# Continuity of care provided by general practice in Wellington over 100 years

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## Introduction

The story of the general practitioner (GP) who shared a common path with patients to manage the many health problems encountered over time is a story unique to general practice. Huygen's book on caring for families in the town of Arnhem in Holland is such a narrative.[1] The book documents many stories of family health and illness that Dr Huygen had to manage over 30 years. The key aspects of Dr Huygen's work that stand out are that he was the only medical practitioner working in his area of Holland and that he provided personal continuity of care between the 1940s and 1970s. The theme of personal continuity of care also weaves through stories of general practice work in New Zealand, such as Doctor Smith's lifetime work in the Hokianga between 1914 and 1948,[2] and Peter Anyon's work on the West Coast in the 1950s.[3]

None of the three doctors actually used the words 'continuity of care' when they talked about what they did over a lifetime. Academic and policy writers try to understand what it means to provide care in general practice over a long time and how such care shapes our understanding of general practice.

**Continuity of care has a long history of being a core value for New Zealand general practice**

## Defining continuity of care

Continuity of care has a long history of being a core value for New Zealand general practice. In 1955, the Interim Council of the College of General Practitioners in New Zealand decided that a member of the College should: *'Be regarded in the profession as a family doctor, accepting full responsibility for his patients at night and at weekends, in fact, at all times.'*[4]

In 1975, the New Zealand College of General Practitioners wrote *'A charter for general practice'* which claimed that *'Continuing care and the maintenance of good base records are both essential to good general practice... In most circumstances the best care is provided when every member of the family attends the same general practitioner.'*[5]

In 1988, the vocational training programme of the Royal New Zealand College of General Practitioners (RNZCGP) produced a list of indicators that could be used to measure the qualities desired in a good GP: *'Included under the criteria for clinical performance was the care of continuing problems with the doctor "using prior knowledge of the patient and family".'*[6]

In 1997, the first occasional paper produced by the RNZCGP included in the definition of a GP: *'A general practitioner is an appropriately qualified medical graduate who has particular knowledge and skills to provide personal, whanau [family] and community-oriented comprehensive primary medical care that continues over time...'*[7]

Each of the above publications described the relationship between the care provided by the GP, and the time that this care was provided. These official documents contributed to the large number of publications over the last decade on continuity of care.

A search of the Pub Med website using the terms continuity of care AND general practice OR family practice OR primary care produced 2331 articles; 63% were published in the last 10 years. One hundred articles were from New Zealand and Australia. In 2003 Saultz published

a systematic review of this literature and defined continuity of care as a complex description of care in three dimensions:[8]

1. ***Informational continuity of care:*** *'an organized collection of medical and social information about each patient is readily available to any health care professional caring for the patient. A systemic process also allows accessing and communicating about this information among those involved in the care."*[8]
2. ***Longitudinal continuity of care:*** *'a medical home where the patient receives most health care, which allows the care to occur in an accessible and familiar environment from an organized team of providers. This team assumes responsibility for coordinating the quality of care, including preventive services on an ongoing basis."*[8]
3. ***Personal continuity of care:*** *'an ongoing relationship exists between each patient and a personal physician. The patient knows the physician by name and has come to trust the physician on a personal basis. The patient uses this physician for basic health services and depends on the physician to assume personal responsibility for the patient's overall health care. When the personal physician is not available, a coverage arrangement assures that longitudinal continuity occurs."*[8]

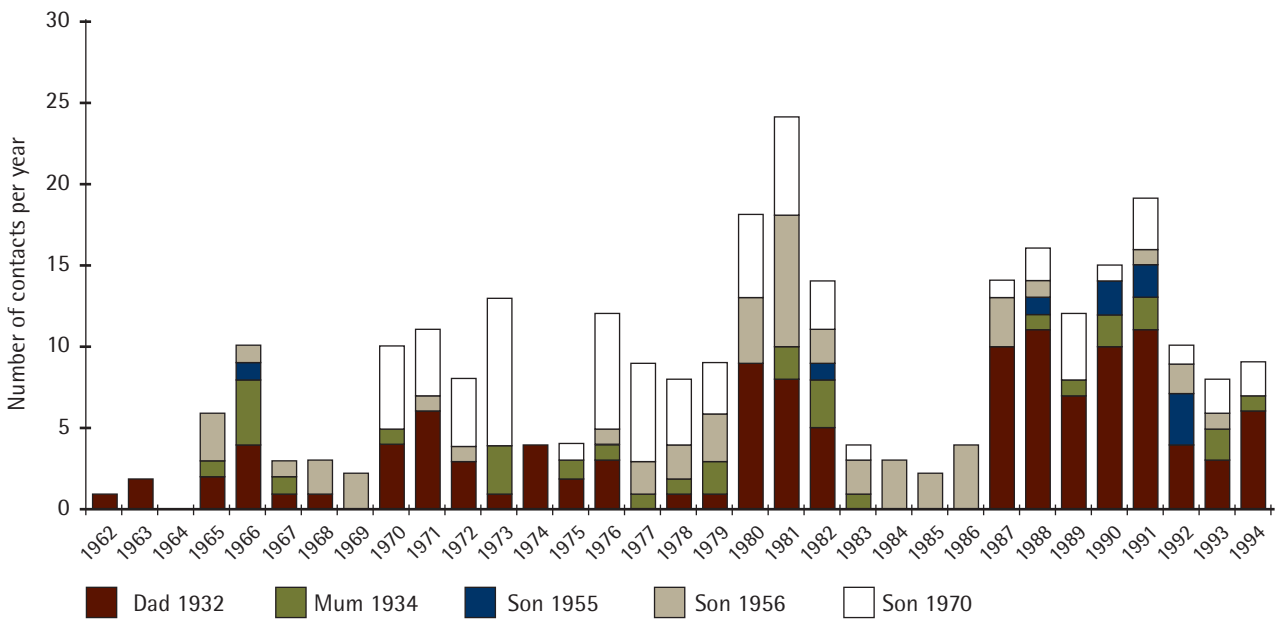
## Diversity

One of the features of general practice care is the diversity of health problems and people that GPs encounter over time. GPs vary in the diversity of health problems they encounter in primary care and through variation in actions they take in health care practices.[9] For example, GPs working in primary care cope with a diverse range of health problems presented by patients including the well patient (e.g. health promotion, immunisation), self-limiting problems (e.g. sore throat), episodic problems (e.g. eczema), acute illness (e.g. pneumonia), and chronic disease (e.g. diabetes). Secondly, GPs collectively manage the majority of health encounters patients present to the health system in countries like New Zealand or Australia.[9,10] Collectively, GPs have many millions of consultations with patients in a year for a range of problems that affect patients from a wide range of psychological, ethnic, and social backgrounds. Furthermore, there is variation in how GPs make diagnoses, use laboratory tests, prescribe drugs, and refer to specialists.[9-11]

## The relationship between chronic disease and continuity of care

Chronic disease accounts for the majority of problems patients present to their GP either in Australia or New Zealand.[9,10] An example of chronic disease management in general practice is illustrated by a case study of an Italian family (named the Chianti family by agreement) who consulted a suburban general practice in Karori for over 30 years. The family's consultation pattern is shown in Figure 1. The father in the family was the index patient for chronic disease. Mr Chianti had experienced a combination of three chronic diseases – asthma, COPD, and ischaemic heart disease – by the time of his death in 1995. Mr Chianti was a very heavy smoker and the key theme in his story of chronic disease management was his battle to try to stop smoking. He knew it contributed to his chronic diseases but

*Figure 1. Chianti family's contact with one suburban (Karori) general practice from 1962 to 1994.*



could never stop smoking, right up until he died from carcinoma of the lung. The other members of the Chianti family also presented with a range of chronic diseases – obesity, asthma, cerebella infarction, mammary dysplasia, and congenital heart disease. Figure 2 describes the frequency of contacts the whole family had with the Karori Medical Centre and Wellington hospital.

The Chianti family experienced longitudinal and informational continuity of care from their general practice in that it was the only practice the family used for all their primary care and all the medical records resided in the one practice. However, the Chianti family experienced a change in GP provider over time. A solo GP looked after the family's health care from 1962 to 1980. Thereafter, the GP moved in with the new medical centre, where the care was provided by eight GPs in the practice. I provided most of the care for the family from 1986 to 1997.

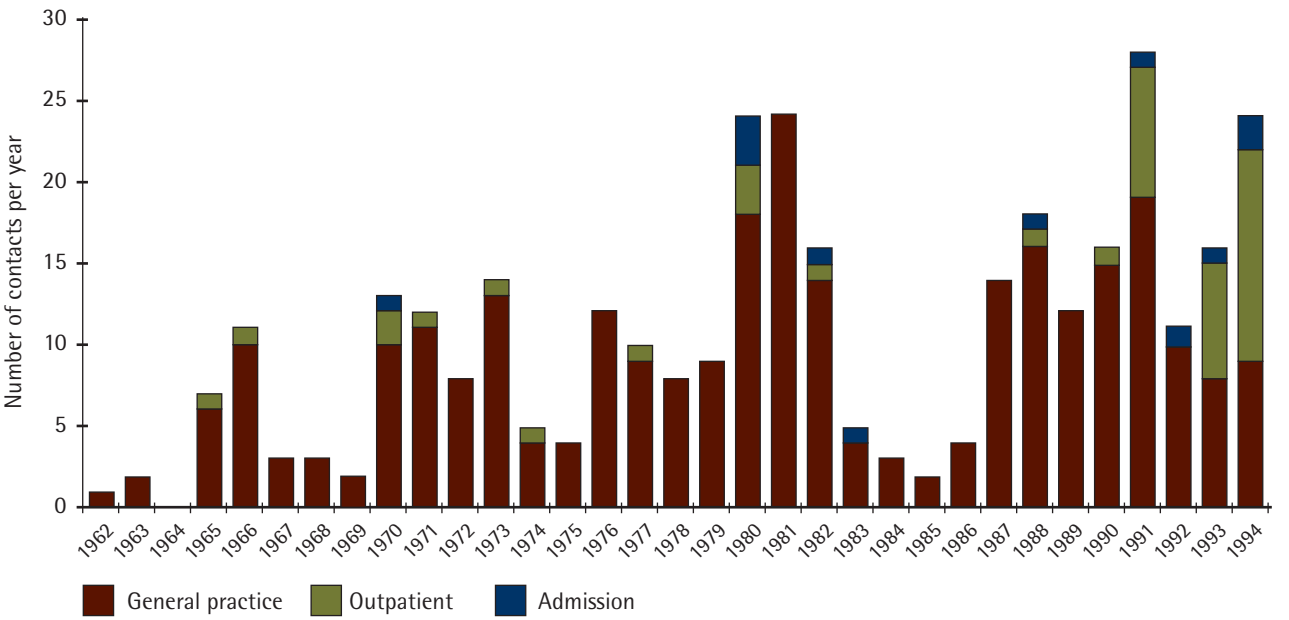
Patients, GPs, practice nurses, and funding organisations grapple with chronic disease as care extends both in time and complexity.[10] Health care provided for chronic disease requires intensive labour. Thus, the workforce accounts for the greatest proportion of recurrent health expenditure in the management of chronic disease. For example, the Chianti had 287 clinical encounters with the general practice, 12 admissions to hospital, and 42 hospital clinical encounters over 32 years. These encounters involved eight GPs, seven practice nurses, and at least 20 hospital specialists. Many countries are experiencing health provider shortages that affect a range of disciplines, particularly nursing and medicine. Staff shortages not only limit health care accessibility, but they also impact on health care quality and outcomes.

**Flexible working arrangements, increasing technology, accountability of rising costs, and an explosion in the ageing population will lead to a fragmentation of what the generalists can do for patients who have chronic disease**

Chronic disease does not lend itself to care provided by single professional groups. It requires a multidisciplinary approach.[12] Workforce shortages, alongside an increasing focus on continuity of care, call for a labour supply that is able to respond to the needs of patients, rather than practitioners who are constrained by professional role definitions and traditional organisational hierarchies. Flexible working arrangements, increasing technology, accountability of rising costs, and an explosion in the ageing population will lead to a fragmentation of what the generalists can do for patients who have chronic disease.

Traditionally, health care delivery has been defined and dominated by established professionals. One assumption is that there is a match between the temporal nature of care provided by professionals and the temporal needs for care by the patient with chronic disease. It assumes, for example, the GP will be there to watch, help, and console the patient with diabetes from the day of first

*Figure 2. Chianti family contacts with one suburban (Karori) general practice and Wellington Hospital outpatients and admissions from 1962 to 1994.*



diagnosis, through to the appearance of complications decades later. The Chianti family describes one example of the lack of provider continuity. In the next section, I explore how stable and visible general practices have been over time in Wellington.

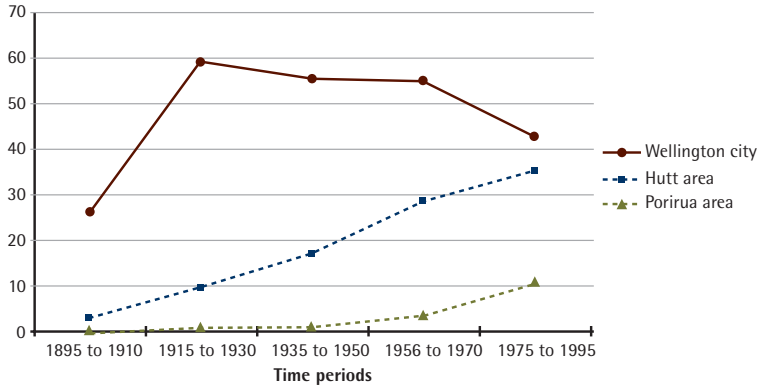
### Naming general practice

In a recent study of continuity of care provided by GPs in the Wellington region over 100 years, we were able to document the history of general practices.[13] The data sources were the *Stone's Directory* for 1895 to 1930 and the Wellington telephone directories from 1935 to 2005. The *Stone's Directory*, which was first printed in 1895, gave lists of all the tradespeople and professionals registered in the Lower North Island of New Zealand each year. The doctors came under the heading *'Physicians and Surgeons'*. The telephone directories listed the name and surgery and/or home address of each medical practitioner. The names and addresses of GPs were collected in five-year blocks from 1895 to 2005. The population census for Wellington city, the Hutt area, and the Porirua area from 1895 to1995 was also collected. All data were entered onto FileMakerPro™.

### The problem of defining a GP

The first issue in the study was defining who was a specialist and who was a GP. The boundary between these two had changed at some point over the century. It is not until the 1920s that the word 'specialist' starts appearing in the *Stone's* directories. Many doctors started out as medical practitioners but became specialists later on. From our records it was hard to know exactly when, if at all, these individuals gave up their GP duties. Medical practitioners were also honorary surgeons at the Wellington hospital until well into the 1960s. There was never a definition provided. Therefore, our policy was to class every medical practitioner as a GP unless it specifically stated that he or she was a specialist.

*Figure 3. Average number of general practice addresses in Wellington city, Hutt area and Porirua area from 1895 to 1995.*




### Continuity of care by GPs

In the period from 1895 to 1995 there were 722 names of GPs listed in the *Stone's* directories and telephone directories. The evidence for longitudinal continuity over 100 years was that 37% of GPs remained in the area for over 15 years, 14% of GPs worked in the area for over 30 years, and 65% of GPs never changed their practice address. There was also evidence for transience. Thirty-five per cent of GPs remained in the area for less than five years and 15% of GPs changed address in any one year; nearly all shifts were within their suburb.

**The rise and fall of practices within Willis Street at the heart of the central business district match the changing work patterns of people on that street over time**

### Continuity of care by general practices

In the period from 1895 to 1995 there were 500 names of general practice addresses listed in the *Stone's Directories* and telephone directories. There were three general practice addresses that remained in one location for 75 years. There were 14 (2.8%) general practice addresses listed in one location for 50 years or more and 210 (42%) general practice addresses listed once (hence remained in one location for less than five years). The medial time a practice remained at one location was 10 years (Inter-quartile range of 15 years). Figure 3 shows the average number of general practice addresses in Wellington City, the Hutt and Porirua areas. Wellington city has been a capital city since 1866. There was a sharp rise in the average number of practices in the early part of the 20th century and then a gradual decline in practice numbers. The Hutt area changed from a largely rural community in the 1840s to two small cities over the later half of the 20th century. In that time there had been a gradual rise in the number of practices. The Porirua region, however, only showed growth – but only over the recent 50 years. The Porirua region is a 'new area' that has developed from a largely rural community to a small city since the 1950s.

There were also changing patterns of practices within the central business district of Wellington city. Figure 4 shows that there was a sharp rise in the first half of the century in the average number of practices in the Wellington central business district, and then a rapid decline, with a concurrent slow growth in the surrounding suburbs. The main driver for this change occurred in Willis Street, which is in the heart of Wel-

lington city. Figure 5 shows that, in the middle of the 20th century, Willis Street could boast that there were 18 practices along its length. In recent times, there are fewer than three. Furthermore, many practices moved from one block to another within Wellington city.

The geography of general practices in the Wellington region indicates that they are moving entities. The rise and fall of practices within Willis Street at the heart of the central business district match the changing work patterns of people on that street over time. The inexorable growth of high-rise buildings at the end of the 20th century matches the disappearance of many small businesses including general practices. Furthermore, in recent years the new high-rise buildings on Willis Street house white-collar workers who live their nights and weekends in the suburbs surrounding the Wellington central business district. There has been a concurrent growth in the number of general practices in the suburbs surrounding the central business district over time.

*Figure 4. Average number of general practice addresses in the Wellington City central business district and the surrounding suburbs from 1895 to 1995.*

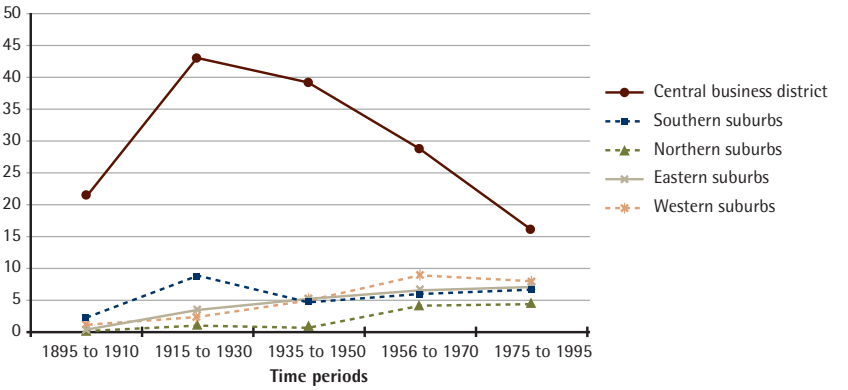
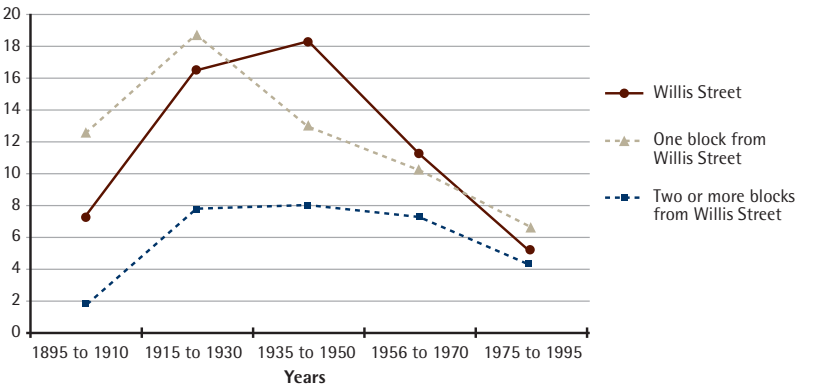



*Figure 5. Average number of general practice addresses on Willis Street and the surrounding streets in central Wellington City from 1895 to 1995.*




## What's in a name?

In the period from 1935 to 2005 the Wellington telephone directories listed not only the names of medical practitioners but also the names of their practices. Table 1 shows that medical practitioners would call their practice a 'surgery', 'chamber' or 'consulting room' with antecedent 'various names'. For example 'The Oaks' was the antecedent name for 'The Oaks Surgery' as found in Trentham up until the 1970s. The words 'medical centre' started to be used in 1975, and from 1980 there were a plethora of names that preceded the words 'medical centre'. Not one practice used the words 'general practice' or 'primary health centre' in its name until 2005 when there were seven '[various names] General Practices' and three '[various names] Family Centres'.

In the period from 1935 to 2005 not one medical practitioner had the name 'general practitioner' listed in the Wellington telephone directories.

*Table 1. Words used to describe general practices from 1935 to 2005*

| Time | Words used to describe general practices in the Wellington region |
|---|---|
| **Since 1935** | [Various]* Surgery, Chamber, or Consulting Room |
| **Since 1975** | [Various] Medical Centre |
| **Since 1980** | [Various] Health Centre |
| **Since 2005** | [Various] General Practice, or Family Practice |

* The words in brackets [various] were used either to describe the area (e.g. the name of a suburb), or a distinctive feature of the area, e.g. Karori Medical Centre

## Discussion

Doctor Smith provided personal continuity of care in the Hokianga in the early part of the 20th century. The historical evidence, however, suggests Doctor Smith exhibited a rare work practice. In our study, we were able to document the history over 100 years and found that there were three kinds of work practices offered by individual GPs:[13] '*...the much less frequently encountered* **stable general practice**...*here each of the practitioners at this house worked in one house*

*for at least 10 years and many for longer periods...The second type, a* **mobile general practice**, *is more common. Each general practitioner lived in the house and worked there for at least five years. This kind of practice in the central city became less common during the 1930s...The third type of practice – the* **highly mobile** *– became much more common from the 1930s onwards, and particularly from the 1960s...GPs in this kind of practice were transient, staying on average for less than five years.*'[13] (Emphasis mine.)

Longitudinal continuity of care was observed for a minority of GPs. A consequence is that very few patients would have experienced a lifetime of contact with a single GP. Recent surveys of the New Zealand GP suggest that the future GP is unlikely to want to work full-time, in one place, for a lifetime.[14] The various combinations of work patterns will influence how we conceive continuity of care. Does a GP who works two sessions a week in one practice, or a GP who works two sessions a week in two different practices, provide the same kind of continuity of care as the GP who works full-time in one practice? Similar questions apply in the care of chronic disease. For example, if there will be an increasing fragmentation of work needed for the care of chronic disease (such as the need for multi-disciplinary teams in diabetes), how will the part-time GP contribute to personal care provided to patients with chronic disease?

Longitudinal continuity of care was also observed in a minority of general practice addresses. Only 2.8% of general practices remained in one location for 50 years or more. The average practice would remain for 10 years. The Chianti family who experienced a change in location of the general practice they attended saw this transience, for example. There was an amalgamation of general practices in Karori halfway in the 32-year history of care given to this family. This transience had an impact on informational continuity of care provided to the family. For example, summaries of old, handwritten clinical notes were transferred to the new computer system with associated translational errors. The transience also influenced the longitudinal continuity of care provided to the family when the family changed from seeing only one GP for their care, to being seen by a range of GPs and practice nurses.

**Recent surveys of the New Zealand GP suggest that the future GP is unlikely to want to work full-time, in one place, for a lifetime. The various combinations of work patterns will influence how we conceive continuity of care**

Our study described an invisible characteristic of New Zealand general practice. Many GPs were transient and only 13% of GPs had worked in general practice for a lifetime of 30 years or more. The name 'general practitioner' did not linger in the community, nor did that name linger in their practices.

There has been a recent resurgence in the name of general practice. Some doctors are claiming they are proud to be called a GP.[15] Increasing numbers of doctors in the community are naming themselves, and where they work, with the words 'general practice'. Such affirmation is needed to allow general practice to be visible in the community and, along with it, the personal, informational, and longitudinal care needed by patients for their chronic disease.

### Competing interests

None declared.

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