. So if it works in life, it works in death as well. It's inaccurate." [focus group A, p10]

"The problem with death certificates is... the first problem is statistic gathering which is what the
pathologist in X I think is talking about. From a statistically point of view, a lot of these
certificates aren't worth the paper they're written on probably." [focus group A, p9]

K: "That almost gives permission to write myocardial infarction. Now, that's highly inaccurate,
but it saves the hassle of um... postmortem, and the expense and the hassles with the relatives. But
I suspect um, that collusion with inaccuracy doesn't help the statistics at all." [focus group B p6]

"The stuff that I write is going to be probably wildly inaccurate." [focus group B, p5]
The general practitioners felt it would be better not to use death certificate data for statistical purposes.

"Well, I mean, we did our best with frusemide. But she was pretty elderly, about eighty-five, or something... and... not very scientific if you want to have good statistics." [focus group A, p26]

"But if someone reaches the age of eighty-five, isn't that enough of a statistic? It's almost ... I suppose if they don't die of ... um... an illne... you know, a disease which has some predisposing cause which you need to define, like a road traffic accident or cigarette smoking, and they just died 'cos they're eighty-five." [focus group D, p6]

L: "Are we saying that... that we live in the real world; that we live with, we work with people and therefore we end up living in the grave? So, sometimes it's true, and sometimes it's not. And sometimes we just don't know and we have to live with that. And that the statisticians are not living in the real world, because they, they trust our statistics."

L: "Yip!"
C: "Yes. I think that it's just that they...."
L: "Mmmm."
C: "Can basically - that's the conclusion there, yeah."
R: "Well put!"

A: "Should we be saying that they shouldn't be using death certificates for statistics?"
R: "Yes."
C: "Yes."

L: "Yeah. It makes the statistics worthless really." [focus group C, p30]

5.2.3 On postmortem examinations

General practitioners have many considerations to take into account if a postmortem examination is needed. The feelings of the family and relatives were the most important factor from the general practitioners' viewpoint. Other factors were the purpose of the examination, the quality, its availability and cost. There were few strongly motivating reasons for arranging postmortems.

"There are lots of logistical things that really discourage us." [focus group C, p16]

"Having no pathologists up there, it doesn't get any further to have a um... coroner's case, really." [focus group A, p27]

"We don't have a pathologist who does the autopsies. And I'm sure the GP who does them is um... is pretty thorough, but I mean, even, even then, you're not necessarily going to get a particularly accurate diagnosis."

"There is a social climate that is averse to um, to performing postmortems um... I think there are all kinds of obstacles in the way of doing them - shortage of pathologists, the logistical problems of arranging them. There's often a reluctance on the part of the police. I find in areas where there
are...there are grey areas, the police are really unhappy in being called in and ah asked to organise it all. That's been a common experience for me. And, and there is a social, I think, there is a social aversion to doing them."

"Can I raise the issue, though? I mean, if we're going to do postmortems, if we're going to be that accurate on a medical certificate, should they not be done on everybody, because we can never be a hundred percent accurate?"

T: "Who's going to pay for them?"

The general practitioners expressed the feeling that some postmortems are done when they seem to be pointless. Some seem to be done in the absence of a clear clinical question. Overtly the postmortem examination is done to determine the cause of death, but the general practitioners talked about how they question whose interest is being served.

L: "It's bizarre!"
R: "Died of loss of head?" (reference to decapitation in motor vehicle accidents)
L: "Yeah. Yeah. I mean, you know. It is bizarre that those sorts of situations. It's bizarre those sorts of situations need it, and then perhaps more...you know, more useful situations aren't."

"In that, most of the times, you don't have that focussed clinical question that E was asking about. In terms of his family, you know, you don't have a very good question to ask, so why bother with the autopsy?"

"I mean, if...if in your own mind, you really are not happy with the death, then it is a reasonable thing to do from both your and the family's point of view."

"It's sad. A postmortem is actually a very traumatic event for the family. Especially if you've had an old person. You know they've got ischaemic heart disease. You know they're eighty plus. They have always kept very good health, and they suddenly are found not waking up in the morning. It's a pretty traumatic event to say to the family 'well, you know it may be this, it may be that, but I need to have a postmortem to prove it. I mean - who are we doing it for? Ourselves?"

"This postmortem thing though. Are we, are we actually treating the patients? Are we actually? Is that purely what we do? I mean, when we stand there and look at this person, we say we don't want to put the family through this. Is it truly what we do, or are we actually standing there and saying I actually don't want to raise this topic?"
5.2.4 On the obligation of, or duty of, the doctor.

The general practitioners recognised the obligations placed on the doctor, put there by society's mores and laws. They spoke of the importance of detecting a death due to unnatural causes. This was frequently raised during the teleconferences, even although it was expressed that the likelihood of their being involved with a death due to unnatural causes was low.

G: "In a country where euthanasia is practiced more often, like in the Netherlands, you find that you get more cases of prosecutions of doctors if they um fill in a death certificate of natural causes, where they had actually um taken part in euthanasia."
L: "Has anybody ever said in their death certificates, that they've practiced euthanasia with the patient?"
O: "Well, nobody would have said it, because it would be illegal." [focus group B, p23]

A: "What is your limit N?"
N: "Yeah. Well, I mean, um... sailed very close to the wind in the past." [focus group A, p25]

A: "Does it concern everyone that, that they might miss foul play?"
G: "It concerns me, yeah." [focus group B, p17]

"I suppose one of a thousand we're going to, well maybe one in a million, we might come up against a case of foul play which has been carefully disguised. An um, I don't think...you know, it's just luck if we find those really." [focus group B, p17]

L: "And you still don't know whether his wife was putting arsenic in his cornflakes."
A: "Is that the fear? That we'll miss homicide?"
L: "Not really. Not often." [focus group C, p13]

R: "One of the big areas though that I personally have, is I do not strip a body down."
A: "You wouldn't see a puncture wound behind the ear?"
R: "Well, I have to be honest. It has crossed my mind, seeing as I'm close friends with a um police doctor who takes great delight in telling me I would miss all these little nefarious bits and pieces."

"I think we probably do miss them if they're there. But that's the thing I'd ask. How often are they actually there?" [focus group C, p14]

C: "Yeah. Ah I... I really think if I had any suspicion of, of suicide I, I ...it would immediately be a coroner's case. There would be..."
L: "Yeah. Ditto."
R: "I believe suicide is usually um... suspicious enough that you are handing it over promptly...
A: "Right."
R: ". anyway. Isn't it? I mean, if you've got any doubt that you've got suicide, although I guess in reality, some of us miss them...."

"So, there are deaths which are simply a part of life, and there are deaths which oughtn't to have happened?" [focus group C, p32]
A: "But you're hoping it's natural causes."
T: "Yah, well I'm, I'm very sure that it isn't any criminal act or something. I'm pretty sure it was a sudden death, a natural death." [focus group A, p3]

"Hopefully, you can pick up all the nasties. I mean the ones that you don't know, or the mis-adventures." [focus group A, p14]

S: "Intuition!"
W: "Heaps of cases of foul play that we've missed? I've got no idea."
S: "I suppose, yeah. I suppose..."
W: "I've never suspected it myself."
Pause
E: "I mean, it it's really, it's like all knowledge, it's only probability isn't it?" [focus group D, p1]

With respect to postmortems the general practitioners felt an obligation to the family to meet the needs of relatives and minimise distress.

N: "We all have the pressure, and particularly amongst Maori people, very much a pressure than not, that they're not to be a postmortem."
T: "With the Maori patient it really is like that. You just don't get a coroner... a coroner's case out of it, even if you would like to, and you're not sure." [focus group A, p3]

"The pressure... the pressure from the family would be absolutely huge." [focus group A, p25]

L: "And how would you handle that when you've got a whole family of distressed people standing around?" [focus group C, p14]

The general practitioners felt obligations and pressures from the police, coroners, and societal and cultural forces, in addition to the family.

"And the police rang the coroner, and the coroner insisted, despite the fact that my colleague was willing to give a certificate, insisted that she ah, went over and examined the body." [focus group A, p3]

"I don't know whether the coroners have come under more pressure, but I've noticed more recently in the last three or four months, that um the police are um... putting pressure on us to actually be quite quite clear on diagnoses, and be sure that we are seeing patients within a certain time." [focus group A, p5]

"There becomes a huge pressure on you to put something down on the death certificate, and um, again , keep having a reasonable relationship with the coroner." [focus group A, p6]

"When I was on holiday in T, and they've actually tracked me down to sign the certificate because I was the last person to see them." [focus group A, p 7]

"It doesn't occur to me as I write the certificates. But the theoretical idea, what am I missing... could wander through my brain on occasion, and its very serious costs?" [focus group B, p18]

E: "Well, I mean, there's sort of two things, aren't there? You get your birth certificate as a ticket of entry, and you get your death certificate as a ticket of exit."
S: "But, why?"
E: "Well, that's so that the um... civil authority...."
S: laughing "The ticket's there that you can wave it around, and show them that you're not here any more! Yes!"
E: "The civil authorities need documentation to record your coming and going. Ah, and I suppose that that's legitimate. And...and then as A alluded to, there is the um, you know the health monstrosity that has to be fed data."
S: "And then there's the criminal aspect too."
P: "At least a preliminary screening that there's been no..."
S: "Foul play."
P: "Foul play." [focus group D, p10]

The general practitioners talked about the obligation to themselves, and articulated their personal feelings about the weight of the responsibility of the task of death certificate completion.

"But it bothers me sometimes, I must say. Um, I don't do very many death certificates either. So, every time, I have to sort of read up the rules, and study the forms, and I think it feels like quite a responsibility to fill in a death certificate. And I do sometimes feel a bit worried." [focus group B, p5]

"I mean, it just places a lot of responsibility back on the GPs, to be pretty sure that er at least if you can't nail a reason for the death down to the nth degree, you can at least exclude... you can probably nail it to its body system, can't you?" [focus group B, p7]

'I wonder, all these depressive illnesses, that we tend to, not to diagnose. Think! What other things do we not diagnose?" [focus group B, p18]

"Yes. It's very, it's...it's...there are lots of logistical things that that really discourage us...And those, those are factors that obviously weigh on us, also." [focus group C, p 16]

"But I'm not, I'm not sure whether that discomfort arises from, do I feel like someone's going to point the finger and say (in a sing-song voice) 'You made it up'...or... I'm not sure what it is. Because you've made the decision, the person's dead, and you're going to allow them to be buried." [focus group C, p19]

"But based on the history in this country, it's... it's basically left up to the due care that we as GPs employ, and the due care that the coroners employ." [focus group B, p23]

A: "And so the buck stops with you in the end?"
N: "That's right, it does." [focus group A, p26]

5.2.5 On preferred terms

There are particular terms that some general practitioners use for certain situations. The use of these preferred terms demonstrated an element of cynicism in some of the general practitioners.

E: "But I still like hypostatic pneumonia." [focus group A, p24]
"I was speaking with the undertaker today, and he said we all need a rubber stamp thing 'bronchopneumonia'"  

N: "I used to find that 'hypostatic pneumonia' used to be quite useful."  

"There might have been inferior vena cava pressure, which I find myself diagnosing a lot in people with um... hepatomegally."  

"I think that most of my Maori patients died of a 'myocardial infarction'."  

"All the deaths are 'myocardial infarction'. All old people are 'bronchopneumonias' and everybody else has got 'secondary cancers'."  

"I think that most of the diagnoses are a selection out of half a dozen."  

"But then you take out 'bronchopneumonias', and 'myocardial infarctions', and 'secondary Ca'. There's not a lot left out there from which people die."  

"And you're even in the rest home, E, or in a geriatric hospital, or wherever you work. You have the problems to make the diagnosis. You obviously lean very heavily on 'bronchopneumonia', is that correct?"  

E: "Yeah."  

The detrimental effect of preferred terms on the quality of the data derived from death certificates was recognised by the general practitioners.  

"People die of lots of heart disease, therefore that's a good thing to put down on the death certificate, when they don't know."  

"Especially when you think that all the sudden death are hearts. Where's the sudden deaths due to either CVAs, ruptured aneurysms and things?"  

A: "Mmm. So, you don't feel that you're missing heaps of pulmonary emboli, and just calling them myocardial infarct, do you?"  

S: "Um."  

N: whispering "No."  

S: "No. I don't think so. No, not really. Perhaps... perhaps in circumstances where it's no longer important, in which he might already have a primary diagnosis of carcinoma..."  

E: "But, I mean the thing is that I personally don't do heaps of death certificates, and to miss heaps of ah... of pulmonary emboli, I'd have to practice for a hundred years, and I don't know that I'd manage that!"  

When those who die were aged, the use of preferred terms still occurred, but the dilemma over the diagnosis seemed harder.  

A: "I mean, we talked about the sudden death. What about the old person?"  

E: "Well, I've put them down as old age."  

W: "You're not allowed to though..."  

E: "Well, well, THAT'S WHAT I'VE GOT ON THE COUNTERFEIT*."  

* This was the actual wording used. I suspect "counterfoil" was intended - a Freudian slip?
A: "Right. And you wrote 'old age'?"
S: "Yep. And I wrote 'atrial fibrillation, anaemia, and non insulin dependent diabetes mellitus'."
A: "Right."
S: "And the other one was 'respiratory arrest and senile debility', and he was ninety-four. Respiratory arrest and also senile debility. I mean, here's a ninety-four year old fellow who just gradually died. I mean, what did he die of?" [focus group D, p4]

J: "What about the old ladies that decide they just want to die, and just go ahead and do it?"
A: "What do you write on the death certificate?"
J: "I usually lie."
A: "Yeah. Well I think I do."
J: "No. I've had ... I had the last three elderly people that died of mine, all just decided that they had had enough. But how know, you lie and say that they had, you know, heart attack or something like that, but..."
A: "So that inflates the cardiac death cert... death ah statistics...
J: "Yes."
A: "And gives more work for the National Heart Foundation." [focus group D, p7]

O: "So we definitely all make wild guesses out of our own favourite phrases, which may or may not mean the same thing."
A: "I think Prof V used to say a diagnosis is a name that the patient and I agree to give the condition"

5.2.6 On the relationship with coroners.

There is a professional relationship with the coroner, evidenced by the consultation that takes place between the general practitioners and the coroners. Despite this, the general practitioners felt the final responsibility rested with themselves.

"It's not just a racial issue, is it? I've had more sensitivity towards Maori reluctant to have a postmortem, but um organising a postmortem is quite a hassle in a rural area. And ah, it's something that I don't like ah having to resort to. I frequently will discuss the clinical circumstances with, with the local coroner, who's happy to accept my um, my reasonable guess." [focus group C, p4]

"Yeah. But the coroner is not medically qualified. So, how on earth can they accept responsibility for it?" [focus group B, p2]

K: "It turns out, I had one quite like that. I said this man had a history suggestive of an infarct. I had no idea what really happened. He could have um had an aortic aneurysm, or he could have anything um happened. And the coroner's quite happy to say, well the most likely thing is it's an infarct, and you can sign it as an infarct. I got into an argument with him once just, and I said I just won't sign it, ah, I can't justify that. And he got really cross with me, and said I'll have to do a postmortem then in that case. I said 'you'll have to do a postmortem, I'm very sorry, I can't sign the certificate'."
O: "Well, you're the one carrying the can, aren't you?" [focus group B, p21]

"I had a young child who had a um... a congenital illness not consistent with a life much beyond I doubt, ah three years of age and wasn't actually my patient - was my colleague's, and he happened to be away on holiday and the child died, as expected. And if I'd sat there and looked at the interpretation of the death certificate, it had to be a coroner's case because he wasn't obtainable.
Um, I hadn’t met the child before, ever. I’d seen her after death. I’d never seen her before death. Um... there was paediatrician involved who also hadn’t seen the child within a month, by chance just outside it. So it seemed bloody stupid that the kid had to go through a coroner’s case. And I rang the coroner, and he said no, well - we can go ahead and sign the death certificate, so I did.”

[focus group B, p18]

The general practitioners described how coroners influence the entry on the death certificate.

R: "It's extremely unscientific, it's a social factor."
C: "Yeah."
R: "Um... quite arbitrary according to the... the beliefs and um protocols of your local coroner."

[focus group C, p5]

"I think the coroners have quite an influence here, that I've dealt with. Some coroners who unless you can state very very clearly what was the cause of death, even in someone who's exceedingly elderly, they want to do a postmortem. And I've equally dealt with coroner who goes "Oh, come on, she was eighty-five. Surely you've got some idea what she died of?" and that's because they don't want the expense and hassle of doing the postmortem."

[focus group C, p4]

"Um, unless he had slides from the condition, he was not prepared to... to um countenance the possibility that we could be right by clinical assessment. And he was extremely rude about the death certificates written by a GP. And to this day, I still find myself sort of twitching slightly as I write down 'myocardial ischaemia', because I know I haven't validated it in the way that he would like it validated."

[focus group B, p4]

"Once, of a patient who was a Maori, and he, I hadn't seen him for fifteen months, and I told him in my last visit, that, you know, your blood pressure isn't good. You don't want to take your pills. Um, you will die one day, if you don't look after....when he died I still filled out the death certificate and the coroner was happy."

[focus group A]

The general practitioners described how coroners vary in their integrity and professionalism.

"The coroners have a certain lea-way, which I ... Presumably they're controlled fairly stringently by the Act they work under. But the lea-way seems to be interpreted differently throughout the country, and we've got a coroner who's pretty almost to the point of being lax, one sort of thinks at times."

[focus group B, p16]

On completing a death certificate in another country..."I was called to a death. And I got there within half an hour, to find, and I said I'd have to see the body, to find the ambulance had whipped the body away into the local morgue, where I couldn't see it. And it was a Saturday afternoon. So I had to ring the local coroner, who was on the day out. Rang me three or four hours later, and says what the hell are you doing up there scaring all the locals wanting to see dead bodies?"

[focus group B, p13]

L: "The pathologist's response - was ah, it's not my responsibility, in fact it was not my right to do it on behalf of the family."
O: "Well, it sounds like you've had an unreasonable pathologist to deal with."[focus group B, p12]
**5.2.7 On the consequences of death certificate completion**

Having discussed inaccuracies and circumstances of death certificates, the general practitioners did not trust the data derived from them. They talked about the desirability of having accurate data for preventive health measures and family histories, but also about the inability to believe what was written on death certificates.

"That might be one quite selfish reason for accurate death certification, is for our family history... the patient's family history, I mean, in the case notes." [focus group A, p30]

L: "And, are we actually missing the boat, that in fact, you know, deaths are caused by something that we've never given enough credence to? And is never going to get enough money spent on it because we're too good at writing 'disseminated carcinoma of unknown origin'?

C: "Ah... it's an alarming possibility."

"Are we saying then, that in fact, what we're doing with the death certificates is in fact acceptable, but what is not acceptable is the data collection from them?" [focus group C, p36]

L: "Yeah. I... you know, when you start thinking about it, you just wonder why we spend so much money on you know, coronary disease education. And research and all the rest of it. Maybe, you know, not nearly as many people actually die of heart related events than we think." [focus group C, p11]

"Statistics are quite dangerous really, when you think about it. It gives a completely wrong, it gives a false impression of the country." [focus group A, p12]

E: "So, if ah, perhaps if we provided more... more accurate data um, what may be a cost effective intervention in a... I don't know, seventy year old, might give them quite a lot of good useful life. What are they dying of old age from? Are there some of the things that they're dying from that... that could be improved?

S: "Mmmmm.

A: "Well, that's a good use of death certification data, isn't it? If you're able to say that, you know, twenty people have died in V, in the last year, between seventy and eighty, of ah aortic stenosis, then they'd be back to finger fracturing in no time, wouldn't they?" [focus group D, p7]

The general practitioners expressed concern about the potential misguided spending of funds available for health services, if decisions were based on data from death certificates.

"But when we're getting into adversarial competition for funding, ah when you've got heart disease, the Heart Foundation goes out for more money, and if you put disseminated cancer, you get those figures." [focus group D, p9]
"Particularly in the climate of competitive ah seeking of funds, the common diseases like heart disease, may well be getting... many of the people having died in fact from old age... maybe inappropriately rewarded or inappropriately funded." [focus group D, p27]

These general practitioners reported they rarely receive any feedback once they completed the death certificates. The occasional feedback that did take place was often in the nature of illegibility or seeking clarification or more detail. They had not received any other form of feedback or critical appraisal.

E: "No. I mean d... I mean... for twenty years, they've been popped in an envelope, and given to the undertaker and ah... nev... I they... could be they disappear into the black hole really as far as...."
W: "I've been rung up a couple of times about my hand writing, some poor girl down in the office can't read it." [focus group D, p16]

"Anyone ever had any other feedback about a badly completed death certificate?"
A: "I must say I have. I've had illegible writing thrown in."
T: "I had that too."
N: "From New Zealand Information service and they... you just say CA lung or something like that and they want to know the, the what type it was, what site it was and all the rest of the stuff, which can be a bit of a nuisance." [focus group A, p9]

A: "Have you had feedback on ones you've done badly, or any audits of death certificates at any time?"
L: "No."
R: "No."
C: "Yes. I've had one or two returned. I've certainly had um certificates returned with very vague ah detail on occasion." [focus group C, p18]

"No-one's ever queried what I've written, ever....but I really don't know." [focus group B, p16]

"The lady from the office rang me to say, "Sorry, I can't read the funny diagnosis in B." It's reasonably clear, I've got a copy of it right here, 'neurofibromatosis'." [focus group B, p16]

"Well, I noticed ah that I'd failed to put the date in on two of these ones in (laughing) in the last four months. And nobody's got back to me about that. Oh. They once phoned me up because I'd written the, the duration of illness or whatever it was, I'd written it three over, three stroke twelve, meaning it was three months." [focus group B, p15]
5.3 On issues of personal significance for the GP

5.3.1 On postmortem examinations and the feelings of general practitioners

The general practitioners described their own feelings about postmortems, and how these have influenced their arranging postmortems, leading them sometimes to recommend them, and sometimes not to raise the issue at all.

"I've certainly had situations where um, I've broached the idea of um a postmortem, sort of as a possibility. I mean, I know that's not the way you're supposed to do it in terms of the law." [focus group C, p16]

"Yep. I... I also wondered. I mean, this is probably a very wild suggestion, but ... Um... given the way in which we are introduced to postmortems as medical students, that most of us have a certain amount of post traumatic stress associated with the memory of what it's like to be a lay person confronted with that." [focus group C, p9]

"There's that belief that you're doing something awful to the person." [focus group C, p25]

"Do I have any justification for perpetrating violence on this family?" [focus group A, p37]

"I've had guilt relieved by them. Where I thought I was sure I'd killed an old lady patient of mine, by giving her a gastric ulcer, you know, from non-steroidals. And it was actually a, you know, an infarcted gut from an enlarging aneurysm. And you know, I was just so relieved that I'd... that it had all been done." [focus group C, p28]

"I guess I tend in those situations, particularly with Maori families to fill in the death certificate accordingly, so that the family's not put through you know, the trials and tribulations of a postmortem." [focus group C, p3]

"I have to say that I mean in a perfect world, if it was a socially acceptable thing, I mean, I'd love to see postmortems done more often. I mean, it just, I think it would improve my medicine... " [focus group C, p27]

5.3.2 On difficulty with completion

The general practitioners talked of the other difficulties of certification beyond the clinical and cultural situations. There was considerable confusion about the appropriate terminology and specifying time intervals.

That is probably my biggest sticking point really. Um, putting a time frame on things that don't have a measurable starting um point." [focus group A, p10]
"And they... I mean... the diagnosis is, is the mode of death to me, which is the problem, rather than the cause. I mean, people get...um... carcinomatosis or terminal cancer illness, and then they die in a variety of ways. And how important is it. I mean... presumably they take the... the primary cancer as the main cause. So, if you've got that then, I...the rest seems fairly um...secondary importance, but that's the thing which... which occupies the time in filling the death certificate."

A: "What is the difference between syncope and coma?"
L: "Well, quite. And, and if you weren't there, how the hell do you know?"  

A: "So, you would write that as the primary cause of death, rather than 'bronchopneumonia due or as a consequence of carcinoma of the breast'?"
N: "And the mode of dying, whether it be pneumonia or whatever, so someone with Ca breast, it doesn't really matter the diag... the cause of death was 'Ca breast'."

"The reason in the end was exhaustion and cachexia, isn't it? In most cancer patients. So I... I actually don't put that as a primary cause, you know. I put just er, I put cancer of the bowel. I don't put that they were cachectic and exhausted, because unless they had a passing pneumonia, then I would probably put that down. Because there would have been fighting for just a little while. But generally I would not put down cachexia, because that's really their cause, isn't it? In the end, it is a cardiac arrest or whatever."

"Yeah. I find it particularly difficult in those circumstances too. I mean, if you've had someone on a morphine pump or whatever, what they're actually dying of is respiratory failure which is iatrogenic, but you can't write that."

The general practitioners mentioned the difficulty they have translating what they 'know' into a concise few words of detail, as is required on the death certificate. This is made harder when investigations do not support a clinical diagnosis.

L: "An eighty year old who's bleeding from the bowel...the surgeons say is there any point putting her through all the tests. She's not fit for surgery anyway. And then, really, you know, you really don't have the clinical data. Do you put that person through a postmortem, so that you can actually find out what was decided when she was alive? That there was no strong indication for pushing the tests because the person wasn't well enough to do anything significant anyway?" Long pause. "Sorry it's a bit complicated, but I mean... I, this scenario's actually come up two or three times. And filling in the death certificate is very difficult."

A: "Because you have to write something as specific as carcinoma of the bowel."

"It's not a lack of education, it's a lack of... I think death certification is unrealistic. It doesn't...it er...you're falsifying um reality. You write a um...er...er set of words on a bit of paper. I mean, if they wanted and essay...."

Changing the uncertain to the certain, the ill defined to the defined, managing the art of general practice and simultaneously the science of medicine - these were described as difficulties and dilemmas.

"O: "Certificates are sort of square holes which are trying, round holes which are trying to jam square pegs, aren't they?"
L: "Yeah."

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L: "Yeah."
5.3.3 On honesty and the doctor’s comfort or discomfort

The general practitioners often used the words "honesty", "level of comfort" and "discomfort". There was an anxiousness to be honest, or at least as honest as possible, given the circumstances. The general practitioners showed an awareness that at times their own personal feelings mingled with their professional roles.

A: "How do people feel about families that want copies of death certificates?"
L: "Yeah. That one. That one's um... that one’s always an interesting one. I'm always wary about that, 'cos I think that's when my internal guilt mechanisms get going." [focus group C, p24]

L: "I might have just done that. I mean, if I was having a, you know... who knows... if I was having a hell day in general practice, and it's as busy as anything... o hell, I'd have to be honest and say I don't know. I might have done, but then again I might have filled it in exactly the same way Chas has done."  
A: "And what's your discom... discomfort level there, L?"
L: "Oh, moderate to, you know" laughing..."forgotten in two days." [focus group C, p16]

"And then, we aren't honest actually, and we are liars, and we shouldn't be doctors." [focus group A, p6]

O: "If you can put a comfortable label which sort of fits part of a history or seems reasonable, then often the close enough is good enough."
N: "You can feel honest with yourself." [focus group A, p5]

"It's something to be considered. But I must confess, I'm not going to push the family beyond what I think they can take in terms of asking them for a postmortem." [focus group B, p10]
"I think if I knew the family well, I knew the rest of the family very well. And perhaps, you know, sometimes the grandchildren or the mother, or you know of that man who died, um. I would be quite comfortable to fill out a death certificate. Um... if I wouldn't know the family, I think I would, might, insist on a coroner's case. Yes, I'd agree with that I'd be comfortable if I knew the family and had contact ongoing."

"We don't want postmortems done on us, thank you. It's actually in our wills."

"I mean, this discussion is raising a lot of memories."

"I'd felt pretty guilty after that, 'cos I'd sold that postmortem to the family, and I realised afterwards, I was doing it more for my benefit than for theirs."

"That would be very honest, but difficult."

The need for the space and time to reflect was evident by the ways in which some general practitioners chose to complete the death certificate; where they chose to do it, and in whose company. For some it was almost a ritual, which had its own significance for themselves. They were able to describe where their book of death certificates (now a pad of less substance) was habitually to be found.

"Even if I do it in the surgery, not with the relatives, it's part of the reconciliation process of... o um... you know. It's a final stamp that you think, well... when did this start? How long were they ill? And you sort of re-cap that illness almost, in writing out the certificate... It's, you know, some people you've known ten or fifteen years... it's...

"Yes. Well, yeah. Yes, I think that's... Yeah, I think it is."

"And I've been ....that would certainly be my experience that ah, I was just thinking, S. do you carry the death certificate around in your bag?"

"All my life is always three things going on at once, you know. There's the staff, and the phone, and all the rest of it. But to... but to fill out death certificates generally I shut myself in my office, and ah... um... can get out the death certificate and.... Ah look back through the patient's notes, and refresh myself about their illness. And as you say, quite important, often you know, the length this... the process of filling it out is.... reflecting on the person's life, and your relationship with them, and reflecting also on the illness, and perhaps how you managed it, and what you might do differently next time. It's one of the things that I can't do with a lot of other background activity going on."

"You wrote that on the death certificate?"

"No, I didn't. It's in my notes though, to myself."
S: "If I can find a quiet corner in the kitchen, like... Often there's a cup of tea going."
E: quietly "Yes."
S: "... or I'll go and sit on the back step..."
E: quietly "Yep."
S: "... and sort of disappear for ten or fifteen minutes..."
E: "Yes."
S: "So, I think I share that with you. That it's... that it's not something you do, it's not like writing a prescription,"
E: "No."
S: laughter, pause. "... which you can do anywhere."
E: "Yes."

[focus group C, p19]

The general practitioners recognised that they lived with varying levels of comfort and discomfort.

"You need to feel comfortable with what you have written down. And, if you are in doubt, I think most coroners are quite good to talk to."
[focus group A, p6]

O: "Has anybody amongst us had to deal with a situation where they were suspicious of foul play? I certainly haven't."
G: "No, I haven't."
K: "No."
A: "It looms large in the old conscience... consciousness."

"But there's an incident in that where a woman had... it's a Japanese-English kind of story. And a geisha girl had committed suicide, and a GP went out to certify the death, and he wrote myocardial infarction, and felt that he had been ennobled by hiding the fact of the suicide from her family. And I, it occurs to me that, that's the most important value when I'm writing out a death certificate, is the protection of the family." [focus group B, p10]

And the uncertainty is the reality. We just learn to accept that... with, with some degree perhaps of discomfort... um... but... but not a greatly troubling one." [focus group C, p41]

A: "What gives you discomfort when you're writing out a death certificate?"
Pause.
L: "Just the not knowing."
R: "Mmmmm"
L: "It gives me discomfort every time I'm not sure."
[focus group C, p19]

C: "Is it that we are acting dishonestly, in that we're signing something that we're not sure about?"
L: "Or that we should have been wonderful doctors and found out what was wrong?"
C: "Right."
A: "Yes, the internalised conscience of parent figures."
[focus group C, p20]
5.4  **On administrative issues**

5.4.1  On the format of the certificates

The general practitioners talked about how physical format of the certificate influences the details entered. The cremation certificates are seen to be more exacting in detail requested, and thus present more difficulty to complete.

"Are we looking at cremation certificates here as well? Because, for me, they encourage dishonesty because they are so ridiculous."  [focus group C, p.12]

"Are people more careful filling in a certificate of death, if we know there is a cremation coming behind us? I certainly seem to be, but I don't know why."  [focus group B, p.27]

"It's another difficulty, but it just really... adds to the requirement for... for greater certainty in the cremation certificate."  [focus group C, p.12]

S: "I think yeah, the cremation certificate..."
A: "Syncope or coma, or those particular things. Mmmm. Silly terms aren't they?"
W: "Yes. I think they're pretty silly," [laughing]  "Syncope... did they die of syncope? Well, I thought syncope was a faint. I mean, you shouldn't die of syncope."  [focus group D, p.3]

5.4.2  On the process following death certificate completion

The general practitioners were confused about what happened to a death certificate once it was completed.

"Is there anybody anywhere actually reads them at all?"  [focus group B, p.15]

R: "From the Registrar of Births and Deaths?"
C: "Yes."
R" in a surprised voice: "Oh, I didn't know they did that!"  [focus group C, p.18]

"The fact again that these pathologists rammed it down our throats, that once the person was dead, and had a postmortem, it was not our ah preserve to ring and get a copy of the postmortem results."  [focus group B, p.12]

"I was not facetious when I say... said... who do we write the certificates for? And what purpose are they written for? Because, I think it is a bit confused... What... what they are used for, and who are they used for that purpose by? Perhaps that needs to be clarified."  [focus group A, p.10]

S: "Wasn't there something about seventy year olds?... Um treated differently if you're over seventy? In terms of issuing death certificates?"
A: "Oh, is that what it is?"
W: "I think it's as simple as that, really."
S: "If they're over seventy?"
W: "Yeah."
S: "Oh."
W: "And it's um... and also... oh yeah... talking about an accident, that if you think that ah... they've
died through an accident, you don't have to um... ah... go through the postmortem business.
[focus group D, p23]

In 1996, a new format of death certificate was issued in New Zealand, and this was
described by some of the general practitioners as an improvement, with fewer restrictions.
The change from the older format on thicker and better quality paper, to the new duplicate
format was commented on.

"I am not familiar with the new one, but the old one certainly had, you had to say... "
[focus group B, p2]

"I just quickly flick through my death certificate old one, and I haven't got a new one... "
[focus group B, p26]

"I was intrigued to see on the front of the new death certificate here, that um respiratory failure is
an unacceptable diagnosis." [focus group B, p19]

"The Registrar General has been quite specific, and said 'unavailable' if the GP is dead, decamped
or demented, not away skiing or not away for the weekend." [focus group B, p19]

"But it allows you a bit more lea way to handle deaths without deferring it to a coroner OK." [focus group B, p27]

"Since the new one's come in, I haven't a reason to ring him, but up in the old certificate, if you
hadn't seen anybody within a month, you couldn't er really fill the thing out." [focus group B, pl7]

"There are... I think the new certificate's an improvement."

"I always... I always take great care over writing them out. 'Cos, as you say, they're such nice
pieces of paper, and I think this is the one certificate where I want my name at the bottom to look
just right. It's a sort of... a nice ritualised activity I always found, with the relatives sort of nearby. It was a sort of part of the... "Yes, he
was... he certainly put on a fight, didn't he?"... you know, that sort of um... um... time after death." [focus group D, p16]

5.4.3 On training

Training in death certification was poorly recalled by the general practitioners, and appeared
to be haphazard in nature. Lack of adverse feedback about their completed death
certificates, was interpreted by some to indicate that their performance was satisfactory.

A: "Was anyone given lessons on how to fill out death certificates?"
G: "No."
L: "From the front of the book."
K: "Never."
"I think we had one... somewhere along the way. I vaguely remember having one session on... um... medicolegal things about the fourth year, it must have been..."

[focus group B, p12]

"We found, I found out what was acceptable because I didn't get hauled back down there to do something different."

[focus group C, p18]

"You were thrown into it. I remember my first year as a house surgeon. Yah, I could hardly read the death certificate... or any of the meaning was... and I had to put something down. And sometimes I asked the secretary what should I put down, you know, so she sort of succoured me along."

[focus group A, plO]

M: "No."

S: "You were thrown in at the deep end."

E: "Yeah. Well, I mean, you did them in the hospital as a House Surgeon, and I can remember the Medical Officer of Health coming along and talking to us about ah, how it was to be done. And in fact, I can remember... maybe as a GP registrar, the coroner coming along and ah saying, if you are ever in any doubt, ring me up. Which was a practice that I use."

W: "Well, I was never taught about how to do them, so I've always never felt very comfortable doing them. So down here, in R, what I'm actually doing is teaching the fourth years."

[focus group D, p14]

L: "No-one."

R: "No-one."

L: "Ah, the woman in the um office at the hospital. She sat over us and said, "No, you can't put that, you have to put something that sounds like this.""

C: "Likewise. Ah, um, really with a guide to acceptable.... the one, the one teaching I did receive was teaching on what was acceptable, and what wasn't."

[focus group C, pl7]

There were variable recollections of what was actually taught.

"The pathology teaching that I had was that you should order more postmortems than you do."

[focus group C, p10]

"I seem to remember in F, it was in private, you know, the graduate course at some stage, the... the idea of providing accurate data, say for research and statistics."

[focus group B, p12]

"The way I was taught, was not so much the mode of dying, but actually the underlying diagnosis. So that if someone died, it was the... as far as the coding people were concerned, they were interested in what the primary ah carcinoma was."

[focus group C]

The training offered by the few general practitioners in the position to do so, is also haphazard.

A: "Do you teach your registrars, O?"

O: "Um, I don't teach them systematically, but if the occasion arises, we go through it, which of course is not very often."

[focus group B, p13]

"We've found one or two registrars who have actually had their own little terminal care case, and they've never ever approached us about how to write the death certificates. Interesting phenomenon."

[focus group C, p10]
6 DISCUSSION

6.1 Introduction

General practitioners among other medical practitioners and coroners certify the cause of death. In New Zealand the figures suggest that approximately 30% of certificates are completed by general practitioners \(^{(43)}\). This means that about 70% are completed by other certifiers. As described in the Introduction inaccurate death certificates give cause for concern as funding, planning, research and personal entitlement decisions are based on the data derived from them.

This study has shown that 72% of a group of randomly selected general practitioners had experienced doubt at some time when completing death certificates. It has shown that there were other factors besides the clinical situation (in particular the feelings of the family) which affected what was entered on a death certificate; and that a small number of general practitioners used certain preferred terms in certain circumstances of death.

The general practitioners in the focus groups discussed the certification process. They talked of the elements of clinical uncertainty; the influences of the relatives and coroners; and the implications of using data from death certificates for planning and funding and research purposes, given what they knew of how death certificates were completed. They described their experiences, which were forged by their realities in contemporary general practice.

This discussion examines the study's methods and findings, considering the questionnaire and the focus groups separately. It then addresses the implications of the findings in terms of how they can be applied to improve the uncomfortable situation of persistently inaccurate death certification. The "problem" of inaccuracy (stated simplistically) has been attributed to poor training. The "solution", (also stated simplistically) has been to appeal to the certifiers to improve. The findings of this study throw a different perspective on the
"problem". It is complex and grounded in the nature of the experiences of the certifiers. The solutions need to take account of the more complex nature of the problem.

There are contemporary thinkers and writers who acknowledge the role of uncertainty in medicine, and outline strategies to manage it. The works of these authors provide a framework to understand the findings of this study, particularly with respect to the element of clinical uncertainty. The following discussion elaborates on these issues.
6.2 The Questionnaire

6.2.1 The response rate

Two hundred and twenty questionnaires were mailed to a randomly selected sample of general practitioners. The response rate was 87%. There were three features of the design and presentation of the questionnaire, which I used deliberately to encourage a "good" response rate. These were:

- the researcher as a person: the introductory letter (Appendix C) enclosed with the questionnaire made it clear that the research was being done by myself, a general practitioner, on my own behalf rather than by an "institution" or an "organisation"
- personal communication reaching the general practitioner: the envelope was addressed by hand, and marked "personal and confidential", and was not mailed from a mailing house or addressed with a computerised sticker
- simplicity of participation: the questionnaire was designed to use no more than the two sides of a single page of A4 paper, to minimise the volume of paper that mounts up on a general practitioner's desk.

Informally participants commented that they rarely if ever discussed the issues around completing death certificates. It is possible that the novelty and pertinence of the subject contributed to the high participation rate.

I mention an uncomfortable situation that arose from adding “Personal and Confidential” to the envelopes. I received a complaint from a general practitioner who had had several deaths within his family in a short period of time, prior to receiving the questionnaire. He was distressed and angered to open mail which was addressed as personal and confidential, to find it was a questionnaire, and it was not "personal" in the usual context. He did not complete the questionnaire. I did write a letter of apology, and heard no further from him. I had not anticipated such circumstances and would in future, use the word "private" instead of "personal", or a phrase such as "for the addressee only".
6.2.3 The sample

When compared for age and gender the general practitioners who responded to the questionnaire were representative of New Zealand general practitioners. There were 167 general practitioners (76% of the original sample) who were eligible to complete the questionnaire. These 167 practitioners comprised the final study sample. The 95% confidence intervals for this sample size are +/- 6%.

The purpose of the questionnaire was to gather information from a hundred practising general practitioners, and this number was exceeded.

6.2.4 Response bias

The questionnaire was based principally on closed questions with a fixed presentation of answers, allowing uniform coding and interpretation. As most of the questions involved self-reporting of behaviours, a response bias may be present, and over or under-reporting needs to be borne in mind when discussing the findings.

6.2.5 The analysis

Simple frequency analysis was used to organise the data gathered giving a series of frequency tables; 95% confidence intervals were used. Logistic regression was used to examine the data for any relationship between the variables of age, frequency of death certification and the likelihood of doubt and requesting of postmortem examinations. There were three significant findings with a p value of <0.05 were made.

The simplicity of the statistical analysis met the objective of the questionnaire to record the frequency of general practitioners' actions regarding the death certification process.
6.3 The Focus Groups

6.3.1 The participants

Of the eighteen general practitioners invited to participate, two declined because of commitments competing with the same times the focus groups were planned. The participants were selected for their experience in general practices in different settings (urban/rural, solo/group practice). Ten of the sixteen participants were in their forties each of whom had about twenty years of clinical experience. General practitioners in their forties comprise 31% of the New Zealand general practice workforce, second to those in their thirties who comprise 41% of the workforce (53).

The ideal number for participants in focus groups varies according to different writers from six to twenty (49-52). With only four participants and one facilitator, these focus groups were smaller than "usual". It was relatively easy to arrange five people to meet at one time, more would have been more difficult as there are many demands on general practitioners outside "normal" surgery hours.

I believe that for this these teleconferences, the size of the focus groups was appropriate - small enough to allow easy participation by all, and large enough to give diversity of opinion and generate discussion independently of the facilitator.

6.3.2 The number of focus groups

The ideal number of focus groups can be considered the number that gives redundancy of information (48). Four focus groups were planned and no additional ones held. The third and fourth teleconferences provided more detail about subjects that had been raised in the previous discussions, but no new information. This was supported when the analysis of the transcripts was done. Therefore no teleconferences after the fourth were arranged.
6.3.3 Focus groups as the method of data gathering

Focus groups had their origin in market research (56). They have been used frequently in research in the humanities and since the 1980s they have been used increasingly in medical and public health research (54-56). The use of both quantitative and qualitative methods of this research was consistent with current practices in research in general practice.

The semistructured format of the focus groups did allow the generation of discussion independently of the researcher and the facilitator. The facilitator used only one or two of the "prompts" in any one focus group. The detail was "dense" and descriptive, and provided insights that were not attained through data gathering from the questionnaire.

6.3.4 Focus groups by teleconference

Holding the focus groups by teleconference enabled the study to proceed. Administratively it could be managed easily by one person. Financially it was manageable because it could be accurately budgeted for. In addition, the teleconference medium enhanced participant access, allowing participants to be fully involved without travel and direct financial cost to themselves.

White et al used teleconferencing for focus groups discussing the sensitive issue of sexual relationships between general practitioners and patients (60). The anonymity conferred to the participants by teleconferencing was a desirable feature in White's study. Death certification can also be considered a sensitive issue, and in this study anonymity too was desirable, and may have been assisted by the teleconference medium. However, as in White's research, confidentiality and respect for other participants' contributions were groundrules reinforced at the beginning of the teleconferences.
6.4 The findings of the questionnaire

In general the findings of the questionnaire support previously known weaknesses in the process of training of death certification. There are additional findings, which have implications for the training needs of certifying practitioners. The results of the questionnaire document the element of doubt certifiers have experienced. The questionnaire also documents factors besides training, which influence death certificate completion.

6.4.1 Frequent, infrequent and noncertifiers

General practitioners are either frequent, infrequent or noncertifiers of death certificates. The eleven general practitioners who completed more than twenty certificates in the preceding two years could be defined as frequent certifiers, particularly when compared with their colleagues. Bloor also described frequent and infrequent certifiers (16). He arbitrarily defined frequent certifiers as those who had completed seven or more certificates in a particular six month period. The two studies are not truly comparable, but both acknowledge the different rates of certification among general practitioners.

This finding may have implications for training, particularly in the postgraduate situation. Noncertifiers are unlikely to require continuing training unless they become certifiers. Training needs of infrequent and frequent certifiers may be different, and different combinations of didactic teaching, audit and peer review may be appropriate for each group.

6.4.2 Factors affecting completion of death certificates

The questionnaire listed six factors, which could be considered to affect how death certificates are completed. The factors were related to the patient, the patient's family, the habits of the patient, access to postmortem facilities and social stigma of certain diagnoses. The outcome was that for some practitioners, at some time, each of the six factors was thought to affect how they completed the death certificate. The relatives' feelings about postmortem examinations were always considered by 7% of general practitioners, and
sometimes by 53%. On the other hand, some general practitioners felt that each of these factors never affected the entry on the death certificate.

The degree of influence of each of the listed factors was not assessed in this questionnaire. The provision of a list of factors did not allow for other unidentified factors to be revealed. It is obvious that there are other factors besides training, that do influence death certificate completion. These factors should be considered by those involved in training on death certification and by those using death certificate data in research or policy development.

6.4.3 The use of death certificates and how this affects completion of death certificates

Unfortunately, the question about how a death certificate is used was ambiguous. Only a small number of respondents indicated that the way in which a death certificate was used affected their entry on the certificate. This could indicate that only a small number of practitioners know how a death certificate can be used once completed, or that respondents knew how a death certificate is used and did not give due regard to this when completing the certificate.

I do not know how important it is to know how a death certificate is used, but feel that its final application might have a bearing on the entry. The opportunity to inform medical practitioners about this should be taken up during training.

6.4.4 Reporting other conditions

Medical practitioners are not "good" at adding "cause of death" information available after the death certificate has been completed (13-15). This feature was not explored by the questionnaire. However this questionnaire did show that some general practitioners never report "additional" information about alcohol, drug abuse and cigarette smoking. These "lifestyle" behaviours are frequently referred to in the course of managing illness and disease in western society.
If indeed epidemiologists and health planners consider such information is necessary, they need to realise it is unlikely to appear consistently and spontaneously on the current death certificates.

6.4.5 Training

The findings from this questionnaire are consistent with studies that show many practitioners do not receive training on death certification (2-4, 13-15). The challenge is to provide effective training with follow up support, to take into consideration the many different styles of practice and frequencies of performing the task.

6.4.6 Doubt and uncertainty

An important finding, documented possibly for the first time, is the element of doubt that 72% of general practitioners experienced when completing death certificates. The questionnaire did not probe further to elucidate why there was doubt. The participants in the focus groups made frequent mention of uncertainty. What was described as "doubt" in the questionnaire may well be the "uncertainty" that was discussed by participants in the focus groups.

6.4.7 Using preferred terms

There are reports describing certifying practitioners' incorrect use of terms on death certificates (13-15) because they are syntactically inappropriate. Such terms such as "respiratory failure", "cachexia", "cardiovascular collapse" are examples. A minority of general practitioners in this group reported the use of certain "preferred" terms in certain situations. The terms they reported using are similar to some of those considered "incorrect" (13-15). This indicates a gap in the knowledge of some general practitioners. It also indicates that the use of "preferred terms" does take place and needs to be explored further.
6.4.8 Postmortem examinations

There is an ambivalence about the necessity for postmortem examinations among medical practitioners, evidenced by the rates of them, and by the reported reasons for not arranging them. Black reported that only 3% of deaths in a general practice population were referred for postmortem examination. In 1977 Gwynne reported that the rate of postmortems in his teaching hospital was 51.8%, and stated that 75% was the optimum rate for a teaching hospital.

This questionnaire showed that the majority of general practitioners (74%) sometimes asked for a postmortem examination in the circumstances of sudden death, and only 16% always asked for one. The main reason cited for not requesting a postmortem was the wishes of the family. There are already doubts about just how much postmortem examinations improve the accuracy of death certificates, and perhaps this knowledge contributes to the general practitioners' actions. Other references cite cultural and social factors reducing the number of postmortems.

Although countries publish guidelines indicating when deaths should be considered by the coroner there are no specific guidelines about postmortem examinations.

6.4.9 Comments

This questionnaire supports what was already known about the amount of training received by medical practitioners. It has provided evidence (not previously documented) that a significant number of general practitioners experience doubt at times when completing death certificates, and identified some factors that influence death certificate completion.

The reasons "why" were not explored through this questionnaire. For example:
- Why do general practitioners not request more postmortems?
- Why do some use certain terms in certain circumstances?
- Why do some factors influence the entry on the death certificate, and others do not?
• Why do so many have a feeling of doubt about the final entry on the certificate?
• How do general practitioners manage to complete death certificates when there has been no training?

The general practitioners in the focus groups discussed these issues, without being aware of the content of the questionnaire.
6.5 The findings from the focus groups

6.5.1 Introduction

The results of the focus groups are presented as a series of observations, supported by many quotations. The presentation is consistent with reporting qualitative methods of research. To condense the results further would be to lose data and a resource.

Due to limitations of a Masters thesis thematic analysis was only taken to a substantive level of analysis. The issues are complex and warrant further study. This "collection" of quotations is a repository of the participants' insights, which will keep for future reference.

The issues discussed further come directly from the focus group results. They are only a few of all the issues raised, but are selected for their relevance to the inaccuracy of death certificates.

6.5.2 On the nature of general practice

6.5.2.1 Uncertainty

"...the uncertainty is the reality..."  

"In ways, it's one of those dilemmas. Our training has been to sort of encourage greater certainty, and yet, yet we tolerate a... a perhaps blindly tolerate a great deal of uncertainty."  

The difficulty to assure certainty of a diagnosis was a familiar dilemma shared by the participants. They described the tension between the expectation of diagnostic accuracy and the imperfect "uncertain" reality of general practice. It is as if the fabric of general practice is woven with threads of uncertainty.

In the context of death certificate accuracy, the importance of uncertainty is to know how much is justified and how much is due to lack of knowledge. That which is due to lack of
knowledge can be changed; that which cannot be reduced by means such as postmortems and/or the collective medical wisdom will remain.

Uncertainty itself will need to be defined. Validating the role of uncertainty will need to be addressed. Managing uncertainty will need to be learned.

6.5.2.2 General practice per se

The general practitioner's reality is focused primarily on the person who is the patient and secondarily on the people important to the patient. In some circumstances there are other important individuals who might be part of the picture, for instance the police, the coroner, the funeral director, the hospital specialist. The world of the general practitioner does not often include researchers, public health planners or statisticians.

This patient focus is one of the strengths of general practice, and a possible weakness when death certificates are needed. The patient focus is a professional bias, which warrants further investigation with respect to its influence on the accuracy of death certification. There may be professional biases of a similar nature but a different focus, among the other groups of certifiers. This too needs further exploration.

6.5.3 On professional issues

6.5.3.1 The obligation or duty of the doctor

The findings of the focus groups clearly show that individual general practitioners were acutely aware of their obligation to certify only deaths due to natural causes. The other obligations recognised were to the family (particularly when considering postmortem examinations), the police, coroners and the greater community. These additional obligations are both formal and informal, explicit and implicit.

The use of data from death certificates by statisticians, researchers and epidemiologists was seen as a process that existed, but one which did not confer a significant obligation on the individual certifying practitioners. This was not a matter of apathy or disregard by the
general practitioners. They did express concern about their priorities and the bias towards the direct influences of family, police and coroners, those "at the scene". Perhaps it reflected the distance between the general practitioners and their "academic" colleagues.

The obligation to their profession became apparent when they talked about the value of details in the family history, and their dependence on research to make evidence based management decision. The possibility that imprecise information on death certificates could mean that certain remedial causes of death were under-reported was an uncomfortable insight for some practitioners.

These findings indicate there is a need to articulate the formal and informal obligations of death certification. The provision for this should be made during initial training and postgraduate support networks.

6.5.3.2 Problem solving

General practitioners do not always have the luxury of time to make decisions. They need to solve problems as they present, and this includes completing death certificates. When confronted with time to discuss the issues, the general practitioners in the focus groups demonstrated their practical resourcefulness. Albeit that their solutions were often shortlived as they saw the impracticalities of them, they were willing and eager (and had the "qualifications") to address the dilemmas.

If there is to be a think tank about the future of death certificates, then the voice of experienced general practitioners must be included.

6.5.4 On personal issues

6.5.4.1 Honesty, comfort and confusion

The issues raised by the participants touched the integrity of their professional and personal selves. They often referred to honesty and dishonesty. Honesty was linked to certainty and uncertainty. Dishonesty was uncomfortable and not intended, but did exist, depending on the definition used.
A: "What gives you the discomfort when you're writing out a death certificate?"
L: "Just the not knowing...it gives me discomfort every time I'm not sure."
(focus group C, p19)

"Is it that we are acting dishonestly, in that we're signing something that we're not sure about?"
(focus group C, p20)

"And then we aren't honest actually, and we are liars, and we shouldn't be doctors." (focus group A, p6).

The personal and professional conflict was there.

These focus groups were not the place to explore this dichotomy further, and the general practitioners did not express a need or desire to do so. They discussed the ways they coped with the consequent discomforts. Some would take a few minutes out and reflect, some would return to the work they had left. Among the many demands of their days, death certification is only one. The discomforts generated by death certification were familiar for the general practitioners. Perhaps through this familiarity the discomforts become "normal", and allow life to carry on.

Currently general practitioners in New Zealand are subjected to many changes in the name of "health reforms", and there are many more pressing issues to address than death certification. A call to review the current death certificate procedure is most unlikely to come from general practitioners. They are "managing".

6.5.5 On administrative issues

6.5.5.1 Training

The paucity of training was re-iterated during these focus groups. Not only was it erratic and inconsistently sourced, it did not address the issues these practitioners confronted. However, there was no resounding call for more training, or an indication that "training" would be the solution to whatever difficulties death certificates posed. This may have reflected the low level of confidence the general practitioners had in the value of the training they had received.
These focus groups inadvertently provided an opportunity for general practitioners to discuss a rarely mentioned part of their work. Measuring the effect of this "intervention" on their future performance of death certification was not part of the plan. However, this method of discussion between peers should be investigated as a training opportunity.

6.5.5.2 The procedure after death certificate completion

Some general practitioners were not clear about the procedure following completion of the death certificate and making it available for the funeral director. The occasional requests concerning legibility and more detail do little to enhance an understanding of the procedure or contribute to improvement in performance. It is as if the death certificates disappear in a vacuum. The findings support a need for constructive feedback and information about procedure.
6.6 The questionnaire and the focus groups: does $1+1=2$ or is $1+1>2$?

The initial design of the study provided for the administration and analysis of the questionnaire to be completed prior to holding the focus group teleconferences. This sequence would ideally have enabled the focus groups to explore unfinished issues arising from the results of the questionnaire. This did not happen. The focus groups took place between 24 September and 10 October 1996. The questionnaire was first mailed out in November 1996. The second mailing of the questionnaire was in early 1997. The analysis and results of the questionnaire were compiled in July 1997, and the analysis of the focus groups was done in October 1997.

The focus group discussions were well and truly completed before the first questionnaires were returned. This does mean that the discussions were unfettered by an agenda determined by the study. When the analyses of both the questionnaires and the focus groups were complete, the congruence between both was remarkable.

The questionnaires asked explicitly about the practitioners' working environments, training, frequency of certification and use of preferred terms in specific situations. The participants in the teleconferences:

- often introduced themselves by way of describing their practices, and the frequency of completing death certificates
- talked anecdotally of how the relatives of the deceased would or would not be comfortable with postmortem examinations, and the effect of this on their decisions
- referred to their training or absence of it
- talked about their use of preferred terms in certain clinical circumstances.

All the issues raised in the questionnaire were covered spontaneously in the focus group discussions. The discussions however raised more issues, these being:

- the nature of relationships with police, coroners and colleagues
- possible solutions to the imperfections of the death certification process
• the different obligations the doctor needs to meet
• the problem solving or coping methods used by general practitioners
• the general practitioner's personal grieving that takes place when a patient dies.

Among the results of the teleconferences provisional answers can be found to all the "why" questions posed in section 6.4.9. The disadvantage of the actual sequencing of the questionnaire and the focus groups was the lost opportunity to focus particularly on single issues. The advantage was the "resonance" achieved between the questionnaire and focus group findings. The findings from the focus groups complemented those from the questionnaire. The content of each was consistent with the other, and yet both were administered independently.

For instance: of the respondents to the questionnaire 10% and 37% respectively stated that the completion of the death certificate, and the decision to proceed with a postmortem, were influenced by the family/relatives. The focus group participants provided an insight into the moving force for this influence:

"And how would you handle that when you've got a whole family of distressed people standing around?" (focus group C, p14).

"With the Maori patient it really is like that. You just don't get a coroner...a coroner's case out of it, even if you would like to, and you're not sure." (focus group A, p3)

The questionnaire provided a "two dimensional" quantifiable view. The focus groups provided a depth of understanding not possible from the questionnaire, a "three dimensional" view. The questionnaire provided the numerical framework, the focus groups some of the fabric between the frames. In this instance 1+1>2!
6.7 The "problem" of inaccurate death certificates re-stated

In the introduction the current views about the reasons for inaccurate death certificates are elaborated on. In brief these are:

- the absence of training
- the absence of audit and follow up
- the attitude of the certifying practitioner
- classification and coding of details

Only a few authors have gone beyond these views to consider other explanations for the problems.

- Bloor described the activity as unsupervised, unreported, invisible and unconsidered (16).
- Goodin and Hanzlick sought other influencing factors, such as consulting patterns, pathology board status and lawsuit threats, but failed to find a positive correlation (28).

This study has shown some factors that influence the completion of death certificates, in particular the wishes of the family and the accessibility of postmortem examinations. The effect of these influences has not been measured, and the significance is not known. The fact is that there are factors that do influence certifying general practitioners, factors that have not been documented in the past. More work is needed to identify:

- other factors influencing general practitioners
- what factors influence the certifying practitioner from different disciplines of medicine
- what factors influence coroners.
- the degree of significance of each influential factor.

In essence this study has demonstrated that the clinical context of the certifying general practitioner influences death certificate completion.
The other important insight provided by this study concerned the element of clinical uncertainty, which was discussed independently in each of the four teleconferences. To support this the questionnaire showed that 72% of respondents had experienced "doubt" at some time when completing death certificates. My interpretation of these findings was that the general practitioners felt accuracy in diagnoses for death certification was difficult to achieve due to the inability to be certain about clinical events.

I propose that the "problem" of inaccurate death certification includes:

- the clinical context (with its inherent biases) of the certifying practitioner
- the element of uncertainty inherent in clinical medicine.
6.8  The nature of evidence, paradox, consensus, medical practice variation & death certification

6.8.1  The nature of evidence, paradox and consensus

In 1994 Marshal Marinker was the convenor of six meetings on issues that appeared to be important for policy makers on health care matters\(^{46}\). In this role he identified three features of policy making that made an impression on him. These were:

- "The profound uncertainties and ambiguities in medicine that masquerade as facts
- The pervasiveness of conflicting ideas and values
- The complexity of the group processes by which we come to an agreement about what to do." \(^{p3, 46}\)

He called for a need "to pay increasing attention to the nature of evidence, the pervasiveness of paradox and the many modes of consensus" \(^{p23, 46}\). If this is applied to death certification the nature of the evidence of inaccuracy needs more scrutiny than has taken place. The nature of the evidence of inaccurate death certification is incomplete. This study demonstrates areas that need further investigation. To date the evidence has not taken into consideration the perspective of the certifying practitioner, for instance.

Beyond this view of the nature of evidence is a starker view - that of the use of data which are at the very best well considered professional opinions, rather than clinical certainties. The focus group findings in particular, demonstrate the influence of the personal ideas and values of the practitioners who are actually completing the death certificates. These are in clear conflict with those of the professionals who are using the death certificates.

In view of death certification, as challenging as the issues of the nature of evidence and paradox, is Marinker's third concerning consensus. He makes reference to the complexity of group processes in achieving consensus. With respect to death certification, the groups involved in these processes are not even clearly identified. General practitioners are only
one of the groups of medical practitioners completing death certificates. There are practitioners from multiple disciplines using death certificates. Defining the group must take place before the group processes can begin!

Marinker's plea is for more open debate, sharing of information and exploration.

6.8.2 Medical practice variation

In 1985 Feinstein published a bibliography of publications on observer variability (61). It was a collection of references he had gathered during the preceding twenty years. He described it as referring to "phenomena noted subjectively by patients and by medical observers. The references include tests and procedures that might be performed by clinical practitioners, but not those done in medical laboratories." (p619, 57) He cites more than four hundred references.

Feinstein's bibliography does not include any reference to publications on death certificates, but could do now. In separate studies Bloor (16) and Hanzlick (62) demonstrate observer variability in death certification. These studies are simulations of clinical situations not actually in the clinical setting - probably the closest that can be achieved to study the role of observer variability in death certification.

McPherson refers to Feinstein's bibliography, to support the evidence that Medical Practice Variations (MPV) are an entity in their own right. McPherson defines MPVs as systematic variations in standardised rates for particular treatments, or important aspects of treatments within a population. He cites Glover's work in the 1930s, demonstrating the wide range in the rate of tonsillectomies in school children, as an example of some of the first evidence of MPV. MPVs are observed between countries, regions, districts, specialists and general practitioners. "Medical practice variation is a characteristic of almost every aspect of health care." (p56, 27).

McPherson describes how attempts to explain the existence of MPVs by disease or need rates have failed, and that individual clinical decisions or practice styles best explain
variations in care. He elaborates on the varying rates of hysterectomy, management of benign prostate disease and cholecystectomy. He points out that there are some parts of medical care where systematic variations do not exist, and reports that around 10% of hospital admissions are for care that is unambiguous and without practice variation. The way death certificates are completed is another example of a medical practice variation. The work of Bloor (16), Hanzlick (62) and studies using World Health Organisation data bases (8,9,29) support this, as they all demonstrate variations in death certificate completion, which are a consequence of reasons beyond administrative inaccuracies. The first two demonstrate variation among individual practitioners, the last to variation among countries.

McPherson discusses the implications of MPV for decision making and health policy, by considering the underlying causes. He attributes the causes of MPV to:

- clinical uncertainty, when the relevant research has not been done
- clinical ignorance, when the research has been done but is not understood, believed or circulated
- individual informed preferences.

He elaborates on clinical uncertainty:

- "... uncertainty can be confused with ignorance too readily, and if genuine uncertainty is taken as a manifestation of ignorance, then it is unlikely to be readily acknowledged." (p66, 21).
- "The distinction made here between uncertainty and ignorance is that the former is manifested by practice styles uninformed by scientific evidence yet to be obtained. Often they are necessarily based on hunch, scientific extrapolation, hope, personal experience, and so on. Ignorance is taken here to mean the decisions that are taken where the empirical or theoretical scientific evidence that already exists is ignored or forgotten, and is possibly never understood or even studied." (p62, 27).
He also states that "a formidable body of knowledge and understanding" is needed to perceive the full extent of true uncertainty. By defining the causes of MPVs he suggests the ways to manage them are to:

- identify the true areas of clinical uncertainty
- ensure dissemination of information
- offer patients the opportunity for informed choice.

These strategies would improve the current state of inaccurate death certificates. Identifying the true areas of clinical uncertainty would be reassuring for those general practitioners in the focus groups who recognised clinical uncertainty and were concerned about the best way to deal with it. Advising certifying practitioners of the areas of clinical uncertainty and facilitating ongoing support to clarify issues would be a significant improvement on the current situation of non-communication (apart from the provision of booklets on guidelines). The degree to which patients might be given the opportunity for informed choice could be considered nationally, with an information programme about the value and need for accurate information. It would be difficult to introduce *de novo* at the time of a death.

Often the existence of MPVs is seen as an opportunity for financial savings, instead of a feature to be considered when making health policy(27). McPherson summarises the management of MPVs and health policy as follows:

- when MPV arises from ignorance, health policy should protect from harm and promote effectiveness of public expenditure
- when MPV arises from uncertainty, health policy should favour minimising public expenditure until the marginal benefit of higher rates can be justified
- health policy should promote the role of informed preference and consumer autonomy (recognising that this principle may conflict with the previous one).

If applied to death certification, these strategies could be translated into:
• when death certification completion arises from ignorance, policy should be to review, inform and use the opportunity to improve future performance

• when death certification arises from uncertainty, policy should be to remove these data from circulation for application to public health policy, with the intent to minimise misinformation, and misappropriation of funds

• policy should be to have a population informed about the processes available to reduce uncertainty about the cause of death, and the implications of these.

There are three other comments that McPherson makes, which are very relevant to death certification as they were echoed in the focus groups.

• "Medicine is not an exact science, and in many respects is not a science at all, only science based." (p71,27)

• "In terms of medical education, the right balance between certainty and uncertainty, between what is known and what is believed, should be explicitly considered." (p71,27)

• "The evidence for common uncertainties in clinical practice is overwhelming and clearly important." (p71,27)
7. CONCLUSION

Maudsley and Williams made a concise statement about the situation regarding death certificates (4): "It is known that inaccurate death certification is a problem, but not how to reconcile the relative contributions of diagnostic and semantic errors and relate these to impact. Beyond more robust evidence, a different educational perspective (to apply the available evidence more effectively) is required, advancing from merely urging educational input to evidence-based interventions. Certifiers are receptive to more education about death certification, but it is not yet known which interventions are best. The flaws in the theoretical framework of cause of death and the routine nature of death certification are unavoidable, but necessary considerations. Certifiers need practical feedback mechanisms to improve understanding of the construction of mortality data."

The different educational perspective referred to by Maudsley and Williams needs to be broader than education alone. The essential perspective needs to incorporate:

- the perspective of the certifying practitioner
- the strategies about medical practice variation management as described by MacPherson
- the policy making issues described by Marinker

This problem of death certificate inaccuracy will never die until the real causes are identified. The medical profession must acknowledges its responsibility to manage the current situation. The element of clinical uncertainty and bias of the certifying practitioner are probably afflictions of the human condition. As medical practitioners with a responsibility to our society and ourselves, we need to know what is possible, and learn to integrate what is not possible.

As medical practitioners we should heed the eloquent words of Gayle Stephens (65, 63): "Identifying what can be known completely is unimportant. Pieces of knowledge can never be separated from the whole without a "reductio ad absurdum". All knowledge that keeps its relationship to the whole continues to exhibit ambiguity, uncertainty and some degree of incomprehensibility."
REFERENCES


(60) White GE, Coverdale JA, Thomson AN. Can one be a good doctor and have a sexual relationship with one's patient? Fam Pract 1994; 11: 389-93.


Appendix A - Ethics Committees' Endorsements

North Health
Northern Regional Health Authority
Mana Hauora A Rohe O Te Raki

7 June 1996

Dr Carol McAllum
Ngunguru PDC
Private Bag
Whangarei

Dear Dr McAllum

96/074 A STUDY OF THE FACTORS INFLUENCING THE COMPLETION OF DEATH CERTIFICATES BY GENERAL PRACTITIONERS

The above study was considered by North Health's Ethics Committee X at the meeting on 29 May 1996.

Members agreed that the study did not require ethical approval from the Committee.

Since you will also be carrying out the study in the Wellington area, the Wellington Ethics Committee also reviewed the proposal and I have understand you have received a copy of the letter with their comments. I suggest that you amend the subject information sheet in accordance with the Wellington Ethics Committee's comments and use it when recruiting GPs in all areas.

Kind regards.

Yours Sincerely

Ann Howard
Secretary
Ethics Committee
16 May, 1996

Ms Anne Howard
Secretary
North Health Ethics Committee
Private Bag 92522
Wellesley Street
AUCKLAND

Dear Ann

96/46 - A study of the factors influencing the completion of death certificates by general practitioners

This application for Ethics Committee approval for the above study was considered by the Committee at its meeting on 14 May.

Our Committee's comments were:

I. The information sheet should either be reduced to one page or use the consent form as a combined information sheet and consent statement. In particular, there is some irrelevant material in the information sheet such as compensation for injury or negligence (not applicable). Alternative treatments, financial considerations etc.

We leave the finalisation of the information sheet and consent form with the primary ethics committee, North Health.

This project is approved. It is a condition of Wellington Ethics Committee approval that a brief progress report is provided no later than May 1997 and at the completion of the study a copy of any report/publication for the Committee's records. Please notify the Committee if the study is abandoned or changed in any way.

Yours sincerely

Alison Douglass
CHAIRPERSON

c.c. Dr Carol McAllum, Ngunguru Estuary Surgery, Private Bag, Whangarei
Dr Ian St George, WSM
Appendix B - *The questionnaire*

*Please tick the boxes that apply to you.*

1. **HAVE YOU COMPLETED ANY DEATH CERTIFICATES IN THE PAST TWO YEARS?**
   - [ ] yes
   - [ x ] no

   *If your answer is 'no', please go straight to question 13.*

2. **HOW MANY DEATH CERTIFICATES DID YOU COMPLETE IN THE LAST TWO YEARS?**
   - [ ] 1-5
   - [ ] 6-10
   - [ ] 11-15
   - [ ] 16-20
   - [ ] 21+

3. **HAVE THE FOLLOWING FACTORS INFLUENCED YOUR ENTRY ON A DEATH CERTIFICATE?**
   - [ ] the immediate history of the patient
     - always
     - never
     - sometimes
     - n/a*
   - [ ] the full medical history of the patient
     - always
     - never
     - sometimes
     - n/a*
   - [ ] the stigma of certain diagnoses
     - always
     - never
     - sometimes
     - n/a*
   - [ ] confidential details the patient had not wanted disclosed
     - always
     - never
     - sometimes
     - n/a*
   - [ ] ease of access to post mortem facility
     - always
     - never
     - sometimes
     - n/a*
   - [ ] relatives' feelings about post mortem examinations
     - always
     - never
     - sometimes
     - n/a*

   * n/a: meaning not applicable or has not yet been an issue

4. **HAVE YOU INCLUDED THE FOLLOWING ON DEATH CERTIFICATES?**
   - [ ] history of alcohol abuse, when present
     - always
     - never
     - sometimes
   - [ ] history of cigarette smoking, when present
     - always
     - never
     - sometimes
   - [ ] history of drug abuse, when present
     - always
     - never
     - sometimes

5. **HAVE YOU EVER BEEN IN DOUBT ABOUT THE MAIN DIAGNOSIS YOU HAVE WRITTEN ON A DEATH CERTIFICATE?**
   - [ x ] yes
   - [ ] no
   - [ ] can't remember

   *If your answer is 'no', or 'can't remember', go to question 8.*

6. **WHEN IN DOUBT, HAVE YOU CONSULTED WITH SOME-ONE ELSE?**
   - [ ] yes, always
   - [ ] no, never
   - [ ] sometimes
   - [ ] can't remember

   *If your answer is 'no' or 'can't remember', go to question 8.*

7. **WHEN IN DOUBT, HAVE YOU CONSULTED WITH**
   - [ ] a colleague
   - [ x ] the coroner
   - *other - please specify..........................................................*

8. **HAS YOUR ENTRY ON A DEATH CERTIFICATE EVER BEEN INFLUENCED BY KNOWING IT IS USED BY:**
   - [ ] the Ministry of Health
     - yes
     - no
   - [ ] original researchers
     - yes
     - no
   - [ ] the patient's family
     - yes
     - no
   - [ ] third parties [e.g. insurance companies, social welfare agencies]
     - yes
     - no
   - [ ] the World Health Organisation
     - yes
     - no
9. DO YOU HAVE A PREFERRED TERM YOU USE, WHEN THE DEATH IS NOT SUDDEN, AND THE CAUSE IS NOT CLEAR? [e.g. “cachexia”, “bronchopneumonia”]
   [ ] yes  [ ] no  
   If you ticked ‘yes’ specify the term...

10. IN THE EVENT OF SUDDEN DEATH, DO YOU REQUEST A POST-MORTEM EXAMINATION?
   [ ] yes, always  [ ] no, never  [ ] sometimes
   If you answered ‘yes’, go to question 13

11. HAS YOUR DECISION NOT TO REQUEST A POST-MORTEM EXAMINATION BEEN INFLUENCED BY THE FOLLOWING FACTORS?
   # Availability of a pathologist  [ ] yes  [ ] no  [ ] sometimes  [ ] n/a*
   # Availability of a coroner  [ ] yes  [ ] no  [ ] sometimes  [ ] n/a
   # Wishes of the family of the deceased  [ ] yes  [ ] no  [ ] sometimes  [ ] n/a
   # Cost of post mortem examination  [ ] yes  [ ] no  [ ] sometimes  [ ] n/a
   # Other please specify...

   * n/a : meaning not applicable or has not yet been an issue

12. IN THE EVENT OF SUDDEN DEATH, AND THE ABSENCE OF A POSTMORTEM EXAMINATION, DO YOU HAVE A PREFERRED TERM YOU USE ON THE CERTIFICATE?
   [ ] yes  [ ] no
   If you ticked ‘yes’, specify the term...

13. ABOUT YOURSELF - DID YOU RECEIVE TRAINING IN HOW TO COMPLETE DEATH CERTIFICATES?
   [ ] yes  [ ] no  [ ] can’t remember

   If you ticked ‘no’ or ‘can’t remember’, go to question 15

14. DID TRAINING TAKE PLACE DURING:
   # undergraduate medical school  [ ] yes  [ ] no
   # hospital intern, house surgeon, registrar years  [ ] yes  [ ] no
   # vocational training year/s  [ ] yes  [ ] no  [ ] n/a
   # other please specify...

15. PLEASE DESCRIBE YOURSELF by ticking the boxes that apply to you.
   [ ] female  [ ] male
   [ ] 20-29 yrs [ ] 30-39 yrs [ ] 40-49 yrs [ ] 50-59 yrs [ ] 60-69 yrs [ ] 70+ yrs of age
   [ ] in rural practice  [ ] in urban practice  [ ] in semi-rural practice
   [ ] in solo practice  [ ] in group practice (includes two person practice)
   [ ] hospice appointment  [ ] rest home/geriatric home appointment

18. ANY COMMENTS?
   (Many thanks for your contribution!)
Appendix C - Information sent to questionnaire recipients

Dear Doctor,

I would appreciate you completing the enclosed questionnaire. It is a questionnaire about death certificates and general practitioners. It comprises part of a study I am undertaking upon the factors that influence general practitioners as they complete death certificates.

The questionnaire has been piloted, and respondents described it as 'user friendly' and not time consuming!

You are amongst two hundred and twenty general practitioners who have been randomly selected from all active general practitioners in New Zealand.

To ensure your anonymity, do not add your name or sign the questionnaire. Return it in the stamped addressed envelope provided. At the same time as posting the questionnaire, also post the enclosed stamped addressed card, separately. The card has a number on it. If I do not receive the numbered card during the next two weeks, I will send you another questionnaire [in case you have lost the first!].

On the back side of this page are some details concerning the 'why' of this study.

Enjoy it!

Yours faithfully,

Carol McAllum, MMBS(Syd), FRNZCGP

PS If you would like to receive a copy of the results of this questionnaire, indicate this on the back of the numbered card, and I will forward you a copy when the results are collated.
Researcher  Carol McAllum, solo full time general practitioner. The research is being done as a thesis for the Master of General Practice degree.

Host institution  University of Otago, Dunedin

Supervisors  Dr. Ian St George, Assoc Dean of Postgraduate Affairs, Wellington Medical School.
Dr. Gillian White, Senior Lecturer, Dept Nursing & Midwifery, Massey University, Albany Campus.

Research Topic  A STUDY OF THE FACTORS INFLUENCING THE COMPLETION OF DEATH CERTIFICATES BY GENERAL PRACTITIONERS

Ethical Approval  Granted

Funding  A single grant has been made by the Charitable Trust of the Auckland Faculty of the Royal New Zealand College of General Practitioners. Beyond that grant, the research is funded by the researcher personally.

Contact details  Carol McAllum
Ngunguru Estuary Surgery,
Ngunguru PDC,
Private Bag,
Whangarei.

Telephone  0 9 434 3732
Facsimile  0 9 434 3214
Appendix D - Information sent to focus group participants

Dr

Dear

Many thanks for considering being part of this bit of work/thesis!

This will involve an hour of your time, to take part in a teleconference, to discuss the issues that influence the way in which a general practitioner completes death certificates. Attached is a copy of the research protocol.

There will be at least four teleconferences. Each will be facilitated by Ian St George. I will be present as a silent observer/recorder. There will be four general practitioners in each focus group.

The teleconferences will be taped. They will then be transcribed by a professional medical transcriber, who will have signed a statement of absolute confidentiality. On the transcription your identity will not be revealed.

The transcription will be available to you if you want it, in its written form, when completed, about six weeks after the teleconference. The results of the whole project will be available as the thesis, at the latest, by November 1997. The results will also be available to you, if you would want them.

The teleconferences are on the following nights....starting at 8.15PM
TUESDAY 24TH SEPTEMBER MONDAY 30TH SEPTEMBER
WEDNESDAY 2ND OCTOBER THURSDAY 10TH OCTOBER

I will give you a ring in the next few days, to follow up.
If you want to contact me beforehand, or not to be involved you can fax me :

fax home 0 9 434 3704 fax work 0 9 434 3214
phone home 0 9 434 3117 phone work 0 9 434 3732

If ringing me, call me collect.

My regards,

Carol McAllum
A STUDY OF THE FACTORS
INFLUENCING THE COMPLETION OF DEATH CERTIFICATES
BY GENERAL PRACTITIONERS

Hypothesis

That there are factors other than the clinical circumstances, that influence the entry a general practitioner makes on a death certificate.

Background

Completing the death certificate is a statutory duty for medical practitioners and coroners.

The data collated from the death certificates are used for many purposes. The World Health Organisation uses the information for comparative morbidity and mortality within and between countries.

National and international health programmes and policies are influenced by the data on death certificates. Death certificates are used by third parties, such as insurance companies and social welfare agencies. They are also of importance to next of kin.

There is evidence in the medical literature, that death certificates are inaccurate, with a rate between 20% and 60% of inaccuracy. The reasons for these inaccuracies have been attributed to lack of education and lack of audit.

This study examines the possibility of there being other factors contributing to the inaccuracies.

Method

The study will gather data from a questionnaire sent to a random sample of two hundred general practitioners, and from at least four teleconferenced focus groups. The focus groups will produce data of a qualitative nature, and will be analysed for themes. The questionnaire will produce quantitative data.

The results

The study in entirety will comprise a thesis for the Master of General Practice degree, the University of Otago. It will be available for publication, in part or in its entirety, in current medical journals.

August 1996
A STUDY OF THE FACTORS INFLUENCING THE COMPLETION OF DEATH CERTIFICATES BY GENERAL PRACTITIONERS

The researcher

Carol McAllum, full time general practitioner in a solo practice on the Tutukaka Coast, is the sole researcher. The research is being undertaken as a thesis for the Master of General Practice degree, the University of Otago.

The supervisors

The supervisor is Dr Ian St George, Assoc Dean of Post-graduate Affairs, Wellington Medical School.

Co-supervisor is Dr Gillian White, Senior lecturer, Dept Nursing & Midwifery, Massey University, Albany Campus, Albany.

Ethical approval

Ethical approval was sought to undertake the research in the areas covered by the Central and Northern Regional Health Authorities. The Central RHA has given ethical approval. The Northern RHA has stated ethical approval is not required.

Funding

A grant has been made by the Charitable Trust of the Auckland Faculty of the Royal New Zealand College of General Practitioners. Further funding is being sought. The researcher will be self funded, in the absence of further funding from external bodies.

Confidentiality

It is essential for the outcomes of this study, that absolute confidentiality by conferred upon all participants. The identity of the participants will be known to the researcher, her two supervisors, and the teleconference script transcriber only. The transcriber will be a professional research transcriber, and will sign a statement of confidentiality. The researcher and two supervisors are bound to professional confidentiality.

Contact details

Researcher Carol McAllum
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