

The Work of Doctors in Accident and Medical Clinics

The National Primary Medical Care
Survey (NatMedCa): 2001/02
Report 5

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Executive Summary

Aims. The National Primary Medical Care Survey (NatMedCa) was undertaken to describe primary health care in New Zealand, including the characteristics of providers and their practices, the patients they see, the problems presented and the management offered. The study covered private general practices (i.e. family doctors), community-governed organisations, Accident and Medical (A&M) clinics and Hospital Emergency Departments. It was intended to compare data across practice types as well as over time.

Subsidiary aims included gathering information on the activities of nurses in primary health care, trialling an electronic data collection tool and developing coding software.

This report describes the characteristics of practitioners, patients and patient visits for A&M clinics, defined by the following criteria:

- having X-ray equipment on site
- open extended hours at least until 8 pm, and open seven days a week
- community- rather than hospital-based.

Other reports in the NatMedCa series describe private family doctors, Māori, community-governed non-profit and rural general practice provider activities and characteristics, and analyse differences in practice content that have occurred over time or that exist between practice settings.

Methods. A nationally representative, multi-stage sample of private general practitioners (GPs), stratified by place and practice type, was drawn. Each GP was asked to provide data on themselves and on their practice, and to report on a 25% sample of patients in each of two week-long periods. Over the same period, all community-governed primary health care practices in New Zealand were invited to participate, as was a 50% random sample of all A&M clinics, and four representative Hospital Emergency Departments.

Medical practitioners in general practices, community-governed non-profit practices, and A&M clinics completed questionnaires, as did the nurses associated with them. Patient and visit data were recorded on a purpose-designed form.

Results. *A&M patients.* The results presented in this report relate to 12 A&M clinics throughout New Zealand. The findings included the following.

- Young patients and a diverse ethnic range of people attend A&M practices.
- Community Services Card (CSC) holders are not usual patients, and fewer visit during other hours (normal hours are defined as Monday to Friday, 8 am–6 pm; other hours are those outside this range).
- Few patients have an ongoing relationship with the practitioners/practices.

- The Accident Compensation Corporation (ACC) funds a significant number of visits, especially during normal hours.
- Most visits require same-day attention.
- Most patients have minor and temporary disability.
- Levels of uncertainty are low but increase in other hours.
- Most visits are associated with one reason-for-visit. Common reasons for the visit are actions of various kinds, injury/poisoning-related conditions, respiratory, and non-specific symptoms. The largest component of the visits relates to symptoms.
- Most visits are concerned with one problem. The most common problems are injury/poisoning related and respiratory during normal and other hours – comprising nearly half of all problems per 100 visits.
- New problems – especially new respiratory problems – are presented during other hours.
- New and short-term problems account for most (75% in this study) problems; long-term problems and, especially, preventive care are very infrequent, especially in other hours.
- About one-fifth of visits are associated with an order for an investigation.
- X-rays are ordered for between one-sixth and one-fifth of visits, depending on the time of day.
- During normal hours, about one-quarter of visits result in no treatment being given and a further one-third involve the provision of non-pharmacological treatments. A higher proportion of patients visiting in other hours receive pharmacological treatment, and the average number of items received is higher for them.
- The most frequently prescribed types of medications are infectious agents, nervous system drugs and respiratory medicines, regardless of time of day.
- Anti-bacterial agents and analgesics, both frequently prescribed for respiratory problems, account for approximately one-third of all script items regardless of time of day.
- Approximately three-quarters of all non-drug treatments are accounted for by five categories (investigation/examination/screening; health advice; dressing; referral; and request for follow-up) in both time periods. Non-drug treatments are more frequently provided at visits in normal hours.
- Nearly half of all visits to A&M clinics during normal hours result in a request for follow-up within three months (frequently for pregnancy/ childbirth problems). This is true in only one-third of visits during other hours (often for musculoskeletal/connective tissue problems).

- Referral rates are similar at both time periods and often are to non-medical destinations. Referrals to physiotherapy and orthopaedic services are the most common non-medical and medical referral types respectively. Emergency referrals are uncommon, but more occur during normal hours.

Comparison between GP and A&M practices (Monday to Friday, 8 am – 6 pm)

- A&M clinics, on average, have more personnel than general practices, especially nursing staff, and the clinics are open for considerably longer hours. Very few have booking systems.
- The ethnic composition of patients is similar at the two types of surgeries, as is the range of services provided. Fewer A&M clinics have computerised records.
- Nearly all A&M clinics have a separate management structure and most are organised as limited liability companies. None of the A&M clinics undertake a formal needs assessment, but a higher proportion have written complaints and/or quality management policies compared to general practices.
- Standard fees charged by A&M clinics are higher across all patient groupings than charges at general practices. Unlike practices, no clinics are capitated or have budget-holding contracts.
- A&M doctors are more likely than their GP colleagues to be of Asian or Māori ethnicity. A smaller proportion of A&M doctors are female, and their average age is younger than that of their GP colleagues. Clinic doctors have less working experience and they have worked at the current practice for a shorter time. Doctors at both types of practices have mainly graduated from a New Zealand university, but a smaller proportion of A&M doctors belong to a GP or medical professional organisation, although membership to AMPA was not assessed.
- GPs see more patients per week, largely because they work more half-days.
- Nurses are similar at both locations, but A&M nurses appear to undertake fewer patient care activities.
- Patients who visit A&M clinics are considerably younger, a higher proportion are of Asian or Pacific ethnicity, and they are slightly more likely to reside in more deprived areas than patients who visit GPs.
- Patients attending A&M clinics are less likely to have built a relationship with the practice/practitioner over a number of visits.
- There are distinct variations between clinic and GP visits in relation to their source and type of payments. Clinic patient visits are more likely to be funded by ACC.
- The distribution of urgency and severity between practice types is similar.
- A&M doctors spend slightly longer with their patients.

- Fewer reasons-for-visit are offered by patients who attend A&M clinics. Injury/poisoning is a more frequent reason-for-visit type at A&M clinics.
- A higher proportion of visits to A&M clinics are for new problems. Visits for long-term problems and preventive care are uncommon at A&M clinics.
- Tests/investigations are ordered slightly less often at A&M clinics. When requested, investigations are most likely to be imaging tests (X-rays).
- The number of treatment items provided to patients at general practices is much higher than that given to patients at A&M clinics. Prescribing rates are considerably higher at general practices.
- A&M clinics provide relatively fewer non-drug treatments – especially investigation/examination/screening and health advice.
- Follow-up is more frequently associated with GP visits.
- Referral rates are similar between practice types, but the type of referral varies – mainly to medical and surgical specialists for GP patients, and non-medical specialists for A&M clinic patients.

Conclusions. A&M clinics provide convenient central-city locations and longer opening hours. However, it is notable that their daytime charges are usually higher than those requested by traditional general practices during normal working hours. Therefore, although increasing primary care accessibility, it appears that the existence of A&M clinics does not overcome any financial barriers to accessing primary care among economically disadvantaged people.

The presence of a higher proportion of practitioners from a range of ethnic groups underlines some ability of A&M clinics to provide culturally acceptable health care to a wider ethnic range of patients.

Although the Primary Health Care Strategy advocates the ability of patients to visit any practitioner at any time, the development of A&M clinics where patients are often new to the practice is not consistent with the aims of patient enrolment strongly signalled within the document. The absence of any formal needs assessment by A&M practices also suggests that they do not currently view themselves as providing care to any defined population. Hence A&M clinics provide arrangements that are largely based around episodic and reactive care. Some GPs may nominate an A&M clinic as the after-hours care provider of their enrolled population, but improved communication and stronger links between provider types are needed before this is likely to be a frequent occurrence. Increased levels of electronic record keeping among A&M clinics may also facilitate information sharing between providers.

Without additional information about the needs of the population and the outcomes of the patients who were treated, it is not possible to draw any conclusions about the quality of care provided at A&M clinics. Lower rates of prescribing and investigations (except imaging-type tests) may be associated with more effective and cost-effective care, or may represent potentially under-recognised and under-treated conditions that could give rise to larger costs at a later time. Similarly, higher rates of emergency referrals and lower rates of elective referrals associated with A&M clinics may equally represent good or poor-quality care. In order to reliably address this issue, further research is needed that compares outcomes across practice types while appropriately adjusting for different patient presentations and co-morbidities.

1 Introduction

In the late 1980s New Zealand primary care witnessed the development of a unique form of general practice – the Accident and Medical (A&M) clinic. These commercial clinics were usually located in central urban areas and offered extended opening hours, consultations without appointment, and limited links to traditional general practice.¹ The political origins of the clinics may have been an entrepreneurial response to the deregulatory government policies at the time, which enabled practitioners to advertise their services but forbade them from fixing prices.¹

The clinics also arose from a mixture of circumstances that included rising patient demands for out-of-office-hours care and an increasing willingness by the medical profession to find new collective solutions to providing after-hours medical care. Increasingly, GPs were prepared to decrease their personal commitment to providing after-hours care, and instead were opting to take less-frequent shifts, staffing co-operative ventures that provided care to a larger number of patients from groups of practices.¹

A number of changes in the provision of after-hours primary care have been apparent in New Zealand, Australia, Denmark, Canada and the United Kingdom over the last 30 years.

1.1 Historical changes in after-hours care

International evidence suggests that patient attendance rates for care outside of normal working hours appear to have markedly increased over the last 20 years.²⁻⁴

A number of the factors relating to the rise in out-of-hours visits have been examined,³ including what prompts patients to make the decision to attend for out-of-hours care^{5,6} and what is considered to be an appropriate out-of-hours call.⁷ Other research has made comparative descriptions of those who attend different types of after-hours services,^{8,9} or has documented patients' experiences in seeking out-of-hours care.¹⁰⁻¹² Geographical or socioeconomic factors have been associated with differences in out-of-hours attendance rates.¹³⁻¹⁵ Other work has highlighted the importance of GP organisational factors such as practice sizes,¹⁶ doctor-patient relationships,¹⁷ and doctors' attitudes¹⁸ towards out-of-hours callers.

1.2 Co-operative GP after-hours care

Since the 1980s many Western countries have seen a rapid change in the way GPs provide after-hours care. Increasingly over the last 20 years there has been a reduction in the number of GPs who maintain sole responsibility for the delivery of their own after-hours care from their own practice. Instead, the proportion of GPs who provide their after-hours care from co-operative facilities has markedly risen. In the UK, for example, the number of after-hours co-operatives more than tripled during the mid-1990s.¹⁹ Although co-operatives may vary in the size of their facilities and the number of staff, most provide the same basic services, including telephone advice, base consultations and home visits.¹⁹ The co-operatives are usually non-commercial organisations composed of GPs with practices in the local area, who combine to offer only out-of-hours care from a single centre.

Much of the growth in the number of co-operative clinics has been related to the advantages to practitioners in reducing their on-call burden and their stress when working after-hours.^{20, 21} GPs have also been interested in improving the facilities and quality of services they provide during after-hours care.²² Assessments of the responses of patients to the new after-hours arrangements have been conducted, and have generally reported high levels of patient satisfaction.^{23–25}

Other patient and societal factors may have also contributed to the growth in cooperative after-hours care. Researchers have suggested that as the population has become more mobile, people may have become less committed to any particular physician and more confident to obtain their health care from a variety of locations.²⁶

Various studies have also described the patients who use these facilities and the nature of their problems, and have provided population-based rates of contact.^{27, 28}

1.3 Deputising services

Internationally, one of the earliest alternative forms of after-hours care that did not require GPs to provide all of their on-call responsibilities came with the development of the deputising service. Deputising services functioned as commercial organisations that effectively provided locum services to GPs out-of-hours. In the UK, where they first developed, the use of deputising services rapidly grew between 1964, when they accounted for 9% of after-hours visits, and the mid-1990s, when they attended to over one-third of night visits nationally and over two-thirds of night visits in most inner-city areas.² The advantages and disadvantages of deputising services have been well described – it has been argued both that they provide essential relief for GPs and that they undermine the essential principles of providing continuity of care. Fuelling the debate, questions have been raised about the qualifications of deputies and the quality of services that have been provided.²

1.4 Comparisons of GP after-hours care and that provided by deputising services

Most studies that have compared the care provided at GP after-hours centres with that at deputising services have focused on the satisfaction of the patients. Patient satisfaction with care generally appears higher at co-operative centres compared with deputising services, although study results have not been consistent. The results from a randomised controlled trial²⁹ and an observational study¹¹ have both reported higher rates of satisfaction among patients who used GP co-operative services. Consistent results were also obtained in a more recent study based in England, which involved four urban areas.²⁵ By contrast, a postal survey indicated that there was no overall difference in patient satisfaction between deputising services and GP co-operatives, although patients using co-operatives were more likely to be satisfied with their waiting times to receive a home visit or telephone advice.³⁰

In general, the key to increased satisfaction appears to relate to a service's ability to match patient expectation with the services it provides.³¹ Patients who were dissatisfied were more likely to have expected but not received a patient visit, had poor health outcomes and experienced longer delays between request and care.^{25, 31} Similarly, other research findings point to the importance of waiting times, patient access to transport and the manner of the attending doctor, rather than any other aspects of the service per se, as key determinants of patient preferences for their after-hours care.^{32, 33}

Despite any disparities between services in expressed patient satisfaction, no differences in health outcomes (subsequent health status or health services usage) have been associated with either type of after-hours facility.²⁹ A number of differences in processes do appear to exist between practice doctors and practitioners working in deputising services. Practice-based doctors were significantly more likely to give telephone advice and tended to visit patients more quickly than deputising doctors.³⁴ Practice doctors also gave fewer, cheaper and possibly more discriminating prescriptions, but no differences were evident between the two services in relation to the number or duration of hospital admissions.³⁴ By contrast, the results from an observational study suggested that doctors at a deputising service were more likely to visit patients and were associated with fewer admissions.²⁸

1.5 Comparisons of after-hours primary care providers and Emergency Departments

A substantial amount of literature has considered the potential overlap between patients who attend after-hours primary care facilities and those who seek treatment at the Hospital Emergency Department (ED).^{35,36} Differences in the characteristics of attending patients and their problems have been recorded between EDs and primary care facilities.⁽³⁷⁾ For example, more children and patients with respiratory or viral complaints visit at primary care sites after-hours, while young adults and those with musculoskeletal problems seem to be more frequent at EDs.^{35,36} Recent studies have also highlighted a strong preference by certain types of patients to seek their after-hours care from an ED rather than a primary care facility.³⁸

New Zealand-based comparisons of the patients who attend after-hours primary care facilities and those who visit EDs are sparse. A rare example is provided in a two-month prospective survey of patients attending both venues for treatment of an asthmatic episode.³⁹ Patients who presented to the ED were more likely to have lower socioeconomic status (higher rates of CSC ownership, $p < 0.001$), be younger (mean age of 19 versus 25 years, $p < 0.006$), live further from the after-hours facility (mean distance of 5 km versus 4 km, $p < 0.003$), and be sent back to their GP (67% versus 25%, $p < 0.0001$). However, primary care centre patients were less likely to be referred to a GP or admitted to hospital (1% versus 20%, $p < 0.0001$). It was concluded that different management policies at the two sites led to different patient outcomes.

In another New Zealand-based study, the families of 441 children seen in EDs over a 10-week period were interviewed to find out the reasons why they bypassed their GP and took the child to the department.⁴⁰ One-quarter of the children did see the GP first, almost 40% were taken straight to the ED because it was seen as providing more appropriate treatment than the GP, while nearly one-quarter went because the ED was seen as more accessible. The closer the child's home was to either the GP or the ED, the more likely that service was used. Children from lower socioeconomic status families were more likely than other children to see their GP first.

An English study surveyed all the organisations involved in providing after-hours care in Buckinghamshire in the UK and reported that GPs were the main providers of treatment (45% of all patient contacts) outside of usual working hours.⁴¹ EDs were the next most common provider of care, with 27% of all patient contacts out-of-hours. In general, out-of-hours GP care was provided to younger patients who presented with ear ache, gastroenteritis, upper respiratory infections and other minor ailments, whereas ED care was more often provided to young adults who had sustained a traumatic injury, and older people with various medical conditions.⁴¹

Some studies have defined patients who present at EDs when they could have been treated by a primary care facility as “inappropriate” attendees. These assessments have a number of limitations, including retrospective rather than prospective analyses of appropriateness, restricted views of appropriateness that have not incorporated patient viewpoints,^{42,43} and narrow physical definitions of appropriateness that have not included urgent psychological, emotional or social needs.⁴⁴ Several attempts to either direct “inappropriate attendees” to primary care facilities^{45,46} or integrate primary care practitioners and facilities into or near the ED⁴⁷⁻⁵² have been trialled, with mixed success.

1.6 Comparisons of several different models of after-hours care

Recent work has compared a number of different models of after-hours care. Several observational studies have described the patients who attend various types of out-of-hours providers along with their respective problems.⁴¹ In a systematic review, Leibowitz et al (2003) assessed the effects of six different types of after-hours care (practice-based services, deputising services, EDs, co-operatives, primary care centres and telephone triage/advice centres), in terms of medical workload, patient and GP satisfaction and patient outcomes.⁵³ The results of the review indicated that telephone triage may reduce immediate medical workload while deputising services may increase it. Little evidence was available to demonstrate which model improved patient outcomes, although reports of telephone triage were consistently associated with lower patient satisfaction.

1.7 Wider international context

Other Western countries outside of the UK and New Zealand have adopted new arrangements for the provision of out-of-hours primary care.

Commercial walk-in clinics operated by business people (or as a partnership between business people and physicians) first appeared in the United States in the early 1970s.⁵⁴ These clinics were referred to as “freestanding emergency centers” or “urgent care centers”. By 1990 there were estimated to be over 5500 clinics throughout the United States, providing over 100 million patient visits per year.⁵⁴

Walk-in clinics began appearing in Western Canada during the early 1980s and are now well established in British Columbia, Alberta, Saskatchewan and Manitoba.⁵⁵ In Canada, walk-in clinics have evolved with convenient central city locations, extended hours and no-appointment schedules.^{56,57} The clinics are primarily staffed by doctors and offer a range of investigative and procedural services including X-ray equipment, laboratory testing, pulmonary function tests and physiotherapy services.^{56,58} Additional services may also include sports medicine, nuclear medicine, social services, optometry,

massage therapy, chiropractic, and electrolysis and tanning salons.⁵⁵ Two main types of facility exist; a walk-in centre that has extended hours and little connection to local doctors and a second model that is an after-hours service akin to a GP cooperative clinic which has strong ties to local GPs.^{59,60} The first type of clinic has developed in parallel to traditional primary care and in contrast to the after-hours clinics in that country have not been staffed by family physicians with existing practices in the area. In addition they do not operate at hours to minimise overlap with family physicians practices, and they do not either routinely organise follow-up with the established primary caregiver or notify the caregiver of each visit.⁸ Rachilis made some comparisons with after-hours attendances and those at a walk-in clinic and concluded that many similarities existed although two discrepancies were notable: many walk-in attendees had no regular primary care physician and a higher proportion was subsequently referred to the local hospital emergency department (4% versus 1%).⁸ Illnesses were similar to general practice after-hours centres although there was a tendency for younger patients to visit in relation to usually minor problems such as respiratory infections.^{8,61} The results from patient surveys suggest that a significant proportion of family practice patients (about 28% of patients over a six-month period) have attended a walk-in clinic and often without trying to contact the family physician before the visit.^{61,62} The convenient locations, the absence of any need to make an appointment and useful hours of operation of walk-in clinics make them popular with patients although many report a preference to attend their usual GP for follow-up care of any medical problems.^{57,61,63} The illnesses treated at walk-in clinics have predominantly included minor infectious conditions (respiratory tract infections, gastroenteritis) and injuries (soft tissue injuries, sprains and lacerations).^{8,57,61}

A few North American studies have attempted to assess the effect of the growth of walk-in facilities on the demand for traditional primary care services. Ferber and Becker (1983) assessed the relationship between the growth of walk-in clinics and the number of ED visits at 94 nearby hospitals.⁶⁴ The opening of freestanding emergency centres (FECs) in the hospitals' service areas was not associated with any decline in ED visits.⁶⁴ In similar research in Canada results have been mixed: one area of Ontario experienced a drop of nearly 25% in ED usage following the opening of a walk-in clinic whereas another area reported no change in the number of patient attendances at the local ED.⁵⁵ Alemagno et al (1986) compared 400 patients at three FECs with 144 patients at three family practices and measured morbidity by recording diagnoses for each visit.⁶⁵ The eight most common diagnoses were the same at both location types and the researchers concluded that FECs were not used for more urgent conditions than family practices.⁶⁵ Despite the similarity between diagnoses at the two types of practices, patients at walk-in clinics have reported the perception that their illnesses are more urgent than patients attending family physicians. Comparing two groups of patients with respiratory tract infections, Alemagno et al found that 34% of patients attending walk-in clinics indicated that they should be seen within two hours while none of the family practice patients reported this degree of urgency for their symptoms. Alemagno et al concluded that walk-in clinics were attended by patients who did not

necessarily have more urgent conditions but were used by patients who believed that their illnesses were more urgent.⁶⁵

Walk-in clinics in North America have not been uniformly accepted by family physicians.⁶⁶ Some perceive them as service duplication and there are concerns about fragmentation of medical care and inadequate follow-up for patients who may have complex or chronic medical problems.^{66,67} Walk-in clinics have been argued to deal with more straight-forward, single-issue problems and operate on a high volume whilst leaving difficult or demanding problems to family physicians often at inconvenient times of the day or night.⁶⁷ By contrast, proponents of the clinics have argued that they offer patient-centred treatment from purpose-built centrally located facilities.^{66,68} Patient surveys have reported high levels of satisfaction.^{63,69} Users have expressed most satisfaction with the convenient locations of walk-in clinics and their lack of any requirement to make an appointment to attend.^{63,69} Proponents have indicated that the main role for walk-in clinics should be located in a niche between family practitioners and EDs; handling the overflow from each.⁶⁸

Very few empirical comparisons of the cost effectiveness of walk-in clinics and primary care have been published. A rare example was undertaken by Weinkauf and Kralj⁷⁰ using data extracted from the Ontario Health Insurance Plan claims database. The study demonstrated that walk-in clinics varied little from usual primary care practices in terms of overall costs, the percentage of patients seen again, and follow-up costs. By contrast, the average cost per patient for visits to an ED were considerably higher than both primary care and walk-in clinic visits although at least some of the difference could be explained by the presence of more serious illness among ED attendees. Other findings from the claims review were that EDs provided most weekend care, EDs and primary care-based practitioners appeared to deal with a wider broader range of patient complaints (a large proportion of visits to walk-in clinics were related to only upper respiratory tract symptoms) and finally the data did not suggest that walk-in patients usually returned to their GP for treatment for the same condition. Although data limitations such as potential imprecision in the diagnostic coding system prevent an accurate, detailed analysis of visits and costs the findings are interesting and appear to refute some of the claims of opponents that walk-in clinics skew their billing towards more expensive treatments, they appeared to provide care with a similar rate of follow-up and they did not seem to double up on visits to usual GPs. However the authors did suggest that their data supported the impression that the clinics provided more episodic care, less frequent treatment for chronic diseases, and possibly therefore undertook some 'cream-skimming' by treating visits that involved largely minor and often self-limiting conditions.

Denmark in the early 1990s also established wider co-operative GP call centres with improved computerised records and general practitioners functioning as triage agents.⁷¹⁻⁷³ The GPs also shared rotas that served to provide patients with a central contact point for their out-of-hours care whilst reducing on-call requirements for GPs^{71, 72} The new arrangements were cost effective in that they reduced the number of out-of-hours home visits by increasing the number of telephone consultations without leading to an associated rise in ED attendance.⁷¹⁻⁷³ However, patient satisfaction was significant lower with these after the new arrangements were introduced.⁷¹

1.8 New Zealand A&M clinics

Despite the massive changes in service delivery that have developed over the last 20 years, relatively little research has described the activities of the new A&M clinics or assessed their impact on other health services or patient outcomes.

Data from the New Zealand Medical Register indicates that in 2000 some 190 active medical practitioners identified that they were engaged in primary care work other than in traditional general practice.⁷⁴ This number had increased from 166 active practitioners in 1999. The group included practitioners who worked at accident and emergency clinics but also doctors who worked in the armed services, or provided acupuncture, palliative care or sports medicine services. No specific description of the demographic characteristics of accident and emergency clinic doctors was provided. More recent Medical Council data describes the expansion in the number of A&M clinics and practitioners in New Zealand. The 2004 New Zealand Medical Register indicates that since it was first made a vocational branch of medical practice in 2001 the number of doctors registered as accident and medical practitioners has grown by over 25% per annum to include some 103 doctors by 2004.⁷⁵ By 2000 it has been estimated that some two million consultations (about 9% of consultations in primary care) were provided by A&M doctors.⁷⁶

The arrival of the clinics has not always been welcomed by other primary care practitioners and claims and counter arguments have claimed protective practices and unfair competition.^{76, 77} Empirical evidence about why patients choose to attend the clinics and what they want from primary care providers are uncommon in New Zealand. One rare example documents the preferences of 355 North Shore residents and underlines the importance of continuity of care to many patients.⁷⁸ Among respondents with regular GP contact some 80% indicated they would attend an A&M clinic after hours although only 25% suggested they were more convenient and 89% considered that GPs were better value for money. Meanwhile 78% of patients who had no regular GP welcomed the extended hours and appointment-free schedules at the clinics.⁷⁸

1.9 Activities of A&M clinics

The only detailed account of the characteristics of patients, practitioners and practice organisation at A&M clinics has been provided by Davis et al.¹ This study used data from the Waikato Medical Care Survey (WaiMedCa) and included information from three A&M clinics and 70 orthodox GP practices. It provided a detailed analysis of a 1% sample of nearly 13,000 patient encounters recorded over the period 1991/92 in the Hamilton region. Comparisons were made between orthodox general practices and A&M clinics.

The authors concluded that the clinics were more fully equipped and had double the average staffing levels in the region. Patients at the clinics were more likely to be male, younger and in employment than those at the general practices. Most attendances related to ACC claims, out-of-hours presentations and patients who were new to both the practice and the attending doctor. Patients at the clinics tended to bring a single, new, acute and relatively minor problem for treatment. Most problems were accident related and therapy was often curative and symptomatic in nature. Investigations aside, rates of clinical activity were lower at A&M clinics compared with the average for the region. The study observed that while A&M clinics did not operate with a formal appointment system, they did provide accessible but episodic symptom relief and curative care to younger people with accident-related injuries and children with infectious disorders. Importantly, the study found parallels in the demographic and case mix patterns of attendance between A&M clinics and hospital-based EDs.

Although this study was unique and provided a landmark description of early A&M clinic activity, it had the limitations that it was only regional in coverage and surveyed just three facilities.

A&M clinics were noted as providing an opportune and accessible option for patients seeking episodic symptom relief. The absence of an appointment system was regarded by many patients as a convenient arrangement that allowed them to attend whenever they felt they required attention. However, these advantages need to be weighed against potential deficiencies associated with limited continuity of care and lower patient-practitioner rapport.

1.10 Differences in the care provided by A&M clinics and after-hours clinics

Several authors have drawn attention to concerns about the quality of care provided at after-hours medical facilities.⁷⁹ However, only a limited number of studies have objectively assessed the relative quality of care provided at various after-hour facilities. In the only New Zealand study, Kljakovic and Durham (1999) recorded higher levels of antibiotic prescribing for apparently viral conditions at A&M clinics compared to GP after-hours clinics.⁷⁹ By contrast, two overseas-based studies observed that the treatment provided at walk-in clinics was at least as good as that delivered in GP clinics.⁸⁰ In the UK study,⁸⁰ standardised patients and observation techniques were used to gauge quality, while the Canadian study⁸¹ relied on medical record review and standardised quality criteria. The UK-based study⁸⁰ included walk-in clinics that were somewhat different to walk-in clinics in other locations in that they were largely staffed by nurses and mainly functioned with the assistance of care pathways. Comparisons were also made with NHS Direct which were similar to the clinics in their staffing and their operational methods. The results of the study indicate that walk-in clinics achieved a significantly higher mean overall score for the scenarios compared to either primary care providers or NHS Direct (difference between groups 8.2 95% CI: 1.7–14.6).⁸⁰ However walk-in clinics and NHS Direct were associated with markedly higher levels of referral (26% and 82% greater respectively) than general practices and their impact on workload was not further assessed by the research.⁸⁰ Other significant limitations of the study were the absence of random sampling, the limited number of scenarios and the use of novel assessment checklists developed by consensus.

The study by Hutchison et al (2003) included 12 walk-in clinics, 16 family practices and 13 EDs randomly selected from the Ontario area.⁸¹ Patients who presented for any one of eight specified conditions were interviewed about aspects of their satisfaction with the care they had received and patient records were assessed in relation to consensus-based quality of care criteria. Adjustments were made for potential confounders such as age, gender, and location. GP patients were more satisfied with their care compared with patients who were treated at either walk-in clinics or EDs. However, overall, adjusted mean quality scores were highest at EDs (73%) and lowest at primary care practices (64%). The scores at walk-in clinics and EDs were significantly higher than that for primary care practices. The study was associated with some deficiencies such as possible contamination between the types of practices and an absence of any adjustment for the effects of clustering.⁸¹

1.11 Care provided by A&M clinics during daytime hours and rural care

Most literature that has evaluated the role of walk-in clinics has focused on after-hours presentations and has not considered attendances during times when conventional general practices are usually open.

The development of co-operative arrangements, after-hours deputising centres and extended-hours A&M clinics appears to be largely confined to urban settings. In country areas GPs still experience onerous requirements to deliver long hours of after-hours cover, exacerbated by difficulties in acquiring locum respite.^{82, 83}

2 Methodology

Following is a summary description of methods used in NatMedCa. A more detailed account of the background to the study and the methods, along with study instruments used, is given in the first report in this series.⁸⁴ No statistical tests are applied in this report. Any comparative judgements made are indicative only and do not carry the weight of statistical significance. The tables in this report exclude missing data unless otherwise indicated. Note that percentages may not add up to exactly 100% due to rounding.

2.1 Organisation

The research, funded by the Health Research Council of New Zealand, was undertaken by a project team within the Centre for Health Services Research and Policy, School of Population Health, Faculty of Medical and Health Sciences, University of Auckland. Advice and support were provided by a research team representing the Departments of General Practice and/or Public Health at each of the four New Zealand Medical Schools.

2.2 Research design

The research followed the general methodology developed by the National Ambulatory Medical Care Survey (NAMCS) in the United States and previously used in New Zealand by Scott et al, the Royal New Zealand College of General Practitioners (RNZCGP) and McAvoy et al.⁸⁵ Practitioners at the selected A&M clinics were asked to complete reports on every fourth consultation for a period of one week.

The most recent survey in New Zealand using this methodology, WaiMedCa, was undertaken in the Waikato in 1991/92, and combined a survey of patient visits with a survey of practitioners, practice nurses and practices. That survey also included a sample of A&M practices in the geographical area of the study.

2.3 Questionnaires

Copies of the questionnaires are provided in the appendices. The log questionnaire (Appendix A), completed for all patients seen during the data collection period, recorded gender, date of birth, ethnicity and Community Services Card status. It also provided the means for recording the address of every fourth patient, on whom more detailed information was collected. The address was detached (at the clinic) and sent to an independent agency for coding to the New Zealand Index of Deprivation (NZDep96/01), a measure of residential area deprivation.

The visit questionnaire (Appendix B) recorded data about the patient, his or her problem(s) and the management recommended. In comparison with WaiMedCa, questions were added concerning the patient's level of social support, the presence of a "hidden agenda", and an evaluation of the urgency and gravity of the problem. Questions about patient occupation and initiation of the visit, which had previously proven difficult to interpret, were dropped.

The A&M practitioner questionnaire (Appendix C) obtained data on practitioner background and current activities. The A&M practice nurse questionnaire gathered data on the range of clinical responsibilities and other duties (Appendix D).

The expanded clinic questionnaire (Appendix E) was derived from the work of Crampton et al and covered hours of access, services provided, equipment on-site, personnel employed and various aspects of clinic management. In particular, the history and the contractual arrangements within the clinic were recorded.

Data from A&M clinics were collected for log, visit, clinic, practitioner and nurse questionnaires.

2.4 Ethnicity

Previous studies of general practice have been criticised for having inaccurate data on patient ethnicity. In NatMedCa, copies of the ethnicity question used in the 2001 Census were provided for use with each patient. Multiple choices were allowed, although mutually exclusive categories are reported here with prioritisation of Māori and Pacific peoples.

2.5 Sampling

Further details of the sampling process for independent GPs and GPs associated with an Independent Practitioners' Association (IPA) are provided elsewhere.³⁴ In brief, the sampling frame used for these GPs consisted of a list of all active GPs generated from White Pages telephone listings. A nationally representative, multi-stage sample of private GPs, stratified by place and practice type, was drawn. Each GP was asked to provide data on themselves and on their practice, and to report on a 25% sample of patients in each of two week-long periods. Over the same period, all community-governed primary health care practices in New Zealand were invited to participate, as were a 50% random sample of all A&M clinics, and four representative Hospital Emergency Departments (not reported here; Report 8 of this series).³⁷

A&M clinics were defined as:

- having X-ray equipment on site
- having extended opening hours at least until 8 pm, and open seven days a week
- being community- rather than hospital-based.

Twenty-six of 52 identified A&M clinics were included in the sample. Data collection was undertaken for one week, spread over the year and over geographical areas.

Sampling clinics and practitioners. The goal of the practitioner sampling process was to achieve representation of all practice types and geographical areas, with adequate numbers in each category.⁸⁴ It was aimed to obtain a representative random sample of all A&M clinics throughout the country. Note that the clinics were the sampling units – not the practitioners.

Sampling frame. A sampling frame of all active GPs was generated from White Pages telephone listings. A list of 52 A&M clinics was compiled from White Pages listings and supplemented by data from the Accident & Medical Practitioners' Association (AMPA) and other sources. A&M practitioners are typically salaried and are not listed in the White Pages.

Geographic distribution. Practice type was determined using information provided by IPAs. Geographical distribution was analysed using two parameters: population density and site. In order to achieve national representation, GPs were stratified by site as well as by settlement size.⁸⁴ A&M clinics were distributed throughout the country, but with particular concentration in the cities.

Sampling process. Seven strata were used in the sample selection of GPs for NatMedCa.⁸⁴ In order to generate adequate, and approximately equal, numbers of GPs, different sampling fractions were chosen. In the analysis presented in this report, GP results are weighted to compensate for the different likelihood of them being sampled. A 50% random sample of all identified A&M clinics was drawn and their practitioners and associated nurses invited to participate.

Replacement and ineligibility. When attempts were made to contact a GP, it was sometimes found that he or she was on sabbatical, had moved or had retired. In such cases, if a new practitioner had been appointed specifically to take on the departed person's workload, the new practitioner was asked to participate. Where there was no direct replacement, the sampled GP was marked ineligible. The other cause of ineligibility was the discovery that the individual was in speciality practice.

It was anticipated that additional practitioners who had not appeared on the sampling frame might be discovered when the practice of a sampled practitioner was approached. This might have been because the practitioner was a new arrival, or was an assistant, a trainee or a locum. When such people were identified, they were added to the overall sample, and 13% (matching the average sampling ratio) were invited to join the study.

Nurses. Nurses work within most primary health care organisations but there is no way to list them prior to a visit to a practice. Each practitioner was asked to identify the practice nurse with whom they worked most closely. These nurses were asked to complete a practice nurse questionnaire.

2.6 Timing

Practitioners were approached serially in order to distribute data collection periods seasonally. Data collection began in March 2001 and continued over 18 months. Each GP was asked to initiate the second week of data collection six months after the first, while each A&M clinic collected data for one week only.

2.7 Sampling of visits

A pad of forms, structured to select each fourth patient, was provided. On the first page the visits of four patients could be logged; on the second, a detailed record of the visit of the fourth patient was entered. This process was repeated on each subsequent pair of pages.

2.8 Recruitment and data collection processes

Recruitment of selected GPs included the following steps:

1. a letter from the project team requesting participation, accompanied by a letter of support from the local Professor of General Practice
2. a phone call from the Clinical Director or the Project Manager requesting an interview
3. a practice visit, at which an information booklet was presented and, with agreement, a time for data collection was set; an estimate of weekly patient numbers was obtained and practitioners signed a consent form
4. delivery of the visit record pad and other questionnaires by courier
5. a phone call early in the week of data collection as a reminder
6. follow-up phone call(s) if the data pack was not returned
7. a phone call prior to the second week of data collection
8. delivery of the second visit record pad by courier
9. follow-up phone call(s) if the second data pack was not returned
10. a short questionnaire was sent to GPs who felt unable to contribute to the research.

Note that a small payment was made to practitioners based on the number of completed visit forms. This was seen as recognition of the opportunity cost of contributing to research, and was based on an hourly rate similar to the after-cost earnings of GPs. The RNZCGP recognised participation as a practice review activity able to be submitted for postgraduate education credit (MOPS).

A&M clinics were posted an introductory letter requesting participation, with an accompanying letter of support for the study from the Accident and Medical Practitioners' Association (AMPA). This was followed up by a phone call and visit to the clinic, at which information about the study was presented. Once participation was agreed, arrangements were made for courier delivery of a data pack. Clinics were followed up by phone to ensure that data collection was undertaken during the specified period and that data packs were returned. Each clinic received a small payment for their participation in the study.

2.9 Data

Data management and entry. Unique identifying numbers were assigned to each practice and each practitioner who agreed to participate. A separate number was assigned to the associated practice nurse. These numbers were entered on the questionnaires and visit report pad prior to dispatch. The practitioners returned the forms at the end of the week of data collection using a pre-addressed courier pack. The patients' addresses were recorded and sent from the practice directly to an independent organisation for geo-coding and assignment of NZDep scores.

The progress of recruitment was entered on the master sheet. First, refusal, ineligibility or agreement to participate was recorded. Subsequently, dispatch and receipt of both phases of documents were logged. Data entry was undertaken by trained, experienced individuals using pre-formatted electronic forms. A data manager checked entries for accuracy using predetermined processes.

Statistical considerations. The proportions given in this and the companion reports were estimated using analytical approaches that took account of the stratified, multi-stage sampling scheme, the weights associated with each stratum, and clustering at different sampling stages. The precision of these estimated proportions can be assessed using standard error estimates that take into account the study's design parameters.

Standard errors have not been included routinely in the results to avoid cluttering already dense tables. Standard errors for means vary according to the distribution of the variable, so it is not possible to include indicative standard errors here.

Data classification. Patients' addresses were collected and coded, using the NZDep classification of Census mesh blocks, into one of 10 deprivation categories (1 = lowest, 10 = highest deprivation). Note that in order to maintain patient anonymity, the

addresses were sent directly from the practices to an independent organisation (Critchlow Associates, Wellington) for coding. The data set available to the research team contained only the NZDep96/01 deciles for each patient.

Reasons-for-visit and diagnoses were also coded, using READ version 2 (READ2). A significant number of visits to GPs do not result in a clear pathological diagnosis, and READ makes provision for symptoms, administrative functions, intended actions and other types of entry. Practitioners entered the variables as free text, and coding was performed electronically. The coding software, developed by Dr Ashwin Patel, assigned a READ code to each entry. When no fit was found, the software presented a set of options and the operator could choose an appropriate term. Once an entry had been manually coded, any repeat would then be coded automatically in the same way. When a coding fit was questionable, the entry was reviewed by medical personnel, who also undertook random checks of all coding. The details of the software and the checking process are reported elsewhere.⁸⁴ Drugs were coded (according to the Pharmacodes/ ATC system) using similar software, as were other therapeutic actions.

2.10 Grouping reasons-for-visit and problems, and drugs

READ is a hierarchical system and classifies reasons-for-visit and diagnoses either into pathology-based groups identified by a letter or, when specific pathology has not been reported, into numbered categories which include symptoms and proposed actions. The primary (first-digit) categories are given in Table 2.1. In reporting the frequency of the various categories, the first digit of the code was used as a grouper (e.g. H = respiratory system). Where a group of problems, indicated by the second digit, reached a threshold of 0.5% (e.g. H3 = chronic obstructive airways disease), these are also reported.

However, all the numbered action, investigation and administration categories (see Table 2.1) are treated as a single category, and the value of the number is used as the second-level grouper. Where a symptom was system-specific (e.g. cough), the case was assigned to the equivalent lettered category.

Table 2.1 READ2 chapter headings

Pathology-based categories	Other categories
A. Infectious/parasitic	1. History and symptoms
B. Cancers/neoplasms	2. Examination
C. Endocrine/nutritional/metabolic/immunity	3. Diagnostic procedures
D. Blood/blood-forming organs	4. Laboratory tests
E. Mental	5. Radiology
F. Nervous system/sense organs	6. Preventive procedures
G. Cardiovascular/circulatory	7. Surgical procedures
H. Respiratory system	8. Other procedures
J. Digestive system	9. Administration
K. Genito-urinary system	
L. Pregnancy/childbirth/puerperium	
M. Skin/subcutaneous tissue	
N. Musculoskeletal/connective tissue	
P. Congenital	
Q. Perinatal	
R. Symptoms	
S/T. Injury/poisoning	
Z. Unspecified conditions	

Drugs were classified using the Pharmacodes/ATC system. The categories are anatomically based. However, anti-bacterials, which may be used across systems, make up their own sub-group under anti-infective agents (see Table 2.2). Analgesics, which may also be used across systems, are included in drugs affecting the nervous system. In general, each group has a variety of sub-groups, which may be quite disparate. We followed the system consistently even when reassignment of drug groups might have been possible (e.g. lipid-lowering drugs could have been put under the cardiovascular system but were left in metabolic).

Table 2.2 List of level 1 categories (Pharmacodes/ATC system)

Drug group	
1	Alimentary tract and metabolism
4	Blood and blood-forming organs
7	Cardiovascular system
10	Dermatologicals
13	Genito-urinary system
14	Systemic hormone preparations (excludes oral contraceptives)
16	Infections – agents for systemic use
19	Musculoskeletal system
22	Nervous system
25	Oncology agents and immunosuppressants
28	Respiratory system and allergies
31	Sensory organs
38	Extemporaneously compounded preparations and galenicals
40	Special foods

2.11 Ethical issues

Ethical approval, co-ordinated by the Auckland Ethics Committee, was obtained from ethics committees in all areas represented in the survey. Of particular concern was the long-term management of the data. An advisory and monitoring committee was appointed with representation from the general public and from each of the relevant professional groups. This group has the overall task of ensuring that the data are used in the public interest. Proposed analyses are provided to the group for comment, as are papers being prepared for dissemination.

Doctors were specifically requested to refrain from putting any questions to their patients that were not justified by clinical “need-to-know”. Given the anonymity of the patient data and the fact that doctors’ questioning and management were not altered for the study, patient consent was not sought.

3 Recruitment and Data Collection

An overall summary of returned log and visit questionnaires for both time periods is provided in Table 3.1. In total, 6205 visits were logged, with the great majority of these being registered in the eight clinics sampled in Auckland. There were approximately equal numbers from the rest of the North Island and from the South Island. Because date and time were not collected on the encounter logs, only visit data can be presented for the specific time periods – that is, “normal working hours” (Monday–Friday, 8 am–6 pm), and all other times. Fewer visit questionnaires were collected during normal hours (590 versus 840), but the ratios between Auckland and the other two strata were maintained (990, 229 and 211 respectively).

Table 3.1 Number of Accident and Medical (A&M) clinics responding, and number of log or visit questionnaires submitted

	A&M clinics: total (all hours)	A&M clinics: Monday–Friday, 8 am–6 pm	A&M clinics: other hours
Auckland	8 (4406)	8 (426)	8 (564)
Rest of North Island	2 (929)	2 (88)	2 (141)
South Island	2 (870)	2 (76)	2 (135)
All New Zealand	12 (6205)*	12 (590)†	12 (840)†

* Logs; date and time were not collected.

† Visits; excludes 53 with missing date and time.

The sampling unit for the purposes of this study was the clinic. Out of a total population of 52 A&M clinics throughout New Zealand, 26 were eligible for selection prior to exclusions. Of the 22 clinics ultimately deemed eligible for selection, 12 agreed to participate, giving a response rate of 54.5%.

Characteristics of participating doctors in the sampled A&M clinics are outlined in Table 3.2. A quarter were female, and the overall mean age was 40 (over half of the practitioners were in the 35–44 years age group). On average, doctors had been in practice for just over 10 years, and had been in the sampled practice only 2.9 years. Over one-third of doctors had not trained in New Zealand, with the majority – a quarter of the total – from a country other than the United Kingdom or Australia. Only one-third of participating doctors belonged to either the RNZCGP or the New Zealand Medical Association (NZMA). Membership to the Accident and Medical Practitioners’ Association (AMPA) was not recorded. On average, doctors saw nearly 90 daytime patients a week, and to do so worked 6.3 half-days with an average of 13.7 patients per half-day.

Table 3.2 Characteristics of participant A&M practitioners

	A&M practitioners (N = 67)
Gender %	
Female	26.9
Age %	
< 35	23.1
35–44	55.4
45–54	18.5
55–64	3.1
> 64	0
Total	100%
	Mean = 40.0
Years in practice %	
< 6	42.6
6–15	32.8
16–25	21.3
> 25	3.3
Total	100%
	Mean = 10.1
Years this practice %	
< 6	86.2
6–15	13.9
16–25	0
> 25	0
Total	100%
	Mean = 2.9
Place of graduation %	
New Zealand	61.2
UK	9.0
Australia	4.5
Other	25.4
Total	100%
% RNZCGP	32.1
% NZMA	29.2
Mean daytime patients/week	86.6
Mean half-days worked per week	6.3
Mean daytime patients per half-day	13.7

4 Characteristics of Patients

Two sources of information were available on the broad, socio-demographic characteristics of patients visiting the A&M clinics in the sample: the abbreviated record of patient visits that formed the frame for selecting every fourth patient (the “logs”), and the data collected for sampled patients in the course of the encounter (the “visits” data). Information summarising the age and gender distributions of patients attending the A&M clinics in the sample are presented in Tables 4.1 and 4.2. In both cases, log data are available for age and gender distributions overall, while time-specific information is drawn from the encounter or visits data.

Looking at the picture overall, the distribution of A&M clinic contacts by age showed a marked skew to the younger age groups (column three, Table 4.1). Thus, only 17% of all logged visits were for patients 45 years or older, while a quarter (24.8%) were for under-five-year-olds. Across the remainder of the age range – that is, for the 10-year age groups spanning the 5–44 age range – the distribution of visits was reasonably even (with fewer in the 35–44 age group). Comparing males and females overall, there seems to be little difference in age distribution, although slightly more visits for females were recorded.

Moving to the time-specific comparisons – that is, visits recorded in normal working hours (Monday to Friday, 8 am–6 pm) versus those at other times – a marked difference was apparent. For the other hours data, nearly one-third of all encounters (31.1%) were for under-five-year-olds, while for normal working hours less than one-fifth of visits (18.8%) were for this group. Similarly, only 13.8% of encounters were recorded for patients over the age of 44 in the other hours period, while this was true for nearly one-fifth in normal working hours. Again, there was little difference in the distribution of age for males and females, except that a higher proportion of males were in the youngest age group and a slightly higher proportion of females were over 44. More female patients visited in other hours, and slightly more males visited during normal working hours.

Table 4.1 Distribution of patients, by age and gender, as percentage of logs and visits

Age group	A&M: Total (all hours)*			A&M: M–F, 8 am–6 pm†			A&M: Other hours†		
	Males	Females	All	Males	Females	All	Males	Females	All
< 1	7.1	6.0	6.6	6.1	5.3	5.6	9.3	6.3	7.6
1–4	19.4	16.9	18.2	16.2	9.5	13.2	28.1	19.7	23.5
5–14	15.4	14.0	14.7	11.5	16.8	14.2	17.8	13.1	15.4
15–24	16.7	18.1	17.4	16.6	20.7	18.5	13.4	19.0	16.3
25–34	14.2	15.1	14.6	16.9	15.4	16.0	11.9	12.4	12.0
35–44	11.4	10.5	10.9	13.2	10.5	11.7	10.3	10.6	10.5
45–54	7.2	8.4	7.8	8.1	7.7	8.0	5.4	7.2	6.3
55–64	3.9	4.5	4.2	5.4	5.3	5.3	2.1	4.1	3.1
65–74	2.1	2.2	2.1	2.0	3.5	2.7	0.5	1.8	1.2
75+	2.0	3.8	2.9	3.4	3.9	3.6	0.8	5.2	3.2
Missing	0.7	0.6	0.6	0.7	1.4	1.4	0.5	0.5	1.0
Total (N)	100% (3047)	100% (3111)	100% (6205)	100% (296)	100% (285)	100% (590)	100% (388)	100% (442)	100% (840)

* Logs; date and time were not collected; 47 had missing gender data.

† Visits; excludes 53 with missing date and time; 19 had missing gender data.

The patterns identified in Table 4.1 are largely confirmed in the ratio data in Table 4.2. These present the age- and gender-specific log and visit information as a ratio to the corresponding national population data. Overall, there were more than three times as many patients under the age of five visiting the sampled A&M clinics than national figures would indicate; there was a slight elevation in the 15–24 years age group, and an under-representation of between one-third and three-quarters in the age groups 35 and over. This age-related pattern was most marked for other hours visits, with the under-fives more than four times the national indication and those over 45 generally half or less than half the expected. Visits in normal working hours were in an intermediate position. A slight difference in gender distributions was also evident, with males disproportionate in the youngest age group, and females aged 15–24 in other hours over-represented.

Table 4.2 Ratio of A&M visits to national population, by age and gender (logs and visits)

	All ages	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75+
Total (all hours)*										
Male	1.01	3.56	0.97	1.22	1.05	0.76	0.56	0.44	0.32	0.47
Female	0.98	3.31	0.95	1.37	1.04	0.66	0.65	0.50	0.32	0.58
Monday–Friday, 8 am–6 pm†										
Male	1.03	3.09	0.75	1.26	1.30	0.90	0.65	0.63	0.33	0.83
Female	0.94	2.07	1.11	1.53	1.04	0.65	0.58	0.57	0.51	0.57
Other hours†										
Male	0.95	4.73	1.05	0.93	0.83	0.64	0.40	0.22	0.08	0.17
Female	1.03	3.94	0.93	1.51	0.90	0.70	0.59	0.48	0.28	0.82

* Logs.

† Visits.

Data on the ethnicity and card status of A&M clinic patients are presented in Table 4.3. For just about 60% of visits, the recorded ethnic group was NZ European. The next largest single group was Māori (9.0%), followed by Samoan (6.1%). Taken together, Chinese and Indian accounted for just under 10% of all patient visits, second only to New Zealand European. This overall ethnic distribution was relatively stable between the normal working hours and other hours time periods.

Nearly three-quarters of all patients did not have a benefit card of any kind; that is, neither a Community Services Card (CSC) nor a High User Health Card (HUHC). Little over one-fifth had a CSC. This pattern was not so marked for visits in normal hours, where one-quarter of patients had a CSC. There was no information on card status for nearly 5% of patients visiting out of normal hours.

Table 4.3 Percentage distribution of all A&M patients, by ethnicity and card status (logs and visits)

	Total (all hours)*	M–F, 8 am–6 pm†	Other hours†
Ethnicity‡ (N)	(5419)	(570)	(666)
New Zealand European	59.6	59.7	58.0
Māori	9.0	11.2	8.0
Samoan	6.1	5.6	7.2
Cook Island	1.0	0.5	1.5
Tongan	3.1	2.1	3.6
Niuean	0.6	0.5	0.9
Chinese	4.9	5.4	5.0
Indian	4.5	4.6	4.4
Other	11.2	10.4	11.6
Total	100%	100%	100%
Card status (N)	(6205)	(590)	(840)
No card	74.7	70.5	73.7
CSC	22.0	26.3	20.6
HUHC	0.5	0.4	0.6
Both cards	0.2	0.2	0.3
Missing	2.6	2.6	4.8
Total	100%	100%	100%

* Logs.

† Visits.

‡ Ethnicity was self-reported, with multiple categories allowed. One ethnic category was then assigned per patient according to prioritisation of Māori and Pacific peoples. 786 log and 194 visit patients had missing data.

Social support, area deprivation and English fluency are addressed in Table 4.4. Practitioners judged nearly three-quarters of patients to enjoy social support that was either good or very good. This did not vary between time periods. Understandably, given the nature of the patient profile at A&M clinics, there was a significant percentage of patients for whom doctors were unable to judge the level of social support.

The distribution of patient area of residence by level of deprivation was remarkably uniform. Each level of deprivation – from the lowest at decile 1 to the highest at decile 10 – accounted for close to one-tenth of patients. In other words, there was no obvious bias in the distribution of patients to either the high or the low end of area deprivation. Nevertheless, a significant proportion of patients were judged by doctors not to be fluent in English, and this was particularly high for other hours visits (8.9%).

Table 4.4 Social support, NZDep2001 of residence, and fluency in English: percentage of all A&M patients

Social support	M–F, 8 am–6 pm	Other hours
5 Very good	44.0	51.0
4 Good	27.5	25.1
3 Average	9.7	8.8
2 Poor	2.3	2.1
1 Very poor	0.7	0.1
Unknown	15.8	12.9
Total (N)	100% (575)	100% (729)
NZDep		
Decile 1	12.4	10.8
2	9.4	12.6
3	8.4	8.4
4	9.4	11.0
5	9.7	8.8
6	8.8	8.8
7	7.9	7.0
8	10.7	9.8
9	13.1	11.4
10	10.3	11.4
Total (N)	100% (534)	100% (784)
% Not fluent in English (N)	5.9% (458)	8.9% (620)

The interrelationship of deprivation, card status and social support is considered in Tables 4.5A to 4.5C. Although a low proportion of A&M clinic patients possessed a health benefit card, the proportion reporting a CSC went up from about one-10th for the lowest quintile to over 40% for the highest quintile of area deprivation, with lower levels reported for other hours visits (Table 4.5A). A similar pattern was evident for social support: higher levels of CSC possession with declining social support (generally lower for other hours), although the very small numbers of visits in the “poor” and “very poor” categories should be noted (Table 4.5B).

Finally, the expected pattern was repeated in the relationship between social support and area deprivation (Table 4.5C). For both time periods, the average level of social support declined with higher levels of deprivation, although this trend was not as marked for patients attending during other hours. The percentages are harder to interpret because of the substantial proportion of visits for which social support information was not collected, but it does appear that about three-quarters of visits were for patients with social support that was either “good” or “very good”, that this proportion declined for patients from more deprived areas, and that these proportions tended to be higher for visits that were during other hours.

Table 4.5 Relationship between measures of deprivation

A. Percent possessing a Community Services Card, by NZDep2001 quintile					
Quintile	1	2	3	4	5
Card %					
M-F, 8 am-6 pm (N)	12.6 (111)	19.3 (93)	32.0 (97)	29.6 (98)	44.6 (121)
Other hours (N)	10.2 (176)	18.1 (149)	27.9 (129)	29.0 (124)	41.5 (171)

B. Percent possessing a Community Services Card, by level of social support						
Social support	5 Very good	4 Good	3 Average	2 Poor	1 Very poor	Unknown
Card %						
M-F, 8 am-6 pm (N)	24.0 (246)	27.6 (152)	50.0 (54)	46.1 (13)	50.0 (4)	20.7 (87)
Other hours (N)	17.7 (351)	28.2 (177)	41.9 (62)	41.7 (12)	0 (1)	23.6 (89)

C. Percent social support, by NZDep2001 quintile					
Quintile	1	2	3	4	5
M-F, 8 am-6 pm					
5. Very good	50.0	47.3	43.3	41.5	39.3
4. Good	28.1	24.7	26.8	25.5	28.7
3. Average	4.4	8.6	8.3	12.8	15.6
2. Poor	2.6	0	5.2	2.1	2.5
1. Very poor	0.9	0	1.0	1.1	0.8
Unknown	14.0	19.4	15.5	17.0	13.1
Total	100%	100%	100%	100%	100%
Mean score	4.4	4.5	4.3	4.3	4.2
Other hours					
5. Very good	57.0	54.0	52.0	54.4	40.5
4. Good	24.2	23.8	19.5	20.2	34.6
3. Average	6.7	6.4	9.8	8.8	12.4
2. Poor	0	1.6	1.6	2.6	3.9
1. Very poor	0	0	0.8	0	0
Unknown	12.1	14.3	16.3	14.0	8.5
Total	100%	100%	100%	100%	100%
Mean score	4.6	4.5	4.4	4.5	4.2

5 Relationship with Practice

Practitioners were asked to assess the nature of the relationship of the patient with the practice, using three measures (Table 5.1). As might be expected, given the nature of the patient profile at A&M clinics, few patients had an established relationship. A significant minority of patients were new to the practice – one-third during normal hours and nearly half during other times. The majority were new to the practitioner, and the doctor seen was not the usual source of care for around three-quarters of patients (with higher proportions for patients visiting during other hours).

Table 5.1 Relationship with practice: three measures

	A&M: M–F, 8 am–6 pm	A&M: Other hours
% new to practice	32.5	48.7
% new to practitioner	70.5	82.1
% not usual source (minimum N)	73.7 (536)	84.8 (691)

In Table 5.2, two of these measures – new to practice and new to doctor – are considered for different age groups. Given the relatively small numbers involved, these results need to be interpreted with caution. No clear pattern by age group was evident, and it appeared that younger patients were just as likely as older ones to be new either to the practice or to the doctor. While there were variations between the age groups, these were neither consistent nor marked.

Table 5.2 New patients: percentage of age group

Patient age group	Percent of age group new to doctor		Percent of age group new to practice	
	M–F, 8 am–6 pm (N = 549)	Other hours (N = 693)	M–F, 8 am–6 pm (N=572)	Other hours (N = 784)
< 25	69.9	81.9	28.7	44.4
25–44	77.9	83.2	40.4	57.6
45–64	64.9	85.7	33.3	61.1
65+	64.9	74.1	29.7	43.2

A further aspect of the nature of patients' relationship to the practice and the doctor is addressed in Tables 5.3 and 5.4, where previous visits and practitioner-reported rapport are outlined. The average number of visits over the previous year, including the present one, was 3.3 during normal hours and 2.3 during other hours. For nearly half of all patients seen during normal hours, the current visit was their only one recorded with the clinic; this was the case for two-thirds of patients seen during other hours. The proportion of patients recording six or more visits to the clinic – including the present visit – was 15.7% for visits in normal hours and 9.8% for those during other hours

(Table 5.3). Despite this pattern of episodic and tenuous contact, very few practitioners felt that they had only established low rapport with their patients (although this was higher for visits in normal hours); about half claimed “medium” rapport (Table 5.4).

Table 5.3 Patient-reported number of visits to practice in previous 12 months: percentage distribution

Number*	M–F, 8 am–6 pm	Other hours
1	48.2	66.4
2	15.2	11.4
3	8.7	4.6
4	4.8	4.5
5	7.4	3.5
6	3.7	2.7
7	3.0	2.0
8	2.3	1.8
9	1.2	0.7
> 9	5.5	2.6
Total (N)	100% (566)	100% (740)
Maximum	(48)	(67)
Mean	3.3	2.3

* Includes the current visit.

Table 5.4 Practitioner-reported rapport: percentage distribution

Rapport	M–F, 8 am–6 pm	Other hours
1 Low	8.6	3.5
2 Medium	47.4	51.8
3 High	44.0	44.7
Total (N)	100% (536)	100% (696)

6 Visit Characteristics

Information on the source and type of payment is outlined in Table 6.1. As expected from the analysis of patient characteristics, a high proportion of visits involved payment either for young children (under six) or by adults without a benefit card. For both time periods these categories together accounted for about 70–75% of cash/GMS visits (although the composition differed, with more adults without a card in normal hours, and more young children during other hours). ACC payment was a major source in normal hours, accounting for one-third of visits. Maternity care was insignificant.

Table 6.1 Source and type of payment cited, as percentage of visits

Source of payment*	A&M: M–F, 8 am–6 pm	A&M: Other hours
% visits cash/ GMS	65.0	81.5
Under 6 (Y)	30.7	43.2
Child, card (J1)	1.8	3.4
Child, no card (J3)	9.2	10.0
Adult, card (A1)	17.9	11.7
Adult, no card (A3)	40.5	32.8
Total cash/GMS	100%	100%
% visits ACC payment	33.6	17.9
% visits maternity care	1.4	0.6
Total (N)	100% (506)	100% (708)

* Categories are mutually exclusive, with maternity or ACC taking precedence over cash/GMS where more than one is cited.

On average, visits lasted longer than quarter of an hour – 16.4 minutes in normal hours and 16 in other hours – with nearly half of all visits taking between 10 and 15 minutes (Table 6.2).

Table 6.2 Duration of visit: percentage distribution

Duration	M–F, 8 am–6 pm	Other hours
Shorter: < 10 minutes	28.2	20.6
Average: 10–15 minutes	44.8	53.4
Longer: 15–20 minutes	9.8	10.4
Longest: > 20 minutes	17.2	15.7
Total (N)	100% (478)	100% (588)
Mean duration (minutes)	16.4	16.0

The urgency and severity of visits are addressed in Table 6.3. About half of all visits were assessed as requiring same-day attention (47.2% in normal hours, 57.5% in other hours), with only a minority categorised as immediate (“ASAP”). In assessing severity, very few conditions were classified as “life-threatening”, with the majority seen as “self-limiting”, and an almost equal proportion categorised as “intermediate”. The combined total of self-limiting and intermediate accounted for the great majority of conditions (about 85%) and was similar across the two time periods.

Table 6.3 Urgency and severity of visit: percentage distribution

	M–F, 8 am–6 pm	Other hours
Urgency		
4 ASAP	10.0	14.7
3 Today	47.2	57.5
2 This week	34.9	24.6
1 This month	8.0	3.2
Total (N)	100% (562)	100% (716)
Severity		
4 Life-threatening	2.0	0.9
3 Intermediate	40.3	33.6
2 Self-limiting	42.1	54.0
1 Not applicable	15.6	11.5
Total (N)	100% (563)	100% (705)

Three related aspects of the degree of disability suffered by the patient were assessed by practitioners (Table 6.4). For at least one-third of visits, practitioners did not identify any disability (the proportion was higher for visits during other hours). In those cases where disability was identified, the great majority – 85.9% for normal hours, 93.4% for other hours – were assessed by the practitioner as instances of minor disability of a temporary nature. Little over 5% of cases of disability were judged to be major, with more of these presenting in normal hours.

Table 6.4 Level of disability as percentage distribution

Level of disability	M–F, 8 am–6 pm	Other hours
None	36.4	40.2
Minor	58.7	56.7
Major	4.9	3.1
Total (N)	100% (549)	100% (709)
Temporary	92.8	99.0
Permanent	7.2	1.0
Total (N)	100% (307)	100% (381)
Minor temporary	85.9	93.4
Major temporary	6.9	5.6
Minor permanent	5.6	1.1
Major permanent	1.6	0
Total (N)	100% (304)	100% (378)

The level of uncertainty as to the appropriate action at patient visits was judged by practitioners to be low or negligible (Table 6.5). Nearly 90% of visits fell into this category during normal hours, as did just over 83% for visits during other hours. Visits associated with high uncertainty accounted for 4.1% of visits during other hours.

Table 6.5 Percentage distribution of level of uncertainty as to appropriate action

Level of uncertainty	M–F, 8 am–6 pm	Other hours
1 None	61.2	50.3
2 Low	28.5	33.2
3 Medium	9.8	12.5
4 High	0.5	4.1
Total (N)	100% (562)	100% (712)

A range of relationships between patient and visit characteristics is considered in Table 6.6. There are no clear patterns in the data. Across the four age groups, most measures varied in a narrow band, with no clear line of direction. There were few differences by gender, and the variation by deprivation decile, again, either was very narrow (or non-existent), or showed no clear line of direction.

Table 6.6 Relationship between patient and visit characteristics

	Age < 25	Age 25–44	Age 45–64	Age 65+	Male	Female	Decile 1–3	Decile 4–7	Decile 8–10
M–F, 8 am–6 pm									
% new to practice	28.7	40.4	38.3	29.7	30.2	34.8	33.3	28.4	33.1
Mean rapport*	2.3	2.4	2.3	2.4	2.4	2.4	2.4	2.3	2.4
Mean duration (minutes)	15.7	18.8	16.9	13.3	16.3	16.7	17.8	15.1	17.1
Mean urgency*	2.7	2.6	2.4	2.6	2.6	2.6	2.5	2.6	2.6
Mean severity*	2.3	2.2	2.3	2.4	2.3	2.3	2.2	2.3	2.3
Mean uncertainty*	1.5	1.5	1.6	1.2	1.5	1.5	1.5	1.5	1.5
Minimum N for column	(244)	(124)	(67)	(32)	(239)	(231)	(128)	(156)	(152)
Other hours									
% new to practice	44.4	57.6	61.1	43.2	49.7	48.5	50.0	55.9	40.3
Mean rapport*	2.4	2.4	2.5	2.2	2.4	2.4	2.5	2.4	2.3
Mean duration (minutes)	15.9	15.2	16.6	22.1	16.3	15.9	16.2	16.6	16.1
Mean urgency*	2.9	2.8	2.8	2.7	2.8	2.8	2.8	2.9	2.9
Mean severity*	2.2	2.2	2.3	2.5	2.2	2.2	2.2	2.2	2.2
Mean uncertainty*	1.7	1.7	1.6	1.9	1.7	1.7	1.7	1.7	1.7
Minimum N for column	(377)	(128)	(56)	(21)	(279)	(301)	(166)	(187)	(194)

* Categories converted to numerical scores as indicated in Tables 5.4, 6.3 and 6.5.

7 Reasons-for-Visit

Patients were asked for the reason or reasons that brought them to visit the doctor, and these were recorded on the encounter form by the practitioner. Overall, patients recorded just over one reason per visit, with males and females averaging out about the same across the two time periods (Table 7.1). More reasons on average were cited by the youngest age group.

Table 7.1 Reasons-for-visit: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
A&M: M–F, 8 am–6 pm					
Male	119	118	121	120	106
Female	115	121	111	108	100
A&M: Other hours					
Male	113	115	111	107	100
Female	119	120	120	122	110

The recorded reasons-for-visit as given by patients were coded into the READ system, and the distribution of these reasons across READ2 chapters and sub-chapters is outlined in Table 7.2. For visits to A&M clinics during normal working hours (column two), about one-fifth involved actions of various kinds, and another fifth dealt with injury/poisoning-related conditions. Other important groupings were respiratory (17.5% of all visits) and non-specific symptoms (13.7%). For visits to A&M clinics outside normal hours (column three), actions were much less important (8.7%), as was injury/poisoning (11.9%). Instead, over one-fifth of all visits dealt with a respiratory condition, and a similar proportion with non-specific symptoms. Nervous system/sense organs (13.5%) and digestive (10.2%) reasons were also important.

Looking at the distribution of reasons (columns four and five), actions, injury, respiratory and non-specific symptoms were the leading four (in that order) for patients visiting in normal hours, while non-specific symptoms, respiratory, nervous system and injury were the leading four during other hours. Few sub-chapter groupings of reasons were sufficiently common to register above 5%. Nevertheless, one-tenth of all reasons among patients during normal hours were therapeutic procedures; respiratory symptoms were not far behind (8.7%), with ear, nose and throat (5.5%) and gastrointestinal (4.8%) symptoms the only others of note (column four). For patients visiting during other hours (column five), a full 10% had respiratory symptoms, followed by gastrointestinal (8.5%) and ear, nose and throat (7.4%) symptoms, and acute respiratory infections (5.2%).

Table 7.2 Distribution of reasons-for-visit chapters and sub-chapters

RfV grouping, READ2 chapters and sub-chapters*	RfV grouping, percent of visits		RfV grouping as percent of reasons	
	M–F, 8 am–6 pm	Other hours	M–F, 8 am–6 pm	Other hours
Actions	20.7	8.7	18.1	7.5
Therapeutic procedures			10.3	3.8
Preventive procedures			3.0	1.9
Operations			2.9	1.0
Administration			1.9	0.7
Injury/poisoning	19.2	11.9	16.6	10.3
Sprains and strains of joints and adjacent muscles			1.7	0.7
Crushing injury			1.2	0.4
Open wound of arm			1.0	1.3
Abrasions			0.9	0.4
Arm fracture			0.6	0.1
Fracture of lower limb			0.6	0.1
Open wound of head			0.6	0.9
Foreign body in orifice			0.6	0.3
Scalds			0.6	0.3
Respiratory	17.5	21.7	16.4	19.8
Respiratory symptoms			8.7	10.2
Pneumonia and influenza			2.8	2.1
Acute respiratory infections			2.6	5.2
Chronic obstructive airways disease			1.0	1.6
Symptoms non-specific	13.7	22.3	12.2	20.2
Ear, nose and throat symptoms			5.5	7.4
Head and neck symptoms			1.0	1.9
Abdominal and pelvic symptoms			0.9	3.5
Nervous system/sense organs	9.2	13.5	8.0	12.1
CNS symptoms			3.9	4.8
Ear diseases			2.6	4.7
Disorders of eye and adnexa			1.5	2.0
Investigations	6.6	5.1	5.8	4.4
Examination			2.6	3.2
History			1.2	0.9
Diagnostic procedures/lab test/radiology			2.0	0.3
Digestive	5.9	10.2	5.4	9.1
Gastrointestinal symptoms			4.8	8.5
Musculoskeletal/connective tissue	5.6	5.2	4.9	4.6
Vertebral column syndromes			2.2	1.2
Rheumatism, excluding the back			1.4	2.1
Arthropathies and related disorders			1.3	1.2

RfV grouping, READ2 chapters and sub-chapters*	RfV grouping, percent of visits		RfV grouping as percent of reasons	
	M–F, 8 am–6 pm	Other hours	M–F, 8 am–6 pm	Other hours
Skin/subcutaneous tissue Skin and subcutaneous tissue infection Symptoms affecting skin and integumentary tissue Dermatitis/dermatoses	5.3	5.8	4.5 1.6 1.5 0.9	5.0 1.7 1.8 1.0
Unspecified conditions Health status and contact with health services factors	3.4	1.0	2.9 2.9	0.8 0.8
Cardiovascular/circulatory Cardiovascular symptoms	1.7	1.2	1.5 1.0	1.0 0.9
Genito-urinary Genito-urinary symptoms	1.7	2.3	1.5 1.0	2.0 0.9
Infectious/parasitic	0.9	1.2	0.7	1.0
Endocrine/nutritional/metabolic/immunity	0.5	0.6	0.4	0.5
Cancers/neoplasms	0.3	0.1	0.3	0.1
Blood/blood-forming organs	0.3	0.0	0.3	0.0
Mental Neurotic, personality and other non-psychotic disorders	0.3	0.7	0.3 0.3	0.6 0.5
Pregnancy/childbirth/puerperium	0.3	0.2	0.3	0.2
Perinatal	0.0	0.1	0.0	0.1
Not coded	0.0	0.7	0.0	0.6
Total (N)	(590)	(840)	100% (689)	100% (980)

* Major groupings are based on READ2 chapters. Where possible, symptoms from chapters 1 and R have been attributed to the corresponding body system (chapters A to Q). Chapters 1 to 5 have been broadly classified under “Investigations”, and chapters 6 to 9 and a to v under “Actions”. READ2 sub-chapters at the two-digit level are shown where they comprise $\geq 0.5\%$ of all reasons.

These findings are summarised in Table 7.3, where reasons-for-visit are grouped by READ2 chapters and expressed as rates per 100 visits. Overall, there was almost exactly the same number of reasons cited across the two time periods (116.8 and 116.7). Nevertheless, as would be evident from the previous table, the distributions were a little different. Thus, while respiratory and non-specific symptoms were among the leading four groupings across both time periods, and while injury/poisoning and nervous system/sense organs were also important for both, actions were the leading reason-for-visit cited during normal hours. Digestive, on the other hand, was a category that seems to be more important outside this period.

Table 7.3 Frequency of reasons-for-visit (by READ2 chapter), rate per 100 visits

READ2 chapter	M–F, 8 am–6 pm	Other hours
Actions	21.2	8.7
Injury/poisoning	19.3	12.0
Respiratory	19.2	23.1
Symptoms non-specific	14.2	23.6
Nervous system/sense organs	9.3	14.2
Investigations	6.8	5.1
Digestive	6.3	10.6
Musculoskeletal/connective tissue	5.8	5.4
Skin/subcutaneous tissue	5.3	5.8
Unspecified conditions	3.4	1.0
Cardiovascular/circulatory	1.7	1.2
Genito-urinary	1.7	2.4
Infectious/parasitic	0.8	1.2
Endocrine/nutritional/metabolic/immunity	0.5	0.6
Cancers/neoplasms	0.3	0.1
Blood/blood-forming organs	0.3	0
Mental	0.3	0.7
Pregnancy/childbirth/puerperium	0.3	0.2
Perinatal	0	0.1
Not coded	0	0.7
Total reasons per 100 visits	116.8	116.7

In Table 7.4 a further dimension to this information is explored. The reasons-for-visit are classified according to a number of components, ranging from symptoms to administrative. The leading component for both time periods was “symptoms”, followed by “disease”. Together, these accounted for nearly 60% of reasons given by patients visiting in normal hours, and over three-quarters of those given during other hours. The only other major category for visits outside normal hours was injury. This also featured among the reasons given during normal hours, together with treatments and investigations. All other categories accounted for under 5% of reasons given in both time periods.

Table 7.4 Reason-for-visit components as percentage of all reasons

RfV component	M-F, 8 am–6 pm	Other hours
Symptoms	33.2	47.7
Disease	23.4	28.8
Injury/poisoning	16.6	10.3
Treatments	13.2	4.8
Investigations	5.8	4.4
Prevention	3.1	1.9
Unspecified conditions	2.9	0.8
Administrative	1.9	0.7
Not coded	0	0.6
Total (N)	100% (689)	100% (980)

8 Problems Identified and Managed

In addition to recording the reasons given by patients for visiting the clinic, practitioners were also required to identify the problems presented by patients. The distribution of problems, and their rates of occurrence, are presented in Tables 8.1 and 8.2.

In the great majority of visits – about 85% for both time periods – patients presented just one problem at their visit to the clinic (Table 8.1). Among those visiting in normal hours, rates of problem presentation were high among males in the pre-retirement adult age groups (except for the under-25-year-olds) and among females 45 and over (Table 8.2).

Table 8.1 Percentage distribution of number of problems per visit

Number of problems	A&M: M–F, 8 am–6 pm	A&M: Other hours
No problem	0.3	0.1
1 problem	84.1	87.0
2 problems	12.0	11.2
3 problems	2.5	1.4
4 problems	1.0	0.2
Total (N)	100% (590)	100% (840)
Mean number of problems	1.19	1.15

Table 8.2 Number of problems: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
A&M: M–F, 8 am–6 pm					
Male	118	113	123	130	113
Female	121	122	114	127	143
A&M: Other hours					
Male	113	114	109	117	100
Female	116	115	120	114	116

In Table 8.3 these same problems are presented as classified into the READ2 system of chapters and sub-chapters. For patients visiting during normal hours, nearly one-third of encounters involved injury/poisoning and nearly one-quarter, respiratory conditions, followed by nearly one-tenth each for actions and nervous system/sense organs. In the case of visits outside normal hours, nearly one-third were for respiratory, followed by injury/poisoning at one-fifth, and nervous system/sense organs (12.9%) and infectious/parasitic (12.6%).

Looking at the distribution of problems, nearly half of those presented during normal hours were accounted for by injury/poisoning (27.3%) and respiratory (20.8%) combined, followed by actions (8.5%) and nervous system/sense organs (8.1%). Significant sub-chapters were sprains and strains, acute respiratory infections, therapeutic procedures, and ear diseases. In the case of patients visiting during other hours, injury/poisoning and respiratory were almost equally as important – although in the reverse order – followed by nervous system/sense organs (11.6%) and infectious/parasitic (11.0%). Important sub-chapters were sprains and strains, acute respiratory infections and ear diseases. New problems followed the same pattern, with less importance for actions. Acute respiratory infections were by far the most important sub-chapter – over one-fifth of all new problems – followed by sprains and strains, and ear diseases. Together these accounted for about one-third of all new problems across both time periods.

Table 8.3 Distribution of problems managed, by READ2 chapter and sub-chapter

Problem grouping, by READ2 chapter*	Problem grouping: percent of visits		Percent of all problems		Percent of new problems	
	M–F, 8 am–6 pm	Other hours	M–F, 8 am–6 pm	Other hours	M–F, 8 am–6 pm	Other hours
Injury/poisoning	30.9	19.3	27.3	17.8	27.7	18.0
Sprains and strains of joints and adjacent muscles			5.9	4.3	7.1	5.1
Arm fracture			3.5	0.7	3.1	0.7
Open wound of arm			3.4	1.5	2.3	0.8
Contusion			2.4	2.1	2.8	2.6
Open wound of head			2.0	2.0	2.8	1.6
Abrasions			1.8	1.4	1.4	1.3
Laceration – leg			1.3	0.6	0.6	0.2
Fracture of lower limb			1.1	0.6	1.1	0.8
Crushing injury			0.7	0.3	0.6	0
Intracranial injury excluding skull fracture			0.6	0.2	1.1	0.3
Foreign body in orifice			0.6	0.4	0.9	0.5
Scalds			0.4	0.7	0.6	0.2
Respiratory	23.2	30.2	20.8	27.9	28.0	29.8
Acute respiratory infections			13.9	19.8	22.0	22.6
Pneumonia and influenza			2.4	2.6	3.1	3.6
Chronic obstructive airways disease			2.0	3.7	0.3	2.1
Respiratory symptoms			1.7	1.0	1.7	0.8
Actions	9.8	5.6	8.5	5.0	2.3	2.6
Therapeutic procedures			3.7	2.0	0.3	0.7
Preventive procedures			3.0	2.0	1.7	1.2
Operations			1.1	0.8	0.3	0.5

Problem grouping, by READ2 chapter*	Problem grouping: percent of visits		Percent of all problems		Percent of new problems	
	M-F, 8 am–6 pm	Other hours	M-F, 8 am–6 pm	Other hours	M-F, 8 am–6 pm	Other hours
Nervous system/sense organs	9.7	12.9	8.1	11.6	10.2	12.6
Ear diseases			4.8	7.5	5.7	8.2
Disorders of eye and adnexa			1.7	2.7	2.8	3.3
CNS symptoms			1.0	0.6	1.4	0.7
Skin/subcutaneous tissue	7.5	6.9	6.4	6.1	5.9	4.4
Skin and subcutaneous tissue infections			2.7	2.3	1.7	1.2
Dermatitis/dermatoses			1.6	2.0	2.0	1.6
Symptoms affecting skin and other integumentary tissue			0.4	0.2	0.6	0.2
Infectious/parasitic	6.8	12.6	5.7	11.0	8.5	12.9
Viral and chlamydial diseases			2.7	3.2	3.4	3.9
Bacterial food poisoning			1.6	5.2	2.8	5.9
Mycoses			0.7	0.5	0.9	0.7
Viral diseases with exanthema			0.6	1.5	1.1	1.5
Musculoskeletal/connective tissue	3.9	3.0	3.4	2.6	1.7	2.6
Rheumatism, excluding the back			1.1	1.1	0.6	1.2
Vertebral column disorders			1.1	0.7	0.6	0.8
Arthropathies and related disorders			0.9	0.6	0.6	0.5
Musculoskeletal symptoms			0.1	0.4	0.3	0.5
Investigations	3.7	3.5	3.1	3.1	2.5	2.8
Diagnostic procedures/lab test/radiology			1.3	0.4	0.6	0.3
Examination			1.0	1.8	1.1	1.8
History			0.8	0.9	0.9	0.6
Symptoms non-specific	3.4	3.9	2.8	3.5	3.1	3.3
Ear, nose and throat symptoms			0.6	0.4	0.6	0.2
Abdominal and pelvic symptoms			0.3	1.0	0.6	1.0
Genito-urinary	3.1	3.3	2.8	2.9	2.5	3.3
Urinary system diseases			1.1	2.0	1.1	2.0
Genito-urinary symptoms			0.9	0.4	1.1	0.7
Female genital tract disorders			0.6	0.2	0.3	0.3
Digestive	3.1	4.5	2.8	4.0	3.4	3.9
Gastrointestinal symptoms			1.3	2.5	2.3	2.5
Duodenal diseases			1.0	0.3	0.0	0.3
Oral cavity, salivary glands and jaw diseases			0.1	0.4	0.3	0.7
Diseases of intestines and peritoneum			0.3	0.4	0.6	0.3

Problem grouping, by READ2 chapter*	Problem grouping: percent of visits		Percent of all problems		Percent of new problems	
	M-F, 8 am-6 pm	Other hours	M-F, 8 am-6 pm	Other hours	M-F, 8 am-6 pm	Other hours
Cardiovascular/circulatory	2.9	1.3	2.4	1.1	1.4	1.0
BP – hypertensive disease			1.0	0.2	0	0
Cardiovascular symptoms			0.6	0.5	0.6	0.8
Unspecified conditions	1.7	0.6	1.4	0.5	0.3	0.2
Health status and contact with health services factors			1.4	0.5	0.3	0.2
Mental	1.2	1.1	1.0	1.0	0.3	0.7
Neurotic, personality and other non-psychotic disorders			0.6	0.7	0.3	0.7
Cancers/neoplasms	1.2	0.1	1.0	0.1	0.9	0.2
Endocrine/nutritional/metabolic/immunity	1.0	0.6	0.9	0.5	0.3	0.3
Pregnancy/childbirth/ puerperium	0.9	0.6	0.7	0.5	0.6	0.8
Congenital	0.5	0	0.4	0	0.3	0
Blood/blood-forming organs	0	0.1	0	0.1	0	0.2
Perinatal	0	0.1	0	0.1	0	0.2
Not coded	0.7	0.5	0.6	0.4	0.3	0.3
Total (N)			100% (707)	100% (963)	100% (354)	100% (611)

* Major groupings are based on READ2 chapters and a similar process was applied as for reason-for-visit. Sub-chapters are shown where they comprise $\geq 0.5\%$ of all problems.

The rate per 100 visits of problems classified into READ2 chapters is presented in Table 8.4. The overall rates of presentation were very similar across both time periods (just slightly higher in normal hours), with injury/poisoning and respiratory predominating. Indeed, just under half of all problems being managed in the sampled A&M clinics were either injury/poisoning or respiratory. Actions, nervous system/sense organs, skin/subcutaneous tissue, and infectious/parasitic were other important problem groupings.

Table 8.4 Frequency of problems (per 100 visits)

Problems (READ2 chapter)	M–F, 8 am–6 pm	Other hours
Injury/poisoning	32.7	20.4
Respiratory	24.9	32.0
Actions	10.2	5.7
Nervous system/sense organs	9.7	13.3
Skin/subcutaneous tissue	7.6	7.0
Infectious/parasitic	6.8	12.6
Musculoskeletal/connective tissue	4.1	3.0
Investigations	3.7	3.6
Digestive	3.4	4.5
Genito-urinary	3.4	3.3
Symptoms non-specific	3.4	4.0
Cardiovascular/circulatory	2.9	1.3
Unspecified conditions	1.7	0.6
Cancers/neoplasms	1.2	0.1
Mental	1.2	1.2
Endocrine/nutritional/metabolic/immunity	1.0	0.6
Pregnancy/childbirth/puerperium	0.8	0.6
Congenital	0.5	0.0
Blood/blood-forming organs	0.0	0.1
Perinatal	0.0	0.1
Not coded	0.7	0.5
Total problems per 100 visits	119.8	114.6

In Table 8.5 the age and gender distributions of new problems are presented. The rate of new problems was higher among patients presenting out of normal hours. Generally there were higher levels of reported new problems for females across the age range and in both time periods. Rates seem to be higher in younger than in older age groups for the presentation of new problems.

Table 8.5 Age and gender distribution of new problems (per 100 visits)

	All ages	< 25	25–44	45–64	65+
A&M: M–F, 8 am–6 pm					
Male	42	60	53	55	25
Female	42	77	57	54	33
A&M: Other hours					
Male	68	74	61	45	20
Female	77	74	88	78	58

The distribution of READ2 groupings of new problems – expressed as a rate per 100 visits – is presented in Table 8.6. For both time periods, respiratory and injury/poisoning groupings accounted for about one-third of new problem presentations. In the other hours group, nervous system/sense organs and infectious/parasitic categories were significant, as they were also – although at a lower rate – in the normal-hours group. There were no other problem groupings recording more than five visits per 100, with the great majority at a rate of less than two.

Table 8.6 Frequency of new problems (per 100 visits)

Problems (READ2 chapter)	M–F, 8 am–6 pm	Other hours
Respiratory	16.8	21.7
Injury/poisoning	16.6	13.1
Nervous system/sense organs	6.1	9.2
Infectious/parasitic	5.1	9.4
Skin/subcutaneous tissue	3.6	3.2
Digestive	2.0	2.9
Symptoms non-specific	1.9	2.4
Genito-urinary	1.5	2.4
Investigations	1.5	2.0
Actions	1.4	1.9
Musculoskeletal/connective tissue	1.0	1.9
Cardiovascular/circulatory	0.8	0.7
Cancers/neoplasms	0.5	0.1
Pregnancy/childbirth/puerperium	0.3	0.6
Endocrine/nutritional/metabolic/immunity	0.2	0.2
Mental	0.2	0.5
Congenital	0.2	0.0
Unspecified conditions	0.2	0.1
Blood/blood-forming organs	0.0	0.1
Perinatal	0.0	0.1
Not coded	0.2	0.2
Total new problems per 100 visits	60.0	72.7

A summary of the problem status of conditions presented at A&M clinics is outlined in Table 8.7. For both time periods, new or short-term problems accounted for just less than three-quarters of all presentations. Long-term problems and preventive interventions were relatively minor. For a significant proportion of problems no definition was provided.

Table 8.7 Percentage distribution of problem status

Status	M-F, 8 am-6 pm	Other hours
New problem	50.1	63.5
Short-term follow-up	23.8	11.9
Long-term follow-up	6.8	2.4
Long-term with flare-up	2.8	3.6
Preventive	1.4	0.8
Not given	15.1	17.8
Total (N)	100% (707)	100% (963)

In Tables 8.8 and 8.9 age- and gender-specific rates are presented. For those attending in normal hours, injury/poisoning rates were similar for males and females, and relatively uniform over the age range for males. A similar pattern held for respiratory conditions, although rates dropped away in the retirement years. Rates were much lower for nervous system/sense organs, skin/subcutaneous tissue, and infectious/parasitic. For patients attending outside normal hours (Table 8.9) the same five groupings featured prominently, although the overall levels differed somewhat. There were no marked or consistent gender differences, and the same could be said for the age comparisons.

Table 8.8 A&M: M–F, 8 am–6 pm: age- and gender-specific rates (per 100 visits) of common groups of problems

	All ages	< 25	25–44	45–64	65+
Injury/poisoning					
Male	34	33	37	33	44
Female	31	28	27	46	33
Respiratory					
Male	25	27	25	25	13
Female	25	32	16	16	19
Nervous system/sense organs					
Male	9	12	8	5	0
Female	11	13	8	8	0
Skin/subcutaneous tissue					
Male	9	9	11	10	6
Female	6	7	5	3	10
Infectious/parasitic					
Male	6	9	3	3	0
Female	8	9	10	3	5
Musculoskeletal					
Male	5	2	7	10	6
Female	4	3	3	5	10
Digestive					
Male	2	3	2	0	0
Female	5	5	5	3	0
Genito-urinary					
Male	1	0.7	2	0	0
Female	6	5	5	14	0
Cardiovascular					
Male	3	0	3	13	0
Female	3	0	1	3	33
Endocrine/nutritional/metabolic/immunity					
Male	2	0	2	8	0
Female	0.4	0	0	0	5
Mental					
Male	0.7	0	2	0	0
Female	2	0.7	4	0	0
Cancers/neoplasms					
Male	2	0	1	5	6
Female	0.7	0	0	3	5

Table 8.9 A&M: Other hours: age- and gender-specific rates (per 100 visits) of common groups of problems

	All ages	< 25	25–44	45–64	65+
Injury/poisoning					
Male	25	21	36	21	40
Female	17	13	20	22	26
Respiratory					
Male	31	35	23	24	20
Female	33	34	32	38	13
Nervous system/sense organs					
Male	13	15	2	28	20
Female	13	15	11	12	3
Skin/subcutaneous tissue					
Male	9	7	11	17	0
Female	5	6	4	4	7
Infectious/parasitic					
Male	12	13	8	10	20
Female	13	17	9	10	7
Musculoskeletal					
Male	1	1	2	0	0
Female	4	3	8	2	10
Digestive					
Male	4	5	4	0	0
Female	5	5	4	4	13
Genito-urinary					
Male	2	1	2	3	0
Female	5	5	4	8	7
Cardiovascular					
Male	0.8	0.4	1	3	0
Female	2	0.8	4	2	3
Endocrine/nutritional/metabolic/immunity					
Male	0.5	0	1	3	0
Female	0.7	0.4	0	0	7
Mental					
Male	0.5	0.4	1	0	0
Female	2	0.8	5	2	0
Cancers/neoplasms					
Male	0.3	0.4	0	0	0
Female	0	0	0	0	0

Tables 8.10 and 8.11 present data on the seasonal variation in the percentage distribution of problems presented at A&M clinics, for both normal and other hours. Seasonal coverage is limited because no A&M clinic data were collected in the summer period. For visits in normal hours there appeared to be a peak for injury/poisoning in the spring and an elevation for respiratory problems in the winter. In the case of other hours visits, respiratory seems to be relatively uniform across seasons, as were injury/poisoning and infectious/parasitic problems. For both A&M schedules, actions as a proportion of all problems peaked in autumn, declining across winter to a low in spring.

Table 8.10 A&M: M–F, 8 am–6 pm: seasonal variation – groups of problems as a percentage of all problems

Problem grouping (READ2 chapter)	March–May (autumn)	June–August (winter)	September–November (spring)
Injury/poisoning	28.0	22.5	44.4
Respiratory	14.0	22.3	17.6
Actions	14.0	9.3	3.5
Nervous system/sense organs	12.0	8.0	7.0
Cardiovascular/circulatory	6.0	2.5	0.7
Skin/subcutaneous tissue	6.0	6.6	5.6
Digestive	4.0	2.3	4.2
Investigations	4.0	3.3	2.1
Infectious/parasitic	2.0	6.0	5.6
Cancers/neoplasms	2.0	1.0	0.7
Endocrine/nutritional/metabolic/immunity	2.0	0.8	0.7
Musculoskeletal/connective tissue	2.0	3.9	2.1
Unspecified conditions	2.0	1.6	0.7
Symptoms non-specific	2.0	3.5	0.7
Mental	0.0	1.0	1.4
Genito-urinary	0.0	3.5	1.4
Pregnancy/childbirth/puerperium	0.0	0.8	0.7
Congenital	0.0	0.6	0.0
Not coded	0.0	0.6	0.7
Total (N)	100% (50)	100% (515)	100% (142)

Table 8.11 A&M: Other hours: seasonal variation – groups of problems as a percentage of all problems

Problem grouping (READ2 chapter)	March–May (autumn)	June–August (winter)	September–November (spring)
Respiratory	26.8	29.9	25.5
Injury/poisoning	14.5	18.5	18.0
Infectious/parasitic	10.9	10.0	12.6
Actions	9.4	5.9	1.8
Nervous system/sense organs	8.0	12.2	12.3
Genito-urinary	5.1	1.8	3.6
Investigations	5.1	3.0	2.4
Digestive	4.4	3.1	5.1
Skin/subcutaneous tissue	4.4	5.5	7.8
Mental	2.9	1.0	0.3
Musculoskeletal/connective tissue	2.9	2.7	2.4
Symptoms non-specific	2.2	3.5	4.2
Cardiovascular/circulatory	1.5	1.0	1.2
Cancers/neoplasms	0.7	0	0.0
Pregnancy/childbirth/puerperium	0.7	0.6	0.3
Unspecified conditions	0.7	0.2	0.9
Endocrine/nutritional/metabolic/immunity	0	0.4	0.9
Blood/blood-forming organs	0	0	0.3
Perinatal	0	0	0.3
Not coded	0	0.6	0.3
Total (N)	100% (138)	100% (491)	100% (334)

9 Laboratory Tests and Other Investigations

In the course of the encounters with patients attending the sampled A&M clinics, practitioners often ordered tests and investigations. These are analysed in Table 9.1. In the case of visits occurring during normal hours, about one-fifth of all encounters were associated with the ordering of a test or investigation, with about half of these involving laboratory tests. In the case of visits outside normal hours, the overall rate of orders was much lower (12.7% of all encounters), but the relative occurrence of laboratory, imaging and other tests and investigations was about the same.

Table 9.1 Rate per 100 visits at which tests and investigations were ordered

Test group	Test sub-group	A&M: M–F, 8 am–6 pm (N = 590)	A&M: Other hours (N = 840)
Any laboratory test		10.3	4.6
	Haematology	4.9	2.5
	Full blood count	4.8	2.5
	Sed rate	2.4	1.6
	Fe, B12, Folic acid	1.5	0.6
	Biochemistry	4.4	1.6
	Serum glucose	1.9	0.4
	Creatinine/urea	2.4	0.8
	Liver function	3.1	0.6
	Lipids	1.2	0.5
	Thyroid	1.2	0.4
	Other chemistry	0.3	0.5
	Other	5.1	2.1
	Culture	5.1	2.0
	Pap smear	0.3	0.1
Imaging		7.8	3.7
	Plain X-ray	7.5	3.5
	Contrast Ultrasound	0.2 0.2	0.0 0.2
Other		6.6	5.5
	ECG	0.3	0.2
	Spirometry Other	0.0 6.3	0.0 5.2
Any test/investigation		21.5	12.7

Note: "Missing" is counted as "none".

In Tables 9.2 to 9.8 the data on tests and investigations are presented in more detail by gender and age grouping for both clinic time schedules (normal and other hours). Taking first the case of any test or investigation (Table 9.2), the rate for females was higher for both time schedules, and consistently so across the age range, with the exception of the 65+ females in other hours, for whom the rate was much lower than that for the males. In normal hours the 65+ age group had particularly high rates for both males and females. This gender difference was replicated for most tables and for most age groups. There were no notable age differences, except the high rates of biochemistry tests among those over the age of 65, except among females during other hours, and elevated rates of “other tests” during normal hours among females aged 25–64 and 65+ males.

Table 9.2 Any test/investigation: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	16	13	20	13	25
Female (N = 285)	28	27	26	30	48
Other hours					
Male (N = 388)	11	9	14	10	20
Female (N = 442)	15	13	19	16	10

Table 9.3 Haematology: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male	3	2	6	3	6
Female	7	5	8	8	14
Other hours					
Male	2	2	1	3	20
Female	3	2	5	6	0

Table 9.4 Biochemistry: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male	4	2	4	5	13
Female	5	4	4	5	19
Other hours					
Male	2	0.8	2	3	20
Female	2	0.8	3	4	0

Table 9.5 Microbiology culture: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male	2	3	1	3	0
Female	8	9	8	8	5
Other hours					
Male	2	3	0	0	0
Female	2	2	1	8	0

Table 9.6 Cervical smear: age-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Female	0.7	0.7	1	0	0
Other hours					
Female	0.3	0	0	0	0

Table 9.7 Imaging: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male	7	7	10	5	0
Female	9	8	5	8	29
Other hours					
Male	3	3	3	3	0
Female	4	4	6	2	3

Table 9.8 Other tests: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male	4	2	6	3	13
Female	9	7	12	16	5
Other hours					
Male	5	4	8	3	0
Female	6	7	8	0	6

Table 9.9 presents data on problems managed in encounters at which a laboratory test was ordered. The leading condition managed at such encounters was respiratory – in over one-quarter of visits – followed by infectious/parasitic and genito-urinary. This held for both clinic time schedules. Injury/poisoning, skin/subcutaneous tissue, investigations, and non-specific symptoms and actions also featured prominently (over 5%) in visits during normal hours. For visits outside normal hours, nervous system/sense organs, cardiovascular/circulatory and digestive problems were also significant, while actions were less prevalent. Assessed as a rate per 100 visits, no problem grouping associated with a laboratory test order accounted for more than 3% of visits.

Finally, considering the proportion of visits for a problem grouping at which a test was ordered, infectious/parasitic, genito-urinary, investigations, and non-specific symptoms were all significant groupings with over one-quarter of all normal hours encounters involving a test. For other hours visits, the rate of test ordering was less than 20 per 100 visits for all problem groupings.

Table 9.9 Problems most frequently managed at visits that included an order for a laboratory test

Problem grouping (READ2 chapter)	Rate per 100 visits: where lab test ordered		Rate per 100: all visits		Percent of visits for that problem grouping where lab test ordered	
	M-F, 8 am–6 pm (N = 61)	Other hours (N = 39)	M-F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M-F, 8 am–6 pm	Other hours
Respiratory system	26.2	28.2	2.7	1.3	11.7	4.3
Infectious/parasitic	21.3	15.4	2.2	0.7	32.5	5.7
Genito-urinary system	16.4	12.8	1.7	0.6	55.6	17.9
Injury/poisoning	16.4	5.1	1.7	0.2	5.5	1.2
Skin/subcutaneous tissue	9.8	7.7	1.0	0.4	13.6	5.2
Investigations	9.8	5.1	1.0	0.2	27.3	6.9
Symptoms non-specific	8.2	7.7	0.9	0.4	25.0	9.1
Actions	6.6	2.6	0.7	0.1	6.9	2.1
Nervous system/sense organs	4.9	15.4	0.5	0.7	5.3	5.6
Digestive system	4.9	7.7	0.5	0.4	16.7	7.9
Cardiovascular/circulatory	4.9	5.1	0.5	0.2	17.7	18.2
Musculoskeletal/connective tissue	4.9	2.6	0.5	0.1	13.0	4.0
Endocrine/nutritional/ metabolic/immunity	3.3	0.0	0.3	0.9	33.3	0.0
Pregnancy/childbirth/ puerperium	3.3	0.0	0.3	0.9	40.0	0.0
Congenital	1.6	0.0	0.2	0.0	33.3	0.0
Perinatal	0.0	2.6	0.0	0.1	0.0	100.0
Not coded	0.0	2.6	0.0	0.1	0.0	25.0

Table 9.10 addresses problems managed at encounters involving an X-ray order. Overwhelmingly these were for injury/poisoning, for both clinic time schedules. Such episodes accounted for over 5% of all visits during normal hours, but only half that rate during other hours. Despite the predominance of injury/poisoning in visits involving X-ray orders, the likelihood that an X-ray would be ordered in encounters of this kind was less than one in five.

Table 9.10 Problems most frequently managed at visits that included an order for an X-ray

Problem grouping (READ2 chapter)	Rate per 100 visits – where X-ray ordered		Rate per 100 – all visits		Percent of visits for that problem grouping where X-ray ordered	
	M–F, 8 am–6 pm (N = 44)	Other hours (N = 29)	M–F, 8 am–6 pm (N = 540)	Other hours (N = 890)	M–F, 8 am–6 pm	Other hours
Injury/poisoning	84.1	82.8	6.3	2.9	20.3	14.8
Respiratory	9.1	3.5	0.7	0.1	2.9	0.4
Cardiovascular/circulatory	2.3	0.0	0.2	0.0	5.9	0.0
Genito-urinary	2.3	0.0	0.2	0.0	5.6	0.0
Congenital	2.3	0.0	0.2	0.0	33.3	0.0
Unspecified conditions	2.3	0.0	0.2	0.0	10.0	0.0
Actions	2.3	0.0	0.2	0.0	1.7	0.0
Musculoskeletal/connective tissue	0.0	10.3	0.0	0.4	0.0	12.0
Skin/subcutaneous tissue	0.0	3.5	0.0	0.1	0.0	1.7

10 Pharmacological Treatment

In the course of the encounters with patients, practitioners recorded any treatment given. In Table 10.1, data on the occurrence of treatment by modality are presented. During normal working hours, one-quarter of visits resulted in no treatment at all, and almost a further third involved only non-pharmacological treatment. For other hours only 15.5% of visits included a non-pharmacological intervention, although nearly one-third of visits did not involve treatment. Generally, more visits during other hours resulted in a prescription (53.9% versus 43.6% in normal hours), but fewer involved non-pharmacological treatment (37.4% versus 47.6%).

Table 10.1 Percentage of visits at which treatments were given, by treatment modality

	A&M: M–F, 8 am–6 pm	A&M: Other hours
No treatment	26.6	30.6
Prescription only	25.8	32.0
Other treatments only	29.8	15.5
Both types of treatment	17.8	21.9
Total (N)	100% (590)	100% (840)
Percent prescriptions	43.6	53.9
Percent other treatments	47.6	37.4

When looking at treatment items, the rates per 100 visits and per 100 problems were very similar at A&M clinics between normal and other hours (137.8 versus 133.2 for visits, and 115 versus 116.2 for problems presented) (Table 10.2). However, the composition of these rates was different. Thus, while the number of prescribed items per 100 visits and per 100 problems was higher in other hours than in normal hours, the reverse was the case for other treatment items.

Table 10.2 Number of treatment items: number per 100 visits and per 100 problems

		M–F, 8 am–6 pm (590) (707)	Other hours (840) (963)
All treatments	Per 100 visits	137.8	133.2
	Per 100 problems	115.0	116.2
All script items	Per 100 visits	66.1	81.5
	Per 100 problems	55.2	71.1
All other treatment items	Per 100 visits	71.7	51.7
	Per 100 problems	59.8	45.1

The rate of prescribing – that is, whether any script was written at a given encounter, expressed per 100 visits – is considered in Table 10.3 for age and gender. As expected, the rate of prescribing was higher in other hours than in normal hours, and rates of prescribing were higher for females than males for both time schedules and across nearly all age groups. The highest prescribing rates were in the 45–64 years age group for other hours clinic patients.

Table 10.3 Any prescription: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	39	42	36	35	31
Female (N = 285)	49	49	53	49	33
Other hours					
Male (N = 388)	50	50	51	62	0
Female (N = 442)	57	55	66	62	36

The distribution of prescription items is addressed in Table 10.4. As with the prescribing rate, the number of prescription items per 100 visits was higher for other hours patients, and for females across nearly all age groups. The peak rates were for patients in the 25–44 years age group in normal hours and for the 45–64 years age group in other hours.

Table 10.4 Prescription items: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	60	60	64	53	56
Female (N = 285)	72	69	80	73	71
Other hours					
Male (N = 388)	76	77	71	100	0
Female (N = 442)	87	84	99	96	45

The distribution of therapeutic drugs by group is outlined in Table 10.5. The leading groupings for both clinic time schedules were infectious agents (about one-third of all script items), nervous system (over one-fifth), and respiratory (12.8% and 12.4%). Other significant groupings for both time schedules were dermatologicals and musculoskeletal preparations. Considered as a proportion of all visits, infectious and nervous system drugs were each prescribed at over one-fifth of all visits during other hours. The same two featured prominently, but not quite so frequently, in visits to A&M clinics during normal hours.

Table 10.5 Distribution of drugs, by group (Pharmacodes/ATC level 1)

Drug group	Percent of all prescription items		Percent of all visits	
	M-F, 8 am-6 pm	Other hours	M-F, 8 am-6 pm	Other hours
16. Infections – agents for systemic use	30.3	31.7	18.5	23.5
22. Nervous system	20.3	27.6	13.1	20.8
28. Respiratory system and allergies	12.8	12.4	6.4	8.3
10. Dermatologicals	7.2	4.8	3.9	3.3
19. Musculoskeletal system	5.9	5.4	3.4	4.3
1. Alimentary tract and metabolism	4.6	3.5	2.7	2.6
4. Blood and blood-forming organs	2.6	2.2	1.4	1.8
13. Genito-urinary system	2.6	3.5	1.5	2.0
38. Extemporaneously compounded preparations and galenicals	2.6	2.2	1.2	1.1
7. Cardiovascular system	2.3	0.4	1.0	0.4
14. Systemic hormone preparations (excluding oral contraceptives)	2.1	1.0	1.2	0.8
31. Sensory organs	1.8	1.9	1.2	1.6
25. Oncology agents and immunosuppressants	0.3	0	0.2	0
99. Medication non-specific	4.9	3.4	3.1	2.7
Total (N)	100% (390)	100% (685)	(590)	(840)

The drug classifications are broken down to the sub-group level in Table 10.6. Taken as a proportion of all script items, anti-bacterials accounted for nearly one-third for both normal and other hours visits to A&M clinics, with analgesics the second most prevalent group (16.7% and 23.6%). Expressed as a rate per 100 visits, anti-bacterials were prescribed in about one-quarter of all visits during other hours, and analgesics in nearly one-fifth. For visits during normal hours the rates were 19.7 and 11.0 respectively. The only other drug sub-groups of any consequence were anti-inflammatory non-steroidal drugs and beta agonists, followed by corticosteroids and anti-histamines.

Table 10.6 Most frequently prescribed drug sub-groups

Drug sub-group (Pharmacodes/ATC level 2)*	Percent of script items		Per 100 visits	
	M-F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M-F, 8 am–6 pm (N = 590)	Other hours (N = 840)
Anti-bacterials	29.8	30.1	19.7	24.5
Analgesics	16.7	23.6	11.0	19.3
Anti-inflammatory non-steroidal drugs (NSAIDs)	5.6	3.9	3.7	3.2
Beta-adrenoceptor agonists (tablets)	4.1	3.1	2.7	2.5
Corticosteroids topical	3.9	1.9	2.5	1.5
Anti-histamines	3.4	2.9	2.2	2.4
Anti-nausea and vertigo agents	2.3	3.1	1.5	2.5
Contraceptives	2.1	2.6	1.4	2.1
Inhaled corticosteroids	2.1	1.8	1.4	1.4
Eye preparations	1.7	1.8	1.1	1.5
Corticosteroids and related agents	1.3	1.0	0.8	0.8
Anti-ulcerants	1.3	0.3	0.8	0.2
Fluids and electrolytes	1.0	2.0	0.7	1.7
Nasal preparations	1.0	1.9	0.7	1.5
Anti-spasmodics	1.0	0.9	0.7	0.7
Anti-depressants	1.0	0.1	0.7	0.1
Beta adrenoceptor blockers	1.0	0.1	0.7	0.1
Lipid-modifying agents	1.0	0	0.7	0

* Includes drug sub-groups with frequencies $\geq 1\%$ of all script items.

The following subsections 10.1 to 10.11 examine each of the most frequently prescribed drug groups (level 1) in turn; note that numbers of cases are low in the later-presented drug groups and so the results must be interpreted with caution.

10.1 Anti-bacterials (Tables 10.7, 10.8 and 10.9)

Very nearly one-third of all script items were in the anti-infective category, in both normal and other hours periods. Practically all of the scripts in this group were in the sub-group of anti-bacterials, of which nearly half were penicillins (Table 10.7). The rate of prescribing was higher in the other hours period, particularly so in the 45–64 years age group, but otherwise there were no consistent gender or age patterns (Table 10.8). One-third of scripts were associated with the diagnosis of acute respiratory infection. This and the ear disease category accounted for about half of all prescriptions of anti-infectives in both time periods. The rates at which scripts were written for the groupings listed in Table 10.9 were generally between one-third and one-half of problems treated.

Table 10.7 Infections: agents for systemic use – sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
16. Infections – agents for systemic use	30.3	31.7	18.5	23.5	100%	100%
Anti-bacterials	29.8	30.1	19.7	24.5	98.3	95.0
Penicillins	14.1	16.2	9.3	13.2	46.5	51.1
Cephalosporins and cephamycins	3.6	1.8	2.4	1.4	11.9	5.7
Macrolides (erythromycins etc)	3.1	2.3	2.0	1.9	10.2	7.3
Tetracyclines	2.3	1.3	1.5	1.1	7.6	4.1
Other antibiotics	2.8	5.7	1.9	4.6	9.2	18.0

* Includes drug sub-groups comprising ≥ 1% of all script items.

Table 10.8 Anti-infective drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	22	26	18	18	13
Female (N = 285)	19	22	18	16	10
Other hours					
Male (N = 388)	26	24	24	45	0
Female (N = 442)	26	27	24	36	13

Table 10.9 Most frequent problems managed by anti-infective drugs

Problem (READ2 sub-chapter) [†]	Percent of anti-infective* script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 118)	Other hours (N = 217)	M–F, 8 am–6 pm	Other hours
H0 Acute respiratory infections	35.6	33.6	41.8	37.2
F5 Ear diseases	14.4	17.1	47.1	48.6
M0 Skin and subcutaneous tissue infections	8.5	8.8	47.4	68.2
H2 Pneumonia and influenza	7.6	4.2	52.9	36.0
F4 Disorders of eye and adnexa	3.4	7.4	33.3	57.7
K1 Other urinary system diseases	3.4	6.9	50.0	79.0

* This drug group includes systemic anti-bacterials, anti-fungals and anti-virals.

† Includes any problem sub-chapters, for which the drug group was prescribed, with ≥ 5% of group script items.

10.2 Nervous system (Tables 10.10, 10.11 and 10.12)

About one-quarter of all script items were for the nervous system (20.3% in normal hours, 27.6% in other hours), the great majority of which were analgesics (Table 10.10). Prescribing rates were higher in other hours, for females and for the under-25 age group in both periods (Table 10.11). Acute respiratory infections were the leading cause (25.3% and 33.3% of scripts in normal and other hours periods respectively), with bacterial food poisoning and ear disease also important in other hours. More than one-third of 'other viral and chlamydial diseases' were treated with nervous system drugs in both time periods; in other hours more than 30% of acute respiratory infections, ear diseases bacterial food poisoning cases were also so treated.

Table 10.10 Nervous system drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M-F, 8 am-6 pm (N = 390)	Other hours (N = 685)	M-F, 8 am-6 pm (N = 590)	Other hours (N = 840)	M-F, 8 am-6 pm	Other hours
22. Nervous system	20.3	27.6	13.1	20.8	100%	100%
Analgesics	16.7	23.6	11.0	19.3	82.3	85.5
Anti-nausea and vertigo agents	2.3	3.1	1.5	2.5	11.3	11.2
Anti-depressants	1.0	0.1	0.7	0.1	4.9	0.4

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.11 Nervous system drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25-44	45-64	65+
M-F, 8 am-6 pm					
Male (N = 296)	10	13	8	5	6
Female (N = 285)	17	20	18	16	0
Other hours					
Male (N = 388)	20	24	15	10	0
Female (N = 442)	25	27	28	22	3

Table 10.12 Most frequent problems managed by nervous system drugs

Problem (READ2 sub-chapter) [†]	Percent of nervous system* script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 79)	Other hours (N = 189)	M–F, 8 am–6 pm	Other hours
H0 Acute respiratory infections	25.3	33.3	20.4	32.5
A7 Other viral and chlamydial diseases	8.9	6.4	36.8	38.7
R0 Symptoms	7.6	3.7	22.7	16.7
S5 Sprains and strains of joints and adjacent muscles	7.6	1.1	14.3	4.9
F5 Ear diseases	6.3	11.6	14.7	30.6
A0 Bacterial food poisoning	3.8	10.6	27.3	36.0

* This drug group includes analgesics and psychological drugs.

† Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 5\%$ of group script items.

10.3 Respiratory system drugs (Tables 10.13, 10.14 and 10.15)

The proportion of script items in the respiratory drug group was very similar between the two time periods – 12.8% and 12.4% for normal and other hours respectively – with items distributed relatively evenly across four major sub-groups (Table 10.13). A script in this drug group was written for about one in ten visits to A&M clinics, with the rate slightly higher in visits during other hours and for females (Table 10.14). Nearly 60% of respiratory scripts in other hours visits were written for chronic obstructive airways disease and acute respiratory infections, while in normal hours respiratory symptoms and ear disease were also important (Table 10.15).

Table 10.13 Respiratory system drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
28. Respiratory system and allergies	12.8	12.4	6.4	8.3	100%	100%
Beta-adrenoceptor agonists (tablets)	4.1	3.1	2.7	2.5	32.0	25.0
Anti-histamines	3.4	2.9	2.2	2.4	26.6	23.4
Inhaled corticosteroids	2.1	1.8	1.4	1.4	16.4	14.5
Nasal preparations	1.0	1.9	0.7	1.5	7.8	15.3

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.14 Respiratory drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	8	7	15	3	0
Female (N = 285)	9	6	11	14	10
Other hours					
Male (N = 388)	11	13	6	10	0
Female (N = 442)	10	9	11	16	3

Table 10.15 Most frequent problems managed by respiratory drugs

Problem (READ2 sub-chapter)*	Percent of respiratory script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 50)	Other hours (N = 85)	M–F, 8 am–6 pm	Other hours
H3 Chronic obstructive airways disease	32.0	28.2	64.3	52.8
H0 Acute respiratory infections	18.0	31.8	8.2	12.6
17 Respiratory symptoms	12.0	1.2	83.3	25.0
F5 Ear diseases	10.0	1.2	14.7	1.4
H1 Other upper respiratory tract diseases	8.0	1.2	33.3	100.0
A5 Viral diseases with exanthema	6.0	1.2	75.0	7.1
SN Other and unspecified external effect causes	4.0	5.6	100.0	50.0

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 5\%$ of group script items.

10.4 Dermatologicals (Tables 10.16, 10.17 and 10.18)

Dermatological drugs accounted for around 5% of script items, with most being topical corticosteroids (Table 10.16). The rate of prescribing for this category of drug was slightly higher in normal hours, particularly for males under 25, and rates were lower for older age groups in both time periods (Table 10.17). In most cases these drugs were prescribed for dermatitis, with over two-thirds receiving a script (Table 10.18).

Table 10.16 Dermatological drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
10. Dermatologicals	7.2	4.8	3.9	3.3	100%	100%
Corticosteroids topical	3.9	1.9	2.5	1.5	54.2	39.6

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.17 Dermatological drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	7	9	6	3	6
Female (N = 285)	3	4	3	0	0
Other hours					
Male (N = 388)	4	4	6	3	0
Female (N = 442)	3	5	2	0	0

Table 10.18 Most frequent problems managed by dermatological drugs

Problem (READ2 sub-chapter)*	Percent of dermatological script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 28)	Other hours (N = 33)	M–F, 8 am–6 pm	Other hours
M1 Dermatitis/dermatoses	39.3	48.5	72.7	68.4
2F On examination – dermatology exam	10.7	0	33.3	0.0
A5 Viral diseases with exanthema	7.1	12.1	50.0	14.3
M2 Other skin and subcutaneous tissue disorders	3.6	12.1	8.3	25.0

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 10\%$ of group script items.

10.5 Musculoskeletal drugs (Tables 10.19, 10.20 and 10.21)

Musculoskeletal drugs accounted for just over 5% of scripts, the overwhelming majority being non-steroidal anti-inflammatory drugs (NSAIDs) (Table 10.19). Rates of prescribing were recorded at 4 to 5 per 100 visits overall, with the rate being much the same across both time periods and for males and females. Higher rates were registered for the 45–64 years age group in both time periods, and in the 25–44 years age group in other hours (Table 10.20). Under one-third of scripts were written for sprains and strains of joints, with less than one-third again of such problems being so treated (Table 10.21).

Table 10.19 Musculoskeletal system drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M-F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M-F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M-F, 8 am–6 pm	Other hours
19. Musculoskeletal system	5.9	5.4	3.4	4.3	100%	100%
Anti-inflammatory non-steroidal drugs (NSAIDs)	5.6	3.9	3.7	3.2	94.9	72.2

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.20 Musculoskeletal drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M-F, 8 am–6 pm					
Male (N = 296)	4	3	3	8	6
Female (N = 285)	4	2	7	8	5
Other hours					
Male (N = 388)	4	3	8	7	0
Female (N = 442)	5	2	10	6	3

Table 10.21 Most frequent problems managed by musculoskeletal drugs

Problem (READ2 sub-chapter)*	Percent of musculoskeletal script items		Percent of problems so treated	
	M-F, 8 am–6 pm (N = 23)	Other hours (N = 37)	M-F, 8 am–6 pm	Other hours
S5 Sprains and strains of joints and adjacent muscles	30.4	27.0	11.9	24.4

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 10\%$ of group script items.

10.6 Alimentary drugs (Tables 10.22, 10.23 and 10.24)

Less than 5% of scripts were written for alimentary drugs, with anti-spasmodics being an important constituent sub-group in both time periods, and anti-ulcerants also in normal hours (Table 10.22). Rates of prescribing overall were very similar across both time periods. Prescribing seems to be higher for the 25–64 years age groups (Table 10.23). Outside normal hours, scripts were distributed across a number of problem groupings, while during normal hours duodenal disease and bacterial food poisoning predominated. Over two-thirds of duodenal problems were so treated across both time periods, but otherwise these treatment rates were relatively low (Table 10.24).

Table 10.22 Alimentary system drugs: sub-groups

Drug group (level 1) Sub group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
1. Alimentary tract and metabolism	4.6	3.5	2.7	2.6	100%	100%
Anti-ulcerants	1.3	0.3	0.8	0.2	28.3	8.6
Anti-spasmodics	1.0	0.9	0.7	0.7	21.7	25.7

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.23 Alimentary drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	2	0.7	3	3	0
Female (N = 285)	5	2	11	5	0
Other hours					
Male (N = 388)	3	2	5	7	0
Female (N = 442)	3	2	2	16	0

Table 10.24 Most frequent problems managed by alimentary drugs

Problem (READ2 sub-chapter)*	Percent of alimentary script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 18)	Other hours (N = 24)	M–F, 8 am–6 pm	Other hours
J1 Duodenal diseases	27.8	8.3	71.4	66.7
A0 Bacterial food poisoning	16.7	12.5	18.2	6.0
19 Gastrointestinal (GIT) symptoms	11.1	12.5	16.7	11.8
C1 Other endocrine gland diseases	11.1	0	100.0	0
H0 Acute respiratory infections	0	20.8	0	2.1
H3 Chronic obstructive airways disease	0	12.5	0	8.3

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 10\%$ of group script items.

10.7 Blood and blood-forming organs (Tables 10.25, 10.26 and 10.27)

Less than 3% of scripts were in the category of blood and blood-forming organs, with the prescribing rate at less than two per 100 visits. Fluids and electrolytes was the important drug sub-group across both time periods, with lipid-modifying agents also a significant constituent in normal hours (Table 10.25). Rates of prescribing were slightly higher in other hours (Table 10.26). Scripts were equally distributed across four problem groupings in normal hours, but predominantly for bacterial food poisoning in other hours. The treatment rate of these problems was variable, but about one-fifth overall (Table 10.27).

Table 10.25: Blood and blood-forming organs drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M-F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M-F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M-F, 8 am–6 pm	Other hours
4. Blood and blood-forming organs	2.6	2.2	1.4	1.8	100%	100%
Fluids and electrolytes	1.0	2.0	0.7	1.7	38.5	90.1
Lipid-modifying agents	1.0	0	0.7	0	38.5	0

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.26 Blood and blood-forming organs drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M-F, 8 am–6 pm					
Male (N = 296)	1	0.7	1	0	13
Female (N = 285)	1	1	0	0	5
Other hours					
Male (N = 388)	2	2	1	0	0
Female (N = 442)	2	3	1	2	0

Table 10.27 Most frequent problems managed by blood and blood-forming organs drugs

Problem (READ2 sub-chapter)*	Percent of blood/blood-forming organ script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 10)	Other hours (N = 15)	M–F, 8 am–6 pm	Other hours
A0 Bacterial food poisoning	20.0	66.7	18.2	20.0
44 Blood chemistry	20.0	0	33.3	0
8B Other therapy	20.0	0	10.0	0
id Foods for special diets	20.0	0	66.7	0

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 20\%$ of group script items.

10.8 Genito-urinary drugs (Tables 10.28, 10.29 and 10.30)

Scripts in this drug group accounted for about 3% of all items; the prescribing rate was two per 100 visits or less, and most scripts were for contraceptives (Table 10.28). As expected, the prescribing rate was much higher for females, particularly in the 25–44 years age group, and was also higher for other hours visits (Table 10.29). In other hours, almost half of all scripts were for contraception, while this was true for less than one-third of visits in normal hours, during which period gynaecological history and other therapy were also important. The proportions of problems so treated were relatively high (Table 10.30).

Table 10.28 Genito-urinary drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
13. Genito-urinary system	2.6	3.5	1.5	2.0	100%	100%
Contraceptives	2.1	2.6	1.4	2.1	80.8	74.3

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.29 Genito-urinary drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	0.3	0	0	0	6
Female (N = 285)	3	3	5	0	0
Other hours					
Male (N = 388)	0.8	0.8	0	0	0
Female (N = 442)	5	5	8	0	0

Table 10.30 Most frequent problems managed by genito-urinary drugs

Problem (READ2 sub-chapter)*	Percent of genito-urinary script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 10)	Other hours (N = 24)	M–F, 8 am–6 pm	Other hours
61 Contraception	30.0	45.8	42.9	70.0
15 Gynaecological history	20.0	8.3	50.0	33.3
8B Other therapy	20.0	4.2	20.0	9.1

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 20\%$ of group script items.

10.9 Cardiovascular system drugs (Tables 10.31, 10.32 and 10.33)

Just over 2% of script items in A&M clinics during normal working hours were for cardiovascular drugs, with most being beta blockers (Table 10.31). The overall rate of prescribing for this drug group in normal hours was one per 100 visits, with a lower rate in other hours (Table 10.32). Hypertensive disease was the predominant problem treated during normal hours, with a relatively high treatment rate (Table 10.33).

Table 10.31 Cardiovascular system drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
7. Cardiovascular system	2.3	0.4	1.0	0.4	100%	100%
Beta adrenoceptor blockers	1.0	0.1	0.7	0.1	43.5	25.0

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.32 Cardiovascular drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	1	0	0	8	0
Female (N = 285)	1	0	0	0	19
Other hours					
Male (N = 388)	0.3	0	1	0	0
Female (N = 442)	0.5	0.4	1	0	0

Table 10.33 Most frequent problems managed by cardiovascular drugs

Problem (READ2 sub-chapter)*	Percent of cardiovascular script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 9)	Other hours (N = 3)	M–F, 8 am–6 pm	Other hours
G2 BP – hypertensive disease	66.7	0	57.1	0
8B Other therapy	22.2	33.3	10.0	9.1
G5 Other forms of heart disease	11.1	33.3	50.0	33.3
81 Aspiration – therapeutic	0	33.3	0	12.5

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 20\%$ of group script items.

10.10 Systemic hormone drugs (Tables 10.34, 10.35 and 10.36)

Systemic hormone preparations were prescribed at approximately one visit per 100, accounting for less than 2% of script items overall, and largely consisting of corticosteroids (Table 10.34). Rates of prescribing were higher during normal working hours, and predominantly for females throughout the age range (Table 10.35). Most scripts were written for chronic obstructive airways disease, with fewer than one-third of problems being so treated (Table 10.36).

Table 10.34 Systemic hormone drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M–F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm	Other hours
14. Systemic hormone preparations (excluding oral contraceptives)	2.1	1.0	1.2	0.8	100%	100%
Corticosteroids and related agents	1.3	1.0	0.8	0.8	61.9	100.0

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.35 Systemic hormone drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	0	0	0	0	0
Female (N = 285)	3	2	3	3	10
Other hours					
Male (N = 388)	0.3	0	0	3	0
Female (N = 442)	1	0.8	3	0	3

Table 10.36 Most frequent problems managed by systemic hormone drugs

Problem (READ2 sub-chapter)*	Percent of systemic hormone* script items		Percent of problems so treated	
	M–F, 8 am–6 pm (N = 8)	Other hours (N = 7)	M–F, 8 am–6 pm	Other hours
H3 Chronic obstructive airways disease	50.0	85.7	28.6	16.7
61 Contraception	25.0	0	28.6	0

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 20\%$ of group script items.

10.11 Sensory organ drugs (Tables 10.37, 10.38 and 10.39)

Scripts for sensory organs accounted for less than 2% of the total, and virtually all were for eye preparations (Table 10.37). Overall, prescribing rates were higher in other hours (two per 100 visits for males and females), particularly in the 45–64 years age group (Table 10.38). Most script items were written for disorders of the eye, with some for ear disease. In other hours, one-fifth of eye problems were treated in this manner (Table 10.39).

Table 10.37 Sensory organ drugs: sub-groups

Drug group (level 1) Sub-group (level 2)	Percent of all script items		Per 100 visits		Percent of drug group	
	M-F, 8 am–6 pm (N = 390)	Other hours (N = 685)	M-F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M-F, 8 am–6 pm	Other hours
31. Sensory organs	1.8	1.9	1.2	1.6	100%	100%
Eye preparations	1.7	1.8	1.1	1.5	94.4	94.7

* Includes drug sub-groups comprising $\geq 1\%$ of all script items.

Table 10.38 Sensory organ drugs: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M-F, 8 am–6 pm					
Male (N = 296)	0.7	0.7	1	0	0
Female (N = 285)	2	2	1	3	0
Other hours					
Male (N = 388)	2	1	1	7	0
Female (N = 442)	2	2	0	6	0

Table 10.39 Most frequent problems managed by sensory organ drugs

Problem (READ2 sub-chapter)	Percent of sensory organ script items		Percent of problems so treated	
	M-F, 8 am–6 pm (N = 7)	Other hours (N = 13)	M-F, 8 am–6 pm	Other hours
F4 Disorders of eye and adnexa	71.4	38.5	41.7	19.2
F5 Ear diseases	28.6	7.7	5.9	1.4

* Includes any problem sub-chapters, for which the drug group was prescribed, with $\geq 20\%$ of group script items.

Table 10.40 summarises prescribing rates across the different drug groups. Overall, rates were higher in other hours than in normal working hours (81.5 per 100 visits versus 66.1). Anti-infective drugs led the list in both time periods with rates of at least 20 per 100 visits, followed by nervous system and respiratory. No other drug group had a rate of over five per 100 visits.

Table 10.40 Prescribing rates for different drug groups (script items per 100 visits)

Drug group (Pharmacodes/ATC level 1)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)
16. Infections – agents for systemic use	20.0	25.8
22. Nervous system	13.4	22.5
28. Respiratory system and allergies	8.5	10.1
10. Dermatologicals	4.7	3.9
19. Musculoskeletal system	3.9	4.4
1. Alimentary tract and metabolism	3.1	2.9
4. Blood and blood-forming organs	1.7	1.8
13. Genito-urinary system	1.7	2.9
38. Extemporaneously compounded preparations and galenicals	1.7	1.8
7. Cardiovascular system	1.5	0.4
14. Systemic hormone preparations (excluding oral contraceptives)	1.4	0.8
31. Sensory organs	1.2	1.5
25. Oncology agents and immunosuppressants	0.2	0
99. Medication non-specific	3.2	2.7
Total script items per 100 visits	66.1	81.5

11 Non-Drug Treatments

Aside from pharmacological interventions, there was a range of other treatments carried out by practitioners. These are outlined in Table 11.1. Approximately three-quarters of all non-drug treatments were accounted for by five categories in both normal and other hours visits. These were: an investigation, examination or screening; health advice; dressing; a referral; and a request for follow-up. Minor surgery and other procedures were also important at both time schedules. Overall, non-drug treatments were more frequently carried out at visits in normal hours, expressed both as a rate per 100 visits (71.7 versus 51.7) and relative to presenting problems (59.8 per 100 problems versus 45.1). For other hours visits, only investigation/examination/screening and health advice registered at above five per 100 for both visits and problems, while dressing, referral, follow-up, minor surgery and other procedures were also close to or above this level of frequency.

Table 11.1 Frequency of non-drug treatments

Non-drug treatments	Percentage of all treatments		Frequency per 100 visits		Frequency per 100 problems	
	M–F, 8 am–6 pm (N = 423)	Other hours (N = 434)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)	M–F, 8 am–6 pm (N = 707)	Other hours (N = 963)
Investigation/examination/screening	22.2	22.8	15.9	11.8	13.3	10.3
Health advice	19.4	24.7	13.9	12.7	11.6	11.1
Dressing	14.2	10.4	10.2	5.4	8.5	4.7
Referral	12.3	10.6	8.8	5.5	7.4	4.8
Follow-up	8.5	14.3	6.1	7.4	5.1	6.4
Minor surgery	8.0	6.2	5.8	3.2	4.8	2.8
Other procedure	7.8	6.5	5.6	3.3	4.7	2.9
Administration	2.8	2.3	2.0	1.2	1.7	1.0
Physical medicine	2.4	0.9	1.7	0.5	1.4	0.4
Immunisation	1.7	0.9	1.2	0.5	1.0	0.4
Complementary medicine	0.7	0.5	0.5	0.2	0.4	0.2
Total	100%	100%	71.7	51.7	59.8	45.1

The rate of health advice per 100 visits is considered against age and gender in Table 11.2. Females were more likely to receive health advice, across nearly all age groups, and the levels overall were almost exactly the same across normal and other hours visits, though lower for the 65+ age group in other hours.

Table 11.2 Health advice: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	11	11	11	8	19
Female (N = 285)	16	18	15	16	10
Other hours					
Male (N = 388)	10	11	8	3	0
Female (N = 442)	16	19	11	14	3

Minor surgery did not occur frequently during either normal or other hours (Table 11.3). Females were slightly less likely to receive minor surgery, and the rate was slightly higher in visits during normal hours. There was no obvious age pattern, although rates for older males in normal hours seem to be elevated.

Table 11.3 Minor surgery: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male	7	5	8	10	19
Female	5	4	7	0	5
Other hours					
Male	4	5	3	3	0
Female	3	1	4	6	3

12 Disposition

Nearly half of all visits to A&M clinics during normal working hours resulted in a request for follow-up within three months; this was true of a little over one-third of visits in other hours (Table 12.1). Referral rates, however, were much closer – 16.1% of visits versus 14.2. The commonest referrals were non-medical, although emergency referrals and referrals to medical/surgical specialties were significant for visits during normal hours.

Table 12.1 Percentage frequency of types of disposition, by practice type (percent of visits)

	A&M: M–F, 8 am–6 pm	A&M: Other hours
Follow-up within three months	48.0	36.9
Referred on	16.1	14.2
Emergency	4.2	2.1
Unspecified	0.7	1.2
Medical/surgical specialties	4.2	2.0
Non-medical	7.0	8.8
(N)	(590)	(840)

Note: “Missing” is counted as “none”; follow-up and referral are not mutually exclusive; one referral is counted per visit; referral types are mutually exclusive; and “emergency” referrals are given precedence.

Table 12.2 presents the age and gender distributions for follow-up requests. Rates for females seem to be lower than for males, a pattern that holds across the age range. Rates of follow-up were particularly high for patients over the age of 65.

Table 12.2 Follow-up to three months: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	52	49	51	63	63
Female (N = 285)	45	41	41	43	86
Other hours					
Male (N = 388)	38	35	47	34	80
Female (N = 442)	36	35	28	42	52

There was a considerable list of problem groupings for which the rate of referral was over 50% in A&M clinic visits during normal hours (Table 12.3). Only pregnancy, cardiovascular, musculoskeletal, injury, skin, and endocrine were generating follow-up at this level for visits in other hours.

Table 12.3 Rates of follow-up, by problem grouping

Problem grouping (READ2 chapter)	Percent of problems so treated	
	M–F, 8 am–6 pm	Other hours
Pregnancy/childbirth/puerperium	80.0	66.7
Cardiovascular/circulatory	78.6	60.0
Musculoskeletal / connective tissue	77.3	80.0
Mental	71.4	42.9
Genito-urinary	70.0	50.0
Congenital	66.7	0
Injury/poisoning	64.9	64.1
Skin/subcutaneous tissue	63.4	57.1
Actions	61.1	41.7
Digestive	60.0	50.0
Investigations	60.0	47.4
Symptoms non-specific	50.0	46.7
Nervous system/sense organs	49.0	41.1
Unspecified conditions	44.4	25.0
Cancers/neoplasms	42.9	100
Infectious/parasitic	40.0	35.4
Endocrine/nutritional/metabolic/immunity	33.3	60.0
Respiratory	31.4	38.6
Perinatal	0	100
Not coded	50.0	0

Rates of referral were quite similar between normal and other hours visits and there seems to be no consistent difference between males and females (Table 12.4). There is no clear age pattern, except that referral rates seem to be particularly high for patients over the age of 65.

Table 12.4 Referral: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	15	11	18	23	19
Female (N = 285)	17	15	19	16	29
Other hours					
Male (N = 388)	13	11	19	10	40
Female (N = 442)	15	12	19	12	29

The distribution of rates of elective medical and surgical referral by age and gender is addressed in Table 12.5. Rates were higher for visits during normal hours, and tended to be lower for younger age groups.

Table 12.5 Elective medical/surgical referral: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	4	0.7	7	10	6
Female (N = 285)	5	2	9	3	10
Other hours					
Male (N = 388)	2	1	2	7	0
Female (N = 442)	2	0.8	2	8	10

The distribution of elective rates of referral by problem grouping is outlined in Table 12.6. Rates of referral of over 10% were recorded in normal hours for congenital, musculoskeletal, non-specific symptoms, mental, and unspecified conditions. Numbers of cases within problem groupings were too small to consider referral in other hours.

Table 12.6 Rates of elective referral, by problem grouping

Problem grouping (READ2 chapter)	Percent of problems so treated	
	M–F, 8 am–6 pm	Other hours
Congenital	50.0	0
Musculoskeletal/connective tissue	25.0	0
Symptoms non-specific	17.7	0
Mental	14.3	11.1
Unspecified conditions	11.1	0
Injury/poisoning	7.8	3.6
Cardiovascular/circulatory	6.7	10.0
Investigations	5.3	0
Genito-urinary	5.0	5.3
Nervous system/sense organs	3.9	2.3
Skin/subcutaneous tissue	2.9	8.9
Respiratory	1.6	0
Cancers/neoplasms	0	100.0
Digestive	0	6.9

The age and gender distribution of emergency referrals is outlined in Table 12.7. Rates were higher during normal working hours, and were sustained in younger age groups. Small numbers make it difficult to draw conclusions for the older age groups.

Table 12.7 Emergency referral: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	4	3	7	5	0
Female (N = 285)	4	4	4	0	10
Other hours					
Male (N = 388)	2	2	0	3	0
Female (N = 442)	2	3	2	0	3

The distribution of emergency referral by problem grouping is presented in Table 12.8. High rates of emergency referral for visits during normal working hours were evident for cancers, pregnancy, endocrine, cardiovascular and genito-urinary. However, small numbers make it difficult to draw any firm conclusions for other hours.

Table 12.8 Rates of emergency referral, by problem grouping

Problem grouping (READ2 chapter)	Percent of problems so treated	
	M–F, 8 am–6 pm	Other hours
Cancers/neoplasms	33.3	0
Pregnancy/childbirth/puerperium	25.0	0
Endocrine/nutritional/metabolic/immunity	20.0	20.0
Cardiovascular/circulatory	20.0	10.0
Genito-urinary	10.0	0
Injury/poisoning	7.2	1.5
Nervous system/sense organs	5.8	3.4
Digestive	5.6	10.3
Investigations	5.3	9.5
Respiratory	3.1	1.4
Skin/subcutaneous tissue	2.9	2.2
Symptoms non-specific	0	10.7
Musculoskeletal/connective tissue	0	9.1
Actions	0	3.0
Infectious/parasitic	0	2.4
Not coded	0	25.0

Non-medical referral rates were slightly higher in other hours, and seem to be elevated for patients over the age of 65 attending in either time schedule (Table 12.9). There was also a higher rate of referrals for 25–44-year-olds in other hours.

Table 12.9 Non-medical referral: age- and gender-specific rates (per 100 visits)

	All ages	< 25	25–44	45–64	65+
M–F, 8 am–6 pm					
Male (N = 296)	6	7	4	5	13

Female (N = 285)	8	9	3	14	10
Other hours					
Male (N = 388)	9	6	15	7	40
Female (N = 442)	9	7	14	4	16

The distribution of non-medical referrals by problem grouping is considered in Table 12.10. In visits during normal hours, a range of conditions were referred at a rate of over 10%. These were: musculoskeletal, investigations, mental, injury, digestive, and actions. A similar pattern was evident for visits outside normal hours, although small numbers limit the conclusions that can be drawn from these data.

Table 12.10 Rates of non-medical referral, by problem grouping

Problem grouping (READ2 chapter)	Percent of problems so treated	
	M-F, 8 am-6 pm	Other hours
Musculoskeletal/connective tissue	16.7	18.2
Investigations	15.8	9.5
Mental	14.3	33.3
Injury/poisoning	13.9	16.7
Digestive	11.1	20.7
Actions	10.4	9.1
Infectious/parasitic	6.1	11.0
Symptoms non-specific	5.9	7.1
Nervous system/sense organs	3.9	12.4
Respiratory	3.9	7.4
Skin/subcutaneous tissue	2.9	8.9
Endocrine/nutritional/metabolic/immunity	0	40.0
Pregnancy/childbirth/puerperium	0	33.3
Cardiovascular/circulatory	0	30.0
Genito-urinary	0	10.5
Not coded	0	25.0

The destination of referrals is outlined in Table 12.11. One-quarter of referrals during normal working hours were of an emergency nature, and another quarter were elective. The remainder were largely non-medical. Orthopaedics was by far the most common elective medical/surgical referral destination, while physiotherapy held this position for non-medical referrals. The proportion of referrals of an emergency or elective nature in other hours was lower, with non-medical referrals accounting for nearly two-thirds of the total. Again, physiotherapy was the dominant category. Considered as a rate, emergency and elective referrals each occurred at a rate of 4.2 per 100 visits during normal working hours, with 2.7 for orthopaedics alone. Non-medical referrals for both normal and other hours were at a higher rate, with physiotherapy prominent.

Table 12.11 Destination of referrals: percentage distribution and frequency per 100 visits

Destination	Percentage of referrals		Frequency per 100 visits	
	M–F, 8 am–6 pm (N = 95)	Other hours (N = 119)	M–F, 8 am–6 pm (N = 590)	Other hours (N = 840)
Emergency referral	26.3	15.1	4.2	2.1
Referral unspecified	4.2	8.4	0.7	1.2
Medical/surgical specialties	26.3	14.3	4.2	2.0
Orthopaedics	16.8	2.5	2.71	0.36
Gynaecology	2.1	–	0.34	–
Dermatology	1.1	2.5	0.17	0.36
Paediatrics	1.1	0.8	0.17	0.12
Neurology	1.1	0.8	0.17	0.12
Cardiology	1.1	–	0.17	–
ENT	–	1.7	–	0.24
Plastic surgery	–	0.8	–	0.12
Ophthalmology	–	0.8	–	0.12
Non-medical referrals	43.2	62.2	7.0	8.8
Physiotherapist	14.7	11.8	2.37	1.67
Radiology	5.3	4.2	0.85	0.60
Nursing	1.1	–	0.17	–
Chiropractic	1.1	–	0.17	–
Dental	–	3.4	–	0.48

13 Comparison of Accident and Medical Clinics and Other General Practices Types

A&M clinics – or their equivalent – have been a feature of the New Zealand primary care scene since the late 1980s. It is therefore important to assess them in some key respects against a sample of the full range of general practices in relation to activities conducted during normal working hours. This is the purpose of the current section.

In Table 13.1, key practice characteristics are compared between the samples of A&M clinics and GP-centred primary care providers (GP-centred primary care providers are composed of general practices, community-governed practices and Māori providers). Considering the 12 A&M clinics alongside 187 primary care practices (composed of 167 general practices, six community-governed practices and 14 Māori providers), the clinics had more personnel, particularly nurses. They were also open twice as many hours in the week – in particular, all offered weekend and evening access as against 41.6% and 33.3% of primary care providers respectively – and very few offered booking systems (as against virtually all other providers). The ethnic composition of patients was similar across the two groups, as was the range of services offered. However, A&M clinics were much less likely to have computerised patient records.

Nearly all A&M clinics had a separate management structure, a relative rarity among other primary care providers. This was also reflected in the legal practice structure, where the same proportion of clinics (83.3%) were identified as limited liability companies. In the case of other primary care providers, this accounted for only one-quarter of practice structures, with another quarter being partnerships, and one-third sole traders. No A&M clinics carried out any of the nominated practice needs assessments, but the reported levels of written policies on complaints and on quality management were much higher than those for other providers.

Standard fees charged by A&M clinics were much higher than those for other providers. For children over the age of five, and for adults, fees were about \$10 more in A&M clinics when compared with the corresponding patient category attending other primary care providers. No capitated or budget-holding regimes were reported for A&M clinics (in contrast to the sample primary care providers, a significant proportion of whom nominated these funding systems). Finally, nearly all sampled A&M clinics were in major urban centres, in contrast to just over half of the other primary care providers. One-third of these providers were in rural areas. No A&M clinics were in rural areas, and only one was in a town.

Table 13.1 Characteristics of A&M clinics and general practices (GP)

Practice characteristic	A&M (N = 12)		GP* (N = 187)	
Personnel (mean number)				
Full-time equivalent (FTE) doctors	2.7 A&M practitioners 0.8 rostered GPs		2.2 GPs	
FTE nurses	3.2		1.5	
FTE community workers	0		0.05	
Access				
Hours open per week (mean)	118.1		48.9	
Offering evening surgery hours (%)	100		41.6	
Offering weekend surgery hours (%)	100		33.3	
Offering booking system (%)	8.3		97.0	
Ethnicity of patient population (%)				
Māori	15.9		15.4	
Pacific	10.1		6.0	
Services provided (%)				
Doctors providing maternity care	58.3		62.9	
Group health promotion	16.7		26.9	
Community worker services	0		6.3	
Computerisation (%)				
Computerised patient records	25.0		70.6	
Governance (%)				
Separate or external management structure	83.3		10.0	
Patient representation in management	0		3.0	
Legal practice structure (%)				
Sole trader	0		35.0	
Partnership	16.7		23.6	
Community trust	0		2.4	
Other trust	0		3.8	
Incorporated society	0		2.5	
Limited liability company	83.3		26.8	
Other	0		5.9	
Practice needs (%)				
Formal community needs assessment	0		20.0	
Locality service planning	0		17.1	
Inter-sectoral case management	0		11.7	
Quality management				
Written policy on complaints	100		59.9	
Written policy for quality management	58.3		30.4	
Standard fees (mean \$)	Card[†]	No card	Card	No card
Child (0–5 years)	6.90	6.90	0.60	1.00
Child (6–17 years)	21.80	26.70	13.20	18.70
Adult (18 years and over)	34.40	47.50	22.30	37.90

Practice characteristic	A&M (N = 12)	GP* (N = 187)
Funding regime (%)		
Capitated	0	27.7
Budget holding	0	18.0
Location (%)		
Urban (population > 100,000)	91.7	52.4
Town (30,000–100,000)	8.3	16.6
Rural area (< 30,000)	0	31.0

* Private, community-governed or Māori.

† Combines high user and community services cards.

In Table 13.2 the characteristics of doctors working in A&M clinics and primary care providers are compared. The 244 primary care providers, included 199 practitioners who were based in general practices, 24 were located in community-governed practices and 21 were Māori providers. Considering the ethnic background of practitioners, only just over half of those working in A&M clinics were New Zealand European, compared to two-thirds of those in other providers. There were more A&M clinic doctors who were Asian and from other backgrounds. A&M doctors were also less likely to be female: only one-quarter, compared to over one-third of those working in other providers.

Clinic doctors were also younger (mean age 40 versus 45.1 for doctors in other providers), with nearly one-quarter of them under the age of 35, compared to 10% of other doctors. This was also reflected in the years of practice reported. Doctors working in A&M clinics had an average of 10.1 years' experience, as against 15.5 for other providers. Indeed, 42.6% of clinic doctors had been in practice for less than six years, as against 8.5% of doctors in other practices. Also, the great majority of A&M clinic doctors had been in their practice for less than six years, with an overall average of 2.9 years. The average number of years in the current practice for other doctors was 10.9.

Place of graduation showed little difference between the two groups, with New Zealand being the dominant source of recruitment in both cases. However, one-quarter of A&M clinic doctors were trained outside New Zealand, the UK and Australia, as opposed to just one-fifth of other doctors. Only one-third of A&M clinic doctors belonged to either the Royal New Zealand College of General Practitioners or the New Zealand Medical Association, as against 78.0% and 52.3% respectively among doctors in the other group.

Doctors working in primary care providers saw more daytime patients per week – 102.5 on average compared to 86.6. This was largely accounted for by the fact that doctors in A&M clinics worked fewer half-days per week (6.3 versus 7.8), as otherwise they saw slightly more patients per half-day than did their colleagues in other primary care providers (13.7 versus 13.1).

Table 13.2 Characteristics of participant A&M and general practitioners

Practitioner characteristic	A&M (N = 67)	GP (N = 244)
Ethnicity (%)		
New Zealand European	53.7	68.9
Māori	4.5	1.0
Pacific	1.5	0.8
Asian	17.9	11.3
Other	22.4	18.1
Total	100%	100%
Gender (%)		
Female	26.9	38.2
Male	73.1	61.8
Age (%)		
< 35	23.1	9.7
35–44	55.4	43.4
45–54	18.5	33.8
55–64	3.1	9.1
> 64	0	4.0
Total	100%	100%
Mean	40.0	45.1
Years in practice (%)		
< 6	42.6	8.5
6–15	32.8	47.9
16–25	21.3	31.6
> 25	3.3	12.1
Total	100%	100%
Mean	10.1	15.5
Years this practice (%)		
< 6	86.2	30.1
6–15	13.9	43.0
16–25	0	20.1
> 25	0	6.9
Total	100%	100%
Mean	2.9	10.9
Place of graduation (%)		
New Zealand	61.2	65.4
UK	9.0	12.2
Australia	4.5	2.3
Other	25.4	20.1
Total	100%	100%
% RNZCGP	32.1	78.0
% NZMA	29.2	52.3
Mean daytime patients/week	86.6	102.5
Mean half-days/week	6.3	7.8

Mean daytime patients per half-day	13.7	13.1
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In Table 13.3 another aspect of the practice comparison between A&M clinics and other primary care providers is considered: the characteristics of nurses working in these two sites. It should be noted that the data for the clinics represent only seven nurses.

All seven nurses working at the sampled clinics were New Zealand European and female, their average age was 46.3 years, the majority of them had postgraduate qualifications, and they had been in nursing for over 20 years. This pattern was quite similar to the results for the 160 nurses in the other practices. Most were New Zealand European, all were female, their average age was only slightly lower (45.8), a smaller proportion had postgraduate qualifications, and their time in nursing was only slightly less (18.4 years).

The seven nurses at the A&M clinics had only been in those clinics on average for 2.7 years; all belonged to the New Zealand Nurses Organisation. On average these nurses worked 24.4 hours a week, mostly taken up with patient contact and administration. Although the majority said that patients could make appointments to see them, the number of such visits was small (3.4 on average). All were charged a fee.

Looking at the work pattern of nurses employed at the other primary care providers, they had been at the current practice for an average of nine years, and most of them belonged to the New Zealand Nurses Organisation. They were employed for more hours per week (30.9) and a larger share of this time was spent in direct patient contact. The great majority said that patients made appointments to see them, and on average they reported many more such appointments per week (24.6). Most patients were charged a fee.

Table 13.3 Characteristics of participating A&M and GP nurses

Practice nurse characteristic¹	A&M (N = 7)	GP (N = 160)
Ethnicity (%)²		
New Zealand European	100.0	86.6
Māori	0	3.8
Pacific	0	0.8
Asian	0	3.4
Other	0	5.4
Gender (%)		
Female	100.0	100.0
Male	0	0
Age (%)		
< 35	0	12.7
35–44	42.9	30.9
45–54	57.1	39.3
55–64	0	16.2
> 65	0	0.9
Mean (years)	46.3	45.8
Initial qualifications (%)		
RGN	0	20.7
RGON	57.1	61.2
RCpN	14.3	22.0
EN	14.3	1.2
RM	0	4.1
BA/BHSc/BN	28.6	2.3
Other	0	3.3
Postgraduate qualifications (%)	57.1	29.2
Years as a nurse (%)		
< 6	0	2.7
6–15	20.0	43.1
16–25	60.0	33.7
> 25	20.0	20.6
Mean (years)	21.2	18.4
Years as a practice/clinic nurse (%)		
< 6	85.7	31.5
6–15	14.3	58.6
16–25	0	9.9
> 25	0	0
Mean (years)	2.7	9.0
Professional membership (%)		
NZNO	100.0	83.0
College of Nursing	0	10.7
Other	57.1	13.5

Practice nurse characteristic ¹	A&M (N = 7)		GP (N = 160)	
None	0		11.6	
Average hours spent per week (mean)				
Total ³	24.4		30.9	
Direct patient contact	11.6		16.3	
Patient contact by phone	2.4		5.9	
Administration	10.0		6.4	
Housekeeping	5.1		2.5	
Other duties	1.8		3.4	
Patients make appointments specifically to see nurse (GP) or see nurse only (A&M) (%)	71.4		87.5	
If so, number of appointments (GP) or times (A&M) in average week (mean)	3.4		24.6	
Practice/clinic charges a fee for nurse appointment (GP) or nurse visit (A&M) (%)	100.0		76.4	
Patient contact activities carried out (%)	All	Independent⁴	All	Independent
Immunisations	100.0	85.7	98.3	78.7
Child care advice	85.7	42.9	92.5	80.5
Cervical screening	28.6	28.6	50.3	42.2
Contraception	42.9	0	66.8	34.6
Dressings	100.0	28.6	98.4	59.3
Suturing	42.9	0	24.4	6.2
Counselling	42.9	28.6	63.8	51.4
Dietary/lifestyle advice	71.4	42.9	97.8	86.8
Repeat prescriptions	42.9	0	81.1	27.7
Blood taking	100.0	42.9	56.8	41.5

¹ Excludes nurses employed by practices affiliated with Health Care Aotearoa (HCA).

² Ethnicity was self-reported, with multiple categories allowed. One ethnic category was then assigned per nurse according to prioritisation of Māori and Pacific peoples.

³ Hours spent on specific duties do not necessarily sum to the total because of missing data.

⁴ No doctor referral. Independent activities are a subset of all activities.

In Tables 13.4 and 13.5 socio-demographic comparisons are provided for patients that attended A&M clinics and those that attended other primary care providers, in both cases during normal working hours (i.e. Monday–Friday, 8 am–6 pm). Overall, patients attending A&M clinics were younger by over a decade (26.7-years-old on average versus 39.8). This was reflected in the age distribution of patients: one-third of visits were for patients under the age of 15 for A&M clinics, but only 6.4% were over 65; for other primary care providers, only one-quarter were under 15, while one-fifth were over 65. It should also be noted that there was a distinct skew towards female patients among other primary care providers.

Table 13.4 Percentage distribution of visits, by patient gender and age group

Visits*	A&M: M–F, 8 am–6 pm			GP: M–F, 8 am–6 pm		
	Male	Female	All	Male	Female	All
Age group						
0–14	34.0	32.0	33.5	28.9	20.3	23.9
15–24	16.7	21.0	18.7	8.0	9.1	8.6
25–44	30.3	26.3	28.0	19.0	26.0	23.1
45–64	13.6	13.2	13.4	23.3	21.5	22.2
65+	5.4	7.5	6.4	20.9	23.1	22.1
Total (N) [†]	100% (294)	100% (281)	100% (582)	100% (3770)	100% (5359)	100% (9153)
Mean	26.2	27.6	26.7	38.0	41.2	39.8

* Refers to doctor visits.

† Excludes missing data.

There were also differences between the two samples in ethnic and socioeconomic composition (Table 13.5). A higher proportion of A&M clinic patients were Pacific, Asian and “other” (possibly reflecting the predominantly city character of the clinic locations). There was also some evidence that A&M clinic patients lived in more deprived areas (one-quarter were in the lowest NZDep quintile).

Table 13.5 Percentage distribution of visits, by patient ethnicity and NZDep2001 quintile

	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
Ethnic group*		
New Zealand European	59.7	74.7
Māori	11.2	12.3
Pacific	8.8	4.2
Asian	11.1	4.1
Other	9.3	4.6
Total (N)	100% (570)	100% (9124)
NZDep2001 quintile		
1	21.7	20.4
2	17.8	19.8
3	18.5	19.7
4	18.5	20.0
5	23.4	20.2
Total (N)	100% (534)	100% (7923)

* Ethnicity was self-reported with multiple categories allowed. One ethnic category was then assigned per patient according to prioritisation of Māori and Pacific peoples.

The relationship of patients to these two practice types is assessed in Table 13.6. As expected, patients attending A&M clinics had a much more tenuous relationship to the practice and the practitioner. Nearly one-third of these patients were judged “new to practice”, over two-thirds were new to the practitioner, in three-quarters of cases the doctor was not their usual source of care, and on average only just over three visits had been made to the practice in the last year. This pattern is in strong contrast to that for the comparison group: only 7.5% of these patients were new to the practice, only 12.5% were new to the practitioner, for only 8.1% was the doctor not their usual source of care, and they had made an average of 6.6 visits to the doctor in the last year.

Table 13.6 Percentage of patients who were new to practice, new to practitioner or for whom practice not usual source of care, and mean number of visits in last 12 months

	A&M: M–F 8 am–6 pm	GP: M–F 8 am–6 pm
New to practice (N)	32.5 (579)	7.5 (9230)
New to practitioner (N)	70.5 (556)	12.5 (9213)
Not usual source (N)	73.7 (536)	8.1 (9123)
No. of visits to practice in last 12 months (mean)* (N)	3.3 (566)	6.6 (8994)

* Includes the current visit.

There was also a distinct contrast in source and type of payment (Table 13.7). The overwhelming majority of visits to primary care providers were funded by cash and/or GMS, while this was true for only two-thirds of visits to A&M clinics, where one-third of visits were charged to ACC. Even within the category cash/GMS, there was a difference since one-third of these visits were for children under six and only 17.9% were for adults with a benefit card. In the case of primary care providers less than one-fifth of such visits were for children under six, while one-third were for adults with a benefit card.

Table 13.7 Source and type of payment cited, as percentage of visits

Source of payment*	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
% visits cash/ GMS	65.0	88.6
Under 6 (Y)	30.7	18.5
Child, card (J1)	1.8	4.4
Child, no card (J3)	9.2	6.0
Adult, card (A1)	17.9	36.0
Adult, no card (A3)	40.5	35.0
Total cash/GMS	100%	100%
% visits ACC payment	33.6	9.0
% visits maternity care	1.4	2.4
Total (N)	100% (506)	100% (8848)

* Categories are mutually exclusive, with maternity or ACC taking precedence over cash/GMS where more than one is cited.

Urgency, severity and visit duration characteristics are compared in Table 13.8. The modal category of severity for patients attending A&M clinics was “Today” (nearly half), while in the case of primary care providers it was “This week”. The distribution of patients by severity was quite similar across the two groups, except that primary care providers dealt with more visits in which the severity concept was not felt to be applicable. Finally, A&M doctors spent slightly longer with their patients on average – 16.4 minutes versus 14.9.

Table 13.8 Percentage distribution of urgency or severity of worst problem, and mean duration of visit

	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
Urgency		
As soon as possible	10.0	5.1
Today	47.2	32.6
This week	34.9	43.6
This month	8.0	18.7
Total (N)	100% (562)	100% (9180)
Severity		
Life-threatening	2.0	2.0
Intermediate	40.3	41.1
Self-limiting	42.1	34.3
Not applicable	15.6	22.6
Total (N)	100% (563)	100% (9116)
Duration of visit (mean minutes) (N)	16.4 (478)	14.9 (8994)

There was a slightly different profile in the reason-for-visit components when comparing A&M clinics and primary care providers (Table 13.9). Nearly two-thirds of reasons for visiting primary care providers were either disease or symptoms. These categories were important for visiting A&M clinics, but investigations were also significant. Overall, however, fewer reasons were given by patients attending A&M clinics – 116.8 per 100 visits versus 142.1 for primary care providers.

Table 13.9 Reason-for-visit components as percentage of all reasons

Component	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
Symptoms	33.2	31.2
Disease	23.4	31.2
Treatments	16.6	12.0
Investigations	13.2	7.8
Prevention	5.8	5.8
Injury/poisoning	3.1	4.8
Unspecified conditions	2.9	4.5
Administrative	1.9	2.5
Not coded	0	0.3
Total (N reasons)	100% (689)	100% (13,171)
Total reasons per 100 visits* (N visits)	116.8 (590)	142.1 (9,272)

* Up to four reasons per visit could be recorded.

The relative distribution of problems managed at visits in the two groups is addressed in Table 13.10. Nearly half of all problems presented at A&M clinics were either injury/poisoning or respiratory. This was reflected in the rate of visits, with few other problem groupings cited for more than five visits per 100 (actions, nervous system/sense organs, skin/subcutaneous tissue and infectious/parasitic). Although for both comparison groups respiratory conditions were equally as important, as a proportion of visits to primary care providers this category was not predominant. The distribution of problem groupings for visits to primary care providers was much more extensive. This was reflected in higher visits: musculoskeletal/connective tissue conditions, investigations and cardiovascular/circulatory were all over 9%, and most other groupings rated 4% or higher, while this was not true for visits to A&M clinics.

Table 13.10 Distribution and rate (per 100 visits) of problems

Problem grouping READ2 chapter *	A&M: M–F, 8 am–6 pm		GP: M–F, 8 am–6 pm	
	Percent of all problems	Problems per 100 visits	Percent of all problems	Problems per 100 visits
Injury/poisoning	27.3	32.7	7.1	11.9
Respiratory	20.8	24.9	14.7	24.6
Actions	8.5	10.2	11.3	19.0
Nervous system/sense organs	8.1	9.7	8.2	13.7
Skin/subcutaneous tissue	6.4	7.6	6.7	11.2
Infectious/parasitic	5.7	6.8	4.3	7.2
Musculoskeletal/connective tissue	3.4	4.1	5.7	9.5
Investigations	3.1	3.7	5.3	9.0
Genito-urinary	2.8	3.4	4.6	7.7
Digestive	2.8	3.4	4.4	7.4
Symptoms non-specific	2.8	3.4	3.5	5.9
Cardiovascular/circulatory	2.4	2.9	9.2	15.4
Unspecified conditions	1.4	1.7	2.3	3.9
Mental	1.0	1.2	4.9	8.3
Cancers/neoplasms	1.0	1.2	2.4	4.0
Endocrine/nutritional/metabolic/ immunity	0.9	1.0	4.1	6.8
Pregnancy/childbirth/puerperium	0.7	0.8	0.3	0.5
Congenital	0.4	0.5	0.2	0.3
Blood/blood-forming organs	0	0	0.5	0.8
Perinatal	0	0	0.03	0.1
Not coded	0.6	0.7	0.4	0.7
Total problems per 100 visits † (N problems) (N visits)	100% (707)	119.8 (707) (590)	100% (15,450)	167.6 (15,450) (9,272)

* Major groupings are based on READ2 chapters.

† Up to four problems per visit could be recorded.

Half of all problems presented at A&M clinics were “new”, as against only one-third at primary care providers (Table 13.11). In contrast, nearly one-quarter of visits to this latter group of doctors were classified as long-term follow-up, while this was true of only 6.8% of visits to A&M clinics. A further 4.9% were preventive at the GPs, as against only 1.4% at the clinics.

Table 13.11 Percentage distribution of problem status

Status	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
New problem	50.1	34.8
Short-term follow-up	23.8	14.5
Long-term follow-up	6.8	23.2
Long-term with flare-up	2.8	8.0
Preventive	1.4	4.9
Not given	15.1	14.6
Total problems (N)	100% (707)	100% (15,450)

The rates of tests and investigations between A&M clinics and primary care providers are compared in Table 13.12. About one-quarter of visits to the GP were associated with the ordering of a test or investigation, while this was true of only just over one-fifth of visits to A&M clinics. There was also a difference in composition. The rate for visits to primary care providers was predominantly a matter of laboratory tests, while in the case of A&M clinics, imaging and other tests and investigations were almost as important.

Table 13.12 Rate per 100 visits at which tests and investigations were ordered

Test group	A&M: M–F, 8 am–6 pm (N = 590)	GP: M–F, 8 am–6 pm (N = 9272)
Any laboratory test	10.3	17.2
Imaging	7.8	4.1
Other	6.6	8.3
Any test/investigation	21.5	24.9

Table 13.13 addresses the level and composition of treatment between the two provider types. The overall level of treatment was markedly higher for patients attending primary care providers. Thus, for every 100 visits to the GP, the number of treatment items recorded was 243.8, consisting in almost equal measure of pharmacological and non-pharmacological interventions (129.2 and 114.6 respectively). In the case of A&M clinics, the overall rate per 100 visits was almost half that (137.8), again with the rate almost equally shared between pharmacological and non-pharmacological treatment (66.1 and 71.7). A similar contrast – although not as marked – was apparent for treatment expressed as a rate per 100 problems: for A&M clinics the intervention rate was 115.0 per 100 problems, while for primary care providers it was 145.4. Looking at the composition of that rate, the difference between provider types was greater for prescription items than for other forms of treatment (in other words, although GPs had a higher intervention rate overall, this difference was more marked for prescribing).

Table 13.13 Number of treatment items per 100 visits, and per 100 problems

	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
All treatment items*		
Per 100 visits (N)	137.8 (590)	243.8 (9272)
Per 100 problems (N)	115.0 (707)	145.4 (15450)
All prescription items		
Per 100 visits	66.1	129.2
Per 100 problems	55.2	77.1
All other treatment items		
Per 100 visits	71.7	114.6
Per 100 problems	59.8	68.3

* All treatment items = All prescription items + All other treatment items.

A more detailed comparison of prescribing is presented in Table 13.14. The overall prescribing rate for primary care providers, expressed per 100 visits, was almost double that for A&M clinics. There was also a difference in composition. Prescription items were more concentrated for clinic patients, with half of all items accounted for by infection agents and nervous system drugs. Respiratory, dermatological and musculoskeletal drugs added another quarter of all prescription items. In the case of visits to the GP, however, cardiovascular, alimentary, and blood and blood-forming drugs were also important. Considered as a rate per 100 visits, prescribing for the three top drug groups (infection agents, nervous system and respiratory) was similar between the two provider types, although consistently higher for GPs. However, for most other drug groups, prescribing rates for GPs were markedly higher than for patients attending A&M clinics.

Table 13.14 Distribution and prescribing rates (items per 100 visits) of different drug groups

Drug group (Pharmacodes/ATC level 1)	A&M: M–F, 8 am–6 pm		GP: M–F, 8 am–6 pm	
	Percent of all prescription items	Prescription items per 100 visits	Percent of all prescription items	Prescription items per 100 visits
Infections – agents for systemic use	30.3	20.0	18.4	23.7
Nervous system	20.3	13.4	14.5	18.7
Respiratory system and allergies	12.8	8.5	10.9	14.0
Dermatologicals	7.2	4.7	6.0	7.7
Musculoskeletal system	5.9	3.9	6.4	8.3
Alimentary tract and metabolism	4.6	3.1	8.4	10.9
Blood and blood-forming organs	2.6	1.7	6.0	7.8
Genito-urinary system	2.6	1.7	3.7	4.8
Extemporaneously compounded preparations and galenicals	2.6	1.7	1.0	1.3
Cardiovascular system	2.3	1.5	13.1	16.9
Systemic hormone preparations (excluding oral contraceptives)	2.1	1.4	4.4	5.6
Sensory organs	1.8	1.2	1.3	1.7
Oncology agents and immunosuppressants	0.3	0.2	0.3	0.4
Special foods	0	0	0.06	0.1
Medication non-specific	4.9	3.2	5.6	7.3
Total prescription items per 100 visits (N prescription items) (N visits)	100% (390)	66.1 (390) (590)	100% (11,988)	129.2 (11,988) (9,272)

There was less of a difference overall in the rate of non-drug treatment between A&M clinics and primary care providers, but the rate for the former – at 71.7 per 100 visits versus 114.6 – was still markedly lower (Table 13.15). Much of the difference was accounted for by the fact that GPs were much more likely than their colleagues in A&M clinics to carry out an investigation/examination/screening and to offer health advice. They were also much more likely to refer. Patients attending A&M clinics, on the other hand, were much more likely to receive a dressing. Follow-up and minor surgery were almost equally likely across provider type.

Table 13.15 Frequency of non-drug treatments per 100 visits

Non-drug treatments	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
Investigation/examination/screening	15.9	29.1
Health advice	13.9	38.7
Dressing	10.2	3.1
Referral	8.8	16.1
Follow-up	6.1	7.0
Minor surgery	5.8	6.6
Other procedure	5.6	3.8
Administration	2.0	5.7
Physical medicine	1.7	0.7
Immunisation	1.2	2.1
Complementary medicine	0.5	1.7
Total non-drug treatments per 100 visits (N non-drug treatments) (N visits)	71.7 (423) (590)	114.6 (10,609) (9272)

Assessed as a disposition, rather than as non-drug treatment, however, follow-up was recorded at a much higher rate overall and was a more likely outcome from a visit to the GP (57.3% versus 48.0%) (Table 13.16). Referral occurred at almost exactly the same rate between the two provider types, although the composition was different. GP referrals were to a medical or surgical specialist, and, to a lesser extent, for non-medical treatment, while in the case of A&M clinics, emergency referral was of almost equal importance.

Table 13.16 Percentage frequency of types of disposition (percent of visits)

Disposition*	A&M: M–F, 8 am–6 pm	GP: M–F, 8 am–6 pm
Follow-up within three months	48.0	57.3
Referred on	16.1	15.8
Emergency	4.2	1.3
Medical/surgical	4.2	8.0
Non-medical	7.0	5.7
Unspecified	0.7	0.8
(N)	(590)	(9272)

* One referral is counted per visit; referral types are mutually exclusive; emergency referrals are given precedence.

14 Summary and Discussion

14.1 Results

Data were obtained from 12 A&M clinics. Eight clinics were located in Auckland, and the remaining four were equally distributed between the North and South Islands. Detailed data were obtained from 590 visits during normal daytime hours (Monday–Friday, 8 am–6 pm) and from another 840 visits at other times.

Characteristics of practitioners. Doctors at the A&M clinics were mainly aged between 35 and 49 years and they had been in practice for just over 10 years on average, although most had worked in the sampled practice for less than six years (mean 2.9 years). Over one-third had trained overseas and about one-quarter were female. On average, 90 daytime patients were seen each week, with an average of 13.7 per half-day.

Characteristics of patients. Patients attending A&M clinics were predominantly young (only 17% were aged over 44 years) and nearly 25% were under five. Visits to A&M clinics outside of normal working hours were especially likely to be made by very young patients (31% of patients were under five). In relation to national age groups, patients aged under five were three times more likely to attend the clinics than national populations figures would suggest, while patients aged over 45 years were under-represented by between one-half and one-quarter of national figures.

Most visits were made by patients who were identified as belonging to a New Zealand European ethnicity (59.6%), but other ethnic groups including Māori, Samoan, Chinese and Indian were also relatively common (all contributed at least 4% of patients).

Overall, some 75% of patients did not have a Community Services Card; however, the percentage of patients with a card was higher during normal working hours (26.3%) than in other hours (20.6%).

Patients were evenly distributed across the levels of socioeconomic status. Most patients (71.5% during normal hours and 76.1% in other hours) were judged to enjoy good or very good levels of social support. A sizeable proportion of patients, especially in other hours (8.9%), were considered by the practitioner to be not fluent in English.

Relationship to the practice. Relatively few patients had an established relationship with the A&M practices. About one-third during daytime hours and one-half at other times were new to the practice. Most patients were new to the practitioner (70.5% during daytime hours and 82.1% during other hours). For nearly half of the patients during daytime hours, the current visit was their only attendance at the A&M clinic over the preceding 12 months. This was the case for about two-thirds of other hours patients. Despite this limited contact with the patients, very few practitioners indicated that they had only established low rapport with any of their patients (only 3.5% in other hours and 8.6% during normal hours).

Visit characteristics. Most (65%) daytime visits were funded by a mixture of cash and GMS payments, while ACC paid for about another third (33.6%). During other hours, the proportion of visits funded by ACC decreased to 17.9% and the percentage financed by cash/GMS payments increased to 81.5%.

On average, visits lasted about 16 minutes, regardless of the time of the day. About half of all visits were assessed as requiring immediate or same-day attention, although the proportion was higher in other hours compared to normal working hours (72.2% versus 57.2%).

Levels of disability were similar across time periods. Most patients (93.4% in other hours and 85.9% in daytime hours) were associated with minor and temporary levels of disability.

The level of uncertainty as to the appropriate action was judged by most practitioners to be either none or low during daytime hours (90%) and other hours (83.5%). The percentage of visits associated with medium to high levels of uncertainty increased for other hours (from 10.3 to 16.6%).

On average, patients presented slightly more than one reason for the visit at any time of the day: rates ranged from 113 (other hours) and 119 (normal hours) reasons per 100 visits for males to 115 (normal hours) and 119 (other hours) for females. Younger people typically gave more reasons for the visit regardless of the time of day. Common reasons-for-visit were actions of various kinds, injury/ poisoning-related-conditions, and respiratory and non-specific symptoms. Outside of daytime hours respiratory and non-specific symptoms, and digestive and nervous system/sense organs problems were relatively more frequent, while actions and injury/poisoning were less common.

The leading component of all the visits during daytime hours related to symptoms, and this was even more common outside of daytime hours (accounting for 33.2% of all daytime visits and 47.7% of other hours visits).

Problems identified and managed. In the majority of visits (about 85% for both time periods) patients presented just one problem at their visit. During normal hours nearly one-third of encounters involved an injury-related problem and one-quarter a respiratory condition. Nearly 10% of visits during daytime hours were concerned with actions or nervous system/sense organs problems. In the case of visits during other hours, nearly one-third related to respiratory problems, followed by injury/poisoning at one-fifth of visits; nervous system and infectious problems were responsible for about 10% of visits. Acute respiratory problems, sprains and ear diseases accounted for about one-third of all new problems across both time periods. In relation to the rates of problems per 100 visits, nearly half of all problems presented at visits to A&M clinics were for either injury/poisoning or respiratory problems.

More new problems were presented in other hours, especially by female patients. Respiratory and injury/poisoning-related problems were the most frequently presented new problems. Respiratory conditions were especially frequent in other hours.

During both time periods, new or short-term problems accounted for just under three-quarters of all presentations. Long-term and preventive problems were infrequent during normal hours (9.6% and 1.4% respectively) and very uncommon during other hours (6% and 0.8% respectively).

Age- and gender-specific rates of new problems did not vary between normal and other hours periods.

Laboratory tests and other investigations. Overall, about one-fifth of all visits were associated with an order for an investigation. During other hours the rate of investigation ordering dropped to include only 12.7% of all visits, compared with 21.5% during normal hours. Higher investigation ordering rates were associated with female patients and older patients. The leading conditions associated with an order for an investigation were respiratory, infectious/parasitic and genito-urinary problems.

X-rays were mainly ordered at injury/poisoning-related visits, regardless of the time of the day. However, only about one-fifth of such visits during normal hours and one-sixth during other hours were associated with a request for an X-ray.

Pharmacological treatment. During normal hours about one-quarter of visits resulted in no treatment being given and a further third involved the provision of non-pharmacological treatments. For visits made in other hours, some 15% were provided with non-pharmacological remedies and one-third received no treatment. More visits outside normal working hours received any pharmacological treatment (53.7% versus 43.6%). The number of script items was also higher in other hours (81.5 versus 66.1 per 100 visits). Females were more likely than males to receive a prescription at any time of the day.

Overall, the most frequently prescribed types of medications were infectious agents (one-third of scripts), nervous system drugs (one-fifth of scripts) and respiratory

medicines (about 12% of scripts). As a percentage of all visits, infectious and nervous system medications were each prescribed at about one-fifth of all visits, regardless of the time of the day.

In relation to the medication sub-groups, anti-bacterial agents and analgesics accounted for approximately one-third of all script items regardless of time. Acute respiratory infections and ear diseases accounted for most of the prescribing of anti-bacterials in both time periods. Most nervous system medication prescribing related to the provision of analgesic agents. Analgesic prescribing was common in other hours, especially among females, younger people and in relation to respiratory infections.

Non-drug treatments. Approximately three-quarters of all non-drug treatments were accounted for by five categories (investigation/examination/screening; health advice; dressing; referral; and request for follow-up) in both normal and other hours visits. Overall, non-drug treatments were more frequently carried out at visits in normal hours (71.7 versus 51.7 per 100 visits). Females were slightly more likely to receive health advice at any time of the day.

Disposition. Nearly half of all visits to A&M clinics during normal hours resulted in a request for follow-up within three months; this was true in only one-third of visits in other hours. Requests for follow-up were more common among males and those aged over 65 years. Follow-up was most commonly arranged for people who presented with pregnancy/childbirth/puerperium problems during daytime hours (80% of these problems were treated with follow-up) and musculoskeletal/connective tissue problems in other hours (80% of problems).

Referral rates were similar at both time periods (16.1% during normal hours and 14.2% during other hours) and referrals were most frequently arranged for patients aged over 65 years, regardless of the time. Most referrals were non-medical in both time periods. The most frequent destination at any time of the day for non-medical referrals was physiotherapy, while orthopaedics held this position for medical referrals. Some 2.37 per 100 daytime visits were associated with a referral to a physiotherapist, while the rate was lower for other hours (1.67 referrals per 100 visits). Orthopaedic referrals were made at a rate of 2.71 per 100 visits during normal hours and 0.36 per 100 visits during other hours. Emergency referrals were infrequent but slightly more common during normal hours (4.2% versus 2.1%). Cancers/neoplasms was the most common problem type associated with an emergency referral during normal hours.

Comparisons between A&M clinics and general practices. The 12 A&M clinics were compared with 187 primary care practices in relation to their daytime characteristics, visits and activities. A&M clinics, on average, had more personnel, especially nursing staff (an average of 2.7 FTE doctors at A&M clinics compared to 2.2 FTEs at general practices; an average of 3.2 FTE nurses at clinics and 1.5 FTE nurses at general practices). The clinics were also open for considerably longer hours (mean 118.1 hours versus 48.9 hours per week). Very few clinics offered booking systems (8.3% of clinics compared with 97% of general practices).

The ethnic composition of patients was similar at the two types of surgeries, as was the range of services provided. However, A&M clinics were much less likely to have computerised records (25% versus 70.6% of general practices).

Nearly all A&M clinics had a separate management structure and most were organised as limited liability companies. By contrast, general practices rarely (10%) had a separate management structure and their legal arrangements were more varied (26.8% limited liability companies, 35% sole traders, 23.6% partnerships). None of the surveyed A&M clinics undertook any practice needs assessments, but the reported numbers with written complaints or quality management policies was higher than for GP providers.

Standard fees charged by A&M clinics were much higher across all patient groupings compared with charges at general practices. No capitated or budget-holding arrangements existed for A&M clinics whereas 27.7% and 18% respectively of general practices nominated these funding regimes.

Almost all (92%) of the A&M clinics were situated in urban centres compared with only about half (52%) of the general practices. No A&M clinics were sited in rural areas, compared with 31% of general practices.

Only about half of the doctors working in A&M clinics were New Zealand European, compared to nearly two-thirds of the medical staff in general practices. A&M doctors were more likely than their GP colleagues to be of Asian or Māori ethnicity.

A smaller proportion of A&M doctors were female (26.9% compared to 38.2% in general practice). Clinic doctors were on average younger (mean 40 years versus 45.1 years) than their GP counterparts and had less working experience (mean years in practice 10.1 versus 15.5) and had worked at the current location for a much shorter period (mean 2.9 versus 10.9 years). Doctors at both types of practices had mainly graduated at a New Zealand university, but a smaller proportion of clinic doctors belonged to either the RNZCGP (32% versus 78%) or the NZMA (29% versus 52%). It should be noted, however, that the Accident and Medical Practitioners' Association (AMPA) is the professional body concerned with professional issues for A&M medical practitioners and information about membership to this organisation was not obtained in this survey.

Doctors working in general practices saw more patients per week (mean 102.5 versus 86.6). This was largely due to the fact that doctors in A&M clinics worked fewer half-days per week (6.3 versus 7.8); otherwise the average number of patients seen each half-day was almost identical (13.7 by A&M clinic doctors versus 13.1 by GPs).

The comparison of the characteristics of nurses working at either location is limited by the small number of nurses surveyed at A&M clinics (seven). All seven nurses were New Zealand European and female and their average age was 46 years. Many had postgraduate qualifications. GP nurses had similar characteristics: all were female and most were New Zealand European, but a smaller proportion had postgraduate qualifications. The mean time as a nurse was similar at both locations (21 years for nurses at A&M clinics compared to 18 years at general practices), although the A&M nurses had on average spent less time as a practice nurse (2.7 versus 9 years). Most nurses, regardless of worksite, belonged to the NZNO. On average, nurses at A&M clinics worked fewer hours per week (24.4 versus 30.9). The seven A&M nurses spent considerably less time than their GP colleagues in direct patient contact, either in person or by telephone, whereas relatively more time was spent undertaking administrative or housekeeping duties. Although most A&M clinic nurses indicated that patients could make appointments to see them, the number of such visits was small compared to general practice nurses (mean per week of 3.4 versus 24.6).

A comparison of the socio-demographic characteristics of patients who attended A&M clinics and general practices during normal hours illustrates that patients who visited A&M clinics were considerably younger than patients at traditional general practices (mean age of 26.7 versus 39.8 years). One-third of visits to clinics were made by patients aged under 15 years while only 6.4% of patients were aged over 65 years. By contrast, only one-quarter of general practice patients were aged less than 15 years but one-fifth were older than 65 years. A higher proportion of A&M clinic patients were of Pacific or Asian ethnicities (8.8% Pacific and 11.1% Asian at clinics, compared to 4.2% and 4.1% at general practices). A slightly higher proportion of A&M clinic patients resided in the most deprived areas (23% in the lowest NZDep2001 quintile compared to 20% at general practices).

Patients attending A&M clinics had a less established relationship to the practice and the practitioner. Nearly one-third of these patients were new to the practice and two-thirds were new to the practitioner. In over 70% of visits the clinic was not the usual source of care and patients had made only 3.3 visits on average to the clinic in the preceding 12-month period. This is in stark contrast to patients who attended general practices: only 7.5% of patients were new to the general practice, just 12.5% were visiting the GP for the first time and only 8% indicated that the GP was not their usual source of care. GP patients recorded an average of 6.6 visits to the practice over the preceding 12 months.

There were also distinct variations between clinic and GP visits in relation to their source and type of payments. Most visits to general practice providers (88.6%) were

funded by cash and/or GMS payments. Only 65% of visits to A&M clinics were funded by cash and/or GMS payments while about one-third were financed by ACC payments (only 9% of GP visits were funded by ACC). Relatively more visits to A&M clinics were associated with cash/GMS payments for under six-year-old children (30.7% versus 18.5%) while only about half the proportion of payments made to general practices for Community Service Card-holding (A1) adults were received at the clinics (17.9% versus 36%).

The most common category of urgency for patients attending A&M clinics was “today” (47%), compared to “this week” for general practice attendees (44%). The distribution of patients by severity was similar between the two practice types. A&M doctors spent slightly longer with their patients on average (16.4 minutes versus 14.9 minutes at general practices).

Slightly fewer reasons-for-visit were offered by patients who attended A&M clinics (116.8 per 100 visits compared to 142.1 for GP patients). Nearly half of all the problems presented at A&M clinics were either injury/poisoning or respiratory (32.7 and 24.9 problems per 100 visits). Respiratory problems were also common at general practices (24.6 problems per 100 visits), but injury/poisoning was not as frequent (11.9% of problems per 100 visits) whereas cardiovascular/circulatory problems were more common (15.4 per 100 visits at general practices versus 2.9 per 100 visits at A&M clinics).

About half of all problems at A&M clinics were “new” compared with only one-third at general practices. Nearly one-quarter of visits to general practices were classified as long-term follow-up, but only 6.8% of visits to A&M clinics were designated to be for this purpose. Some 4.9% of GP visits were identified as preventive whereas only 1.4% of A&M clinic visits were ascribed to this grouping.

The rate of test/investigation ordering was slightly different at the two types of practices. Overall, 21.5% of visits to A&M clinics and 24.9% of visits to general practices were associated with an order for a test/investigation. There was also a difference in the types of investigation arranged: more imaging investigations were ordered at A&M clinics (7.8 versus 4.1 per 100 visits), while laboratory-type tests were more frequently ordered at general practices (17.2 versus 10.3 per 100 visits).

The average number of treatment items provided to patients who visited general practices was much higher than the number given to patients who attended A&M clinics (243.8 treatment items per 100 visits at general practices versus 137.8 at A&M clinics). In both types of practice the treatment items were evenly distributed between pharmacological and non-drug treatments. Although GPs had a higher intervention rate per 100 visits, the difference was even more marked in relation to their prescribing rates. GPs prescribed 129 items and provided 114 non-drug treatments for each 100 visits; A&M clinic doctors prescribed 66 items and 71.7 non-drug treatments per 100 visits.

Prescription items for clinic patients were mainly concerned with infection agents and nervous system drugs (respiratory, dermatological and musculoskeletal drugs added another quarter of all the items prescribed). In the case of visits to GPs, however, cardiovascular, alimentary, and blood/blood-forming drugs were also important. For most drug groups, prescribing rates per 100 visits were higher for GPs compared with A&M clinic doctors.

There were also differences between A&M clinics and general practice providers in relation to non-drug treatments. A&M clinics provided relatively fewer non-drug treatments for each 100 visits (71.7 items compared to 114.6). Much of this difference was accounted for by the fact that GPs were much more likely than their colleagues in A&M clinics to carry out an investigation/examination/screening and to offer health advice.

Follow-up was recorded at a much higher rate overall and was a more likely outcome from a visit to a general practice (57% versus 48%). Referrals occurred at almost the same rate between the two provider types, although the composition was different. GP referrals were mainly to medical and surgical specialists while A&M clinic referrals were mostly to non-medical specialists. Emergency referrals were more common at A&M clinics (4.2% versus 1.3%).

14.2 Strengths of the survey

The strengths of the survey were that:

- data were collected on a representative sample of practices and visits
- data were collected on a large number of visits
- a standardised format was used for data collection
- data collection was comparable to other practice surveys
- data collection was comparable to the one other precursor historical survey (WaiMedCa)
- there were similarities to overseas surveys
- there was an extended collection period, including unique after-hours data
- clear definitions were used for the variables in the study, and assistance was provided to assist the consistency of reporting by practitioners.

14.3 Limitations of the survey

The limitations to the survey were that:

- a sample was used rather than a comprehensive survey

- there were no formal tests of statistical significance
- there was only a limited survey period
- there was a relatively low (52%) response rate among A&M clinics
- there was only one collection period for each A&M clinic and no data were collected in summer – (the A&M clinics perceived that as an inconvenient period during which to partake in collect data collection).
- there were no after-hours data from orthodox general practices to permit comparison of out-of-hours activity between practice types
- the survey was based on patient visits to practices (utilisation) and does not represent a population-based assessment of health needs
- the data were concerned with visits rather than episodes of illness
- there were some differences in the methods used in the survey relative to similar work undertaken in Australia, and it is possible that these differences may affect the ability to make direct comparisons between data
- the categories used in this survey are broad and may not be able to discriminate actual differences in the nature and type of problems that were presented at different types of practices
- some of the cross-tabulations may have involved a relatively small number of visits
- the reliability and validity of the data have not been confirmed by independent measurements
- there are no data from other providers of health care.

14.4 Comparisons with previous New Zealand studies

The results from the NatMedCa survey are largely consistent with those obtained from the only previously published description of the characteristics of patients, practitioners and practice arrangements.¹ Similar to the findings from the WaiMedCa-based study, the current survey has noted that patients who attend A&M clinics are more likely to be young and to present with a single, new and relatively minor problem which is frequently injury-related and funded by the ACC. Therapy is often curative and symptomatic in nature, and rates of clinical activity are low. Staffing levels are higher than at traditional general practices and the clinics are often better equipped. Commonly patients and practitioners are new to each other and care is provided in an episodic nature, without appointment.

Direct assessments of the quality of care are difficult with the available survey data. No direct comparisons between the data from NatMedCa and the findings of Kljakovic and Durham (1999) are possible.⁷⁹ However, it is interesting to observe in the current study

that the prescribing rate of anti-bacterial medication per 100 visits was higher at GP surgeries than at A&M clinics, although the difference was not large (23.7 prescription items per 100 visits compared to 20). In addition, all of the clinics had a written policy on patient complaints and a higher proportion were also equipped with a written quality management policy (58% of A&M clinics compared to 30% of GP practices).

14.5 Comparisons with the international literature

There are few models of after-hours care operating in other countries that are comparable to New Zealand A&M clinics. Perhaps the most similar international example is the walk-in clinics in Canada.⁸ These clinics have evolved with similar characteristics, including central city locations, extended hours and no-appointment schedules. Analogous to the New Zealand clinics, the Canadian model has also developed in parallel with traditional general practice and there are few formal links with usual general practice. Attendance hours are not arranged so as to minimise overlap with family physician practices, and they do not routinely organise follow-up with the usual GP and notify the GP of the content of each visit. Consistent with the findings from studies that have examined attendance at walk-in clinics in Canada,^{8 61 63} this survey has recorded many similarities between those patients who attended either A&M clinics or general practice providers and the types of problems they have presented at either location. A preponderance of female patients has been recorded at both settings in Canada^{8 61 63} and in this New Zealand based survey. However in keeping with the results observed in Canadian surveys, there was also a tendency in New Zealand for younger patients to visit A&M clinics during normal hours compared to general practice type providers. Similarly the most common diagnoses at walk-in clinics in Canada^{8 57 70} and A&M clinics in New Zealand included respiratory tract infections and other acute, often self-limiting, conditions. Whilst more patients were considered to have an urgent presentation at A&M clinics and walk-in clinics⁵⁷ compared with general practice type attendances the severity of the condition was not higher. In addition, similar proportions of attendees at both walk-in clinics in Canada^{8 57} and A&M clinic in New Zealand, were referred to the local hospital. Likewise, follow-up rates for patients treated at either A&M clinics and walk-in clinics⁷⁰ were lower than traditional general practice-type providers in both countries.

14.6 Policy implications

Two important policy documents have recently considered the future of primary care in New Zealand.^{86 87} The Minister of Health's Primary Health Care Strategy (2001) specifically comments on the development of A&M clinics in New Zealand. The strategy identifies the trade-off that the clinics provide by increasing convenience and access for patients at the expense of some continuity of care.⁸⁶ The findings from this survey conclusively indicate that patients who attend A&M clinics during normal hours

usually have a less well established relationship to the clinic and/or to the practitioner whom they consult at the clinic. In relation to improving access, the clinics provide convenient central city locations and longer opening hours; however, it is notable that their daytime charges are usually higher than those requested by traditional general practices during normal working hours. Although the proportion of patients who reside in deprived areas was slightly higher among A&M attendees, patients at these clinics were generally evenly distributed across the socioeconomic groups. It therefore seems unlikely that the existence of A&M clinics dramatically overcomes any financial barriers to accessing primary care among economically disadvantaged people.

Patients who attend A&M clinics during normal hours have a wider ethnic diversity than patients who visit traditional GP practices. In particular, a higher proportion of Māori and Pacific Island people attend the clinics. The presence of a higher proportion of practitioners from a range of ethnic groups underlines some ability of the clinics to provide culturally acceptable health care to a wider ethnic range of patients. The clinics may therefore have an important role in reducing the health inequalities experienced by these groups.

Although the Primary Health Care Strategy advocates the ability of patients to visit any practitioner at any time, the development of A&M clinics where patients are often new to the practice is not consistent with the aims of patient enrolment strongly signalled within the document. The absence of any formal needs assessment by A&M practices also suggests that they do not currently view themselves as providing care to any defined population. Patient enrolment facilitates a structured focus on the needs of a particular patient group. It enables practices to give more attention to patient education and preventive care. Currently, A&M clinics provide relatively less health advice and preventive care than traditional general practices do. Preventive care, in particular, is less compatible with clinics' arrangements, which are largely based around episodic and reactive care. It is possible that some GPs may nominate an A&M clinic as the provider of after-hours care to their enrolled population, but improved communication and stronger links between practice types would be needed before this was likely to be a frequent occurrence. Higher levels of electronic record keeping among A&M clinics would also facilitate information sharing between practices.

Both policy documents have also signalled the expectation that future primary health care organisations will have wider participation by members of the public in their organisational structures.^{86 87} Although A&M clinics frequently included a separate management structure, none provided any consumer representation.

A&M clinics typically included larger FTE staffing levels than traditional general practices. Although more FTE nurses were employed, the clinics did not provide multidisciplinary care. Other types of community health workers were not included. The professional roles provided by the nursing staff also appear to be limited, although it should be noted that the size of the sample was small. Relatively few patients made direct appointments to consult the practice nurses at the A&M clinics and their range of

independent tasks appears to be narrower than that of their general practice-based colleagues.

The Primary Health Care Strategy emphasises the need for good-quality primary care.⁸⁶ Optimising the use of diagnostic and treatment services is a key feature of good-quality care. Without additional information about the needs of the population and the outcomes of the patients who were treated, it is not possible to make any conclusions about the quality of care provided at A&M clinics. Lower rates of prescribing and investigations (except imaging-type tests) may be associated with more effective and cost-effective care, or may represent potentially under-recognised and under-treated conditions that could give rise to larger costs at a later time. Similarly, higher rates of emergency referrals associated with A&M clinics and lower rates of elective referrals may equally represent either good- or poor-quality care. In order to reliably address this issue, further research is needed that compares outcomes across practice types while appropriately adjusting for different patient presentations and co-morbidities.

14.7 Conclusions

A&M clinics are commercial facilities, usually located in central urban areas that offer extended opening hours, consultations without an appointment and limited links to traditional general practice. The clinics are a unique development in primary care in New Zealand that have arisen from several world-wide trends including rising demands for after-hours primary care and changes in the way that doctors wish to organise their out-of-hours work. The closest international parallel to A&M clinics appears to be the walk-in clinics that operate in Canada.

The New Zealand 2001/2 NatMedCa survey provides a unique, detailed, description of A&M practices, their practitioners and the patients who attended these clinics in conjunction with the problems they presented and the, investigations and treatments they received.

The survey also presents the rare comparison of practice, practitioner and patient visit characteristics between A&M practices and other general practitioner providers during normal working hours. A number of important differences can be distinguished between these two practice types. Patients who attended A&M practices tended to be younger, more ethnically diverse but have no ongoing relationship with the practice. Visits usually concerned one new problem that was often minor and either injury or respiratory related. Fewer investigations, treatment items and follow-up arrangements were provided at A&M clinics. Emergency referrals were higher. A&M clinics opened for longer hours, had no booking systems but included more staff. Most clinics had a separate organisational structure and were organised as limited liability companies. Fees were higher and no clinics were capitated or budget holding.

Several potential policy and service development implications are apparent from data provided by this survey. Although A&M clinics increase primary care accessibility, and provide culturally acceptable health care to a wide ethnic range of patients it appears, they may not overcome financial barriers to accessing primary care among economically disadvantaged people. Issues also arise with government policy for patient enrolment in relation to A&M clinics that do not undertake any formal needs assessment and appear to frequently treat patients who may be new to the practice. Finally, further research is needed to ascertain the relative quality of care provided by A&M clinics and other primary care providers.

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Appendix A: Log of Visits

NATMEDCA National Primary Medical Care Survey	
(F) LOG OF VISITS	
Practitioner Study ID Number _____ Questionnaire Number _____	
Please complete this log for <u>all</u> patients. Fill in the visit form <u>ONLY</u> for the <u>fourth</u> patient. Start Here	
Patient One Gender male <input type="checkbox"/> female <input type="checkbox"/> Date of birth: day ___ mth ___ yr ___ Ethnicity: <small>(see options on cover, tick the space or spaces that apply)</small> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> Com'ty Services Cd yes <input type="checkbox"/> no <input type="checkbox"/> High user card yes <input type="checkbox"/> no <input type="checkbox"/>	Patient Two Gender male <input type="checkbox"/> female <input type="checkbox"/> Date of birth: day ___ mth ___ yr ___ Ethnicity: <small>(see options on cover, tick the space or spaces that apply)</small> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> Com'ty Services Cd yes <input type="checkbox"/> no <input type="checkbox"/> High user card yes <input type="checkbox"/> no <input type="checkbox"/>
Patient Three Gender male <input type="checkbox"/> female <input type="checkbox"/> Date of birth: day ___ mth ___ yr ___ Ethnicity: <small>(see options on cover, tick the space or spaces that apply)</small> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> Com'ty Services Cd yes <input type="checkbox"/> no <input type="checkbox"/> High user card yes <input type="checkbox"/> no <input type="checkbox"/>	Patient Four Gender male <input type="checkbox"/> female <input type="checkbox"/> Date of birth: day ___ mth ___ yr ___ Ethnicity: <small>(see options on cover, tick the space or spaces that apply)</small> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> Com'ty Services Cd yes <input type="checkbox"/> no <input type="checkbox"/> High user card yes <input type="checkbox"/> no <input type="checkbox"/> Please complete report for this visit.

➔ **Please enter address here for patient number 4**

Questionnaire number _____

_____ Street

Town/Suburb _____

COMPLETE REPORT FORM ➔

Appendix B: Visit Report

A & M Clinic ID Number _____		NATMEDCA		(G) VISIT REPORT		Questionnaire number _____	
A & M Practitioner ¹ or General Practitioner ¹							
1	Date of visit - day _____ month _____ year _____	Time of visit _____		3	Was there a problem or issue that the person wanted to have dealt with but had difficulty mentioning (apart from the reason(s) for visit)? yes <input type="checkbox"/> no <input type="checkbox"/> unknown <input type="checkbox"/>		
2	REASON(S) FOR VISIT (persons own words)			4	How would you assess this person's level of social support? (Please circle)		
1.	_____				_____ _____ _____ _____		
2.	_____				(1) very (2) (3) (4) very (5) unknown <input type="checkbox"/>		
3.	_____				poor good		
4.	_____			5	What is this person's marital status? married <input type="checkbox"/> de facto <input type="checkbox"/> single <input type="checkbox"/>		
				If single, please specify: separated <input type="checkbox"/> divorced <input type="checkbox"/> widowed <input type="checkbox"/> never married <input type="checkbox"/>			
6	Please include all issues (well person care, psycho-social difficulties, practitioner identified issues etc.) as problems and mention all interventions under treatment (scripts, immunisation, smears, certification, reassurance, counselling etc.) *Please give Drug name, dose, interval, duration as on prescription			7	INVESTIGATIONS ORDERED		DISPOSITION
DIAGNOSIS/PROBLEM 1 _____				<input type="checkbox"/> FBC <input type="checkbox"/> Culture <input type="checkbox"/> E Sed Rate <input type="checkbox"/> Pap Smear <input type="checkbox"/> Fe etc, B12, folate <input type="checkbox"/> ECG <input type="checkbox"/> Serum glucose <input type="checkbox"/> Plain X-Ray <input type="checkbox"/> Creatinine/urea <input type="checkbox"/> Contrast etc <input type="checkbox"/> Liver function <input type="checkbox"/> Ultrasound <input type="checkbox"/> Lipids <input type="checkbox"/> Spirometry <input type="checkbox"/> Thyroid <input type="checkbox"/> Other <input type="checkbox"/> Other chemistry		Follow-up within 3/12? yes <input type="checkbox"/> no <input type="checkbox"/>	
Status of problem: new <input type="checkbox"/> short-term FU <input type="checkbox"/> long-term FU <input type="checkbox"/> long-term with flare-up <input type="checkbox"/> preventative <input type="checkbox"/>						Referred on? yes <input type="checkbox"/> no <input type="checkbox"/>	
*Action, treatment, drugs for this problem:						If yes, (please specify)	
DIAGNOSIS/PROBLEM 2 _____						Sent to Acute Assessment Unit or Emergency Dept. yes <input type="checkbox"/> no <input type="checkbox"/>	
Status of problem: new <input type="checkbox"/> short-term FU <input type="checkbox"/> long-term FU <input type="checkbox"/> long-term with flare-up <input type="checkbox"/> preventative <input type="checkbox"/>							
*Action, treatment, drugs for this problem:							
DIAGNOSIS/PROBLEM 3 _____							
Status of problem: new <input type="checkbox"/> short-term FU <input type="checkbox"/> long-term FU <input type="checkbox"/> long-term with flare-up <input type="checkbox"/> preventative <input type="checkbox"/>							
*Action, treatment, drugs for this problem:							
DIAGNOSIS/PROBLEM 4 _____							
Status of problem: new <input type="checkbox"/> short-term FU <input type="checkbox"/> long-term FU <input type="checkbox"/> Long-term with flare-up <input type="checkbox"/> preventative <input type="checkbox"/>							
*Action, treatment, drugs for this problem:							
				8	GENERAL		
				Is person new to practice? yes <input type="checkbox"/> no <input type="checkbox"/>			
				Is patient new to practitioner? yes <input type="checkbox"/> no <input type="checkbox"/>			
				Is practice usual source of care? yes <input type="checkbox"/> no <input type="checkbox"/>			
				Number visits to practice in previous 12 months: _____			
				Has/will person also see nurse today? yes <input type="checkbox"/> no <input type="checkbox"/>			
				Has/will person also see doctor today? yes <input type="checkbox"/> no <input type="checkbox"/>			
				Source of payment? Cash/GMS <input type="checkbox"/> ACC <input type="checkbox"/>			
				Duration of visit? _____ minutes			
				9	Was patient (child's caregiver) fluent in English? yes <input type="checkbox"/> no <input type="checkbox"/>		
				EVALUATION (for worst problem)			
				Practitioner perception of urgency of this visit? ASAP <input type="checkbox"/> today <input type="checkbox"/> this week <input type="checkbox"/> this month <input type="checkbox"/>			
				Severity? Life-threatening <input type="checkbox"/> intermediate <input type="checkbox"/> self-limiting <input type="checkbox"/> NA <input type="checkbox"/>			
				Disability? Extent: none <input type="checkbox"/> minor <input type="checkbox"/> major <input type="checkbox"/>			
				Type: temporary <input type="checkbox"/> permanent <input type="checkbox"/>			
				Uncertainty as to diagnosis or management? none <input type="checkbox"/> low <input type="checkbox"/> medium <input type="checkbox"/> high <input type="checkbox"/>			
				General rapport achieved? low <input type="checkbox"/> medium <input type="checkbox"/> high <input type="checkbox"/>			

Appendix C: A&M Practitioner Questionnaire

NATMEDCA

National Primary Medical Care Survey

(C) PRACTITIONER QUESTIONNAIRE

Practitioner Study ID number _____ A&M Clinic Study ID number _____

Medical practitioners, please complete.

1. **Age at last birthday (years)** _____

2. **Gender**
Male
Female

3. **What is your ethnicity? (tick the space or spaces that apply to you)**
(1) New Zealand European
(2) Māori
(3) Samoan
(4) Cook Island Maori
(5) Tongan
(6) Niuean
(7) Chinese
(8) Indian
(9) Other

4. **How many years in this practice?** _____

5. **Total years in general practice?** _____

6. **Postgraduate qualifications?**
(a) M/FRNZCGP
(b) Overseas M/FRNZCGP equivalent
(c) Dip Obs
(d) Dip Anaesth
(e) Other
(specify) _____

7. **Are you a member of the New Zealand Medical Association?**
 Yes
 No
8. **How many hours per month do you spend on CME/MOPS?** _____ hours
9. **Where did you obtain your medical degree?**
 (a) New Zealand
 (b) Australia
 (c) United Kingdom
 (d) Asia
 (e) North America
 (f) Other
 (Specify) _____
10. **What are your employment arrangements during regular day-time for your standard office hours?**
 (a) Self-employed
 (b) Salaried
11. (a) **Do you provide after hours cover?**
 Yes
 No
- (b) **If yes, how often do you provide cover on week nights (e.g. one in five nights)?**

- (c) **If yes, how often do you provide cover at the weekend (e.g. 63 hours every three weeks)?** _____
12. **What are your after-hours employment arrangements?**
 (a) Self-employed
 (b) Salaried
 (c) Not applicable
13. (a) **Do you provide medical care to rest homes?**
 Yes
 No
- (b) **If yes, do you claim GMS for rest home visits?**
 Yes
 No

14. **Number of half days worked per week** _____

15. **Average number of day-time patients per week** _____

16. **Do you undertake obstetric deliveries?**

Yes

No

17. (a) **Do you provide telephone consultations in place of face-to-face consultations?**

Yes

No

(b) **If yes, please estimate the number of hours per week for telephone consultations** _____

Appendix D: Nurse Questionnaire

NATMEDCA

National Primary Medical Care Survey

(E) A&M NURSE SURVEY

A&M Nurse Study ID number _____ A&M Clinic Study ID number _____

BACKGROUND INFORMATION

1. **Age at last birthday (years)** _____

2. **Gender**
Male
Female

3. **What is your ethnicity?** (tick the space or spaces that apply to you)
 - (1) New Zealand European
 - (2) Māori
 - (3) Samoan
 - (4) Cook Island Maori
 - (5) Tongan
 - (6) Niuean
 - (7) Chinese
 - (8) Indian
 - (9) Other

4. **What were your initial qualifications?**
 - (a) RGN
 - (b) RGON
 - (c) RCpN
 - (d) EN
 - (e) RM
 - (f) BA/BHSc/BN
 - (g) Other

5. **Please give any post-graduate qualifications** _____

6. **How long have you worked as a nurse?**
(approximate full-time equivalent years) _____
7. **How long have you worked as an A&M nurse?**
(approximate full-time equivalent years) _____
8. **Please indicate if you have a membership in a professional organisation.**
- (a) NZNO
- (b) College of Nursing
- (c) Other (*please specify*) _____
- (d) None

ACTIVITIES

9. **How many hours do you work at the clinic in an average week?**
hours/week _____
10. **Approximately how many hours do you spend on the following duties in an average week?** (Use decimals if appropriate, e.g. 2.3 hours)
- (a) **Direct patient contact** _____ hours
- (b) **Patient contact by phone** _____ hours
- (c) **Administration** _____ hours
- (d) **Housekeeping** _____ hours
- (e) **Other duties** _____ hours
(Specify) _____
11. (a) **Do any clients see only you (not the doctor)?**
- Yes
- No
- (b) **If yes, how many in an average week?** _____
12. **Does the clinic charge a fee if the client sees only you?**
- Yes
- No

13. Which of the following patient-contact duties do you *carry out*? (A) and which may be undertaken without *immediate* doctor referral? (B)

ACTIVITY TYPE	CARRY OUT (A)		INDEPENDENTLY (B)	
	Yes	No	Yes	No
(a) Immunisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Child care advice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Cervical screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Contraception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Dressings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Suturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Counselling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Dietary/lifestyle advice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(j) Repeat prescriptions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(k) Blood taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(m) Triage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Many thanks for helping us by completing this questionnaire.

The contribution of Rose Lightfoot in selecting these questions is acknowledged.

Appendix E: Clinic Questionnaire

NATMEDCA

National Primary Medical Care Survey

(A) A&M CLINIC QUESTIONNAIRE

A&M Clinic Study ID number _____ Please tick the appropriate box(es).

ACCESS

1. Please indicate the standard day, half days closed, and extra hours the clinic is open.

(a) standard day (e.g. 8.30 am – 5.00 pm) Open _____ Close _____

(b) half days closed (e.g. Wednesday pm) _____

(c) extra hours (e.g. Thursday evening or Saturday morning) _____

2. Does the clinic use a booking system?

Yes

No

3. If yes, what booking interval is usual? _____ minutes

4. (a) Do practitioners in the clinic make home visits?

Yes

No

(b) If yes, what is the average number of home visits made per week? _____

5. What after-hours arrangements does the clinic have? (tick all that apply)

(a) Provides own after-hours cover

(b) Member of collective after-hours service

(c) Sign out to after-hours service

(d) Other

(please specify) _____

6. Does the A&M clinic/organisation undertake any of the following?

(a) Formal community needs assessment Yes No

(b) Locality service planning Yes No

(c) Intersectoral case management Yes No

7. **What screening programmes with dedicated recall and follow-up systems are provided?**

- (a) Cervical smear
- (b) Diabetes
- (c) Mammogram
- (d) Other
(please specify) _____
- (e) None

8. **Does the A&M clinic provide:** (please tick all that apply)

- (a) Minor surgery Yes No
- (b) Mental health services Yes No
- (c) Group health promotion Yes No
- (d) Formal counselling services Yes No
- (e) Community worker services Yes No
- (f) Dental health services Yes No
- (g) Occupational medicine Yes No
- (h) Dedicated adolescent medicine Yes No
- (i) Dedicated older persons care Yes No
- (j) Sports medicine Yes No
- (k) Emergency/accident call out Yes No
- (l) Other Yes No
(If yes, please specify) _____

9. **Are maternity services provided by the clinic?**

(a) **By doctor?**

- Yes
- No

(b) **If yes, please tick all of the following which apply.**

- (a) Antenatal
- (b) Intrapartum
- (c) Postpartum

10. **Does the practice have the following equipment on site?**

- | | | |
|------------------------------|------------------------------|-----------------------------|
| (a) ECG machine | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (b) Equipment for intubation | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (c) X-ray facilities | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (d) Autoclave | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (e) Baby scales | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (f) Liquid nitrogen | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (g) Defibrillator | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (h) Cautery machine | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (i) Proctoscope | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

MIX OF PERSONNEL

11. **Please indicate the number of hours worked for clinic staff in the following categories:** (When one person performs more than one role, please estimate amount of time for each. Rough data is better than none at all!)

Worker category	Number of hours
a. Manager	
b. Reception staff	
c. Administrative staff	
d. Nurse	
e. Community worker	
f. A&M practitioner	
g. Rostered GPs	
h. Other (specify).....	

12. **What is the total number of rostered GPs?** _____

13. **Please indicate the number of staff according to the following ethnicity categories (excluding rostered GPs).**

- | | |
|--------------------------|-------|
| (a) New Zealand European | _____ |
| (b) Māori | _____ |
| (c) Samoan | _____ |
| (d) Cook Island Maori | _____ |
| (e) Tongan | _____ |
| (f) Niuean | _____ |
| (g) Chinese | _____ |
| (h) Indian | _____ |
| (i) Other | _____ |

QUALITY MANAGEMENT

14. **Does the clinic have a written policy on complaints?**
Yes
No
15. **Does the clinic have a written policy on critical events investigation procedures?**
Yes
No
16. **Does the clinic have a written training policy for staff?**
Yes
No
17. **Does the clinic have a written development policy for staff?**
Yes
No
18. **Does the clinic have a written policy for ongoing quality management (e.g. “RNZCGP quality programme, CHASP”)?**
Yes
No
19. **Does the clinic utilise a formal peer review process?**
Yes
No
20. **Does the clinic utilise evidence-based protocols and/or guidelines?**
Yes
No

INFORMATION SYSTEMS

21. Please indicate which of the following information systems are used by the clinic.

- | | | |
|-------------------------------------|------------------------------|-----------------------------|
| (a) Computerised age/sex register | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (b) Computerised patient records | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (c) Family-based records | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (d) Computerised disease register | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (e) Computer-based recall system(s) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

22. What percentage of patients have NHI numbers allocated? _____ %

SITE INFORMATION

23. What is the geographical location of the clinic?

- | | |
|---------------------------------------|--------------------------|
| (1) Large city (Auckland) | <input type="checkbox"/> |
| (2) City (100,000–500,000 population) | <input type="checkbox"/> |
| (3) Town (30,000–100,000 population) | <input type="checkbox"/> |
| (4) Small town (<30,000 population) | <input type="checkbox"/> |

24. Is the clinic in the central business district?

- | | |
|-----|--------------------------|
| Yes | <input type="checkbox"/> |
| No | <input type="checkbox"/> |

25. Please indicate the ethnic/cultural characteristics of the people seen at the clinic.

- | | |
|------------------------------------|-------|
| (a) % New Zealand European | _____ |
| (b) % Māori | _____ |
| (c) % Other Polynesian | _____ |
| (d) % Other ethnic groups | _____ |
| (e) % English as a second language | _____ |

FINANCIAL AND COMMERCIAL INFORMATION

26. **Please indicate which of the following best describes the clinic.** (Choose only one.)

- (a) Accident and Medical Centre
- (b) Health Care Aotearoa affiliated
- (c) Independent Practice Association (IPA) affiliated
- (d) Independent Practice Inc (including CareNet)

27. **Please indicate which of the following government subsidy payment systems apply to your organisation.** (Tick all that apply.)

- (a) GMS claims for individual consultations
- (b) Capitation
- (c) Holding pharmaceutical budget
- (d) Holding investigation budget

28. **What is the standard charge for a patient visit?** (Please fill in each box below.)

	CSC	HUHC	No card
Child <6	\$	\$	\$
Child >6	\$	\$	\$
Adult	\$	\$	\$

29. (a) **For what percentage of visits are patient fees reduced?** _____ %
 (b) **For what percentage of visits are patient fees waived?** _____ %

30. **Is there any category of consultation for which there is no charge (e.g. contraceptive advice)?**

- Yes
 No

If yes, please specify. _____

HISTORY

31. **When was the clinic established?** Year _____

32. **What were the key reasons/events leading to the establishment of the clinic?**

33. **Who are the key sponsors now?** (tick as many as apply)

- (a) None
 - (b) Union
 - (c) Community organisation
 - (d) Other
- (Name) _____

34. **What is the legal structure of the clinic?**

- (a) Sole trader
 - (b) Partnership
 - (c) Community trust
 - (d) Incorporated society
 - (e) Limited liability company
 - (f) Other
- (Please specify) _____

MANAGEMENT STRUCTURE AND COMMUNITY PARTICIPATION

35. (a) **Does the clinic organisation have a separate management committee?**

Yes

No

(If no, go to question 36)

(b) **If yes, is there patient representation on the committee?**

Yes

No

(c) **What appointment/election procedures are used for management committee?**

36. **What role does the clinical staff play in the following:**

(a) Clinical organisation (e.g. scheduling) _____

(b) Financial management _____

37. **Are you a “Māori provider” (i.e. eligible for Māori provider funding)?**

Yes

No

Glossary and List of Abbreviations

ACC: Accident Compensation Corporation – administers the New Zealand accident compensation scheme covering work and non-work injuries.

Actions: actions undertaken by a GP – including prescribing, dressings, physical treatment, surgery, screening procedures, immunisation, reassurance, counselling and certification.

A&M clinics: Accident and Medical clinics – these provide extended-hours primary health care cover and allow access without an appointment. The majority are situated in Auckland or Hamilton.

AMPA: Accident & Medical Practitioners' Association.

ATC: Anatomical Therapeutic Chemical – a system for classifying pharmaceuticals.

BA: Bachelor of Arts.

BHSc: Bachelor of Health Science.

BN: Bachelor of Nursing.

BP: blood pressure.

Capitation: a funding arrangement under which a general medical practitioner, or a group of practitioners, receives funding based on the number and characteristics of the patients registered with them for care.

CNS: central nervous system.

Community-governed practices: primary health care providers whose governance rests with a community body and in which the practitioners and other workers do not share profits.

CSC: Community Services Card – allows access to government subsidies for primary health care and medication; eligibility depends on economic need.

Disability: includes short-term (e.g. influenza) as well as long-term (e.g. sequelae of stroke), major and minor.

ECG: electrocardiograph.

ED: Emergency Department – operated at the public hospital in each large town.

EN: Enrolled nurse.

ENT: ear nose and throat.

Fe: iron.

FTE: Full-time equivalent.

GMS: General Medical Services benefit – a payment claimed from the government by GPs on behalf of eligible patients.

GP: general practitioner.

Hidden agenda: a problem the patient wishes to have dealt with but has difficulty mentioning.

HUHC: High User Health Card – allows access to government subsidies for primary health care and medication; eligibility depends on frequent use of primary medical care.

Independent practitioners: self-employed practitioners not belonging to an IPA.

IPA: Independent Practitioners' Association – undertakes contract negotiations, administrative functions and programme development for a group of GPs.

MOPS: maintenance of professional standards – a system for ongoing education of GPs.

NAMCS: National Ambulatory Medical Care Survey – an ongoing US survey which was the basis for the methodology used in this study.

NatMedCa: National Primary Medical Care Survey 2001/02, of which this document is the fifth report.

NSAIDs: Non-steroidal anti-inflammatory drugs.

NZMA: New Zealand Medical Association.

NZNO: New Zealand Nurses Organisation.

Problems: issues identified by GPs for which the patient requires assistance; they include standard (including provisional) diagnoses, symptoms, psycho-social difficulties, the need for prescription medicines, practitioner-identified issues, administrative tasks and prevention or screening.

Problem status: new – first presentation of a problem; short-term follow-up – review of a problem expected to resolve completely; long-term follow-up – review of a chronic problem; long-term with flare up – a chronic problem with deterioration or new complication; preventive – a visit for screening or immunisation, etc.

Rapport: a GP's perception of the quality of the relationship with the patient during consultation.

RCpN: Registered comprehensive nurse.

READ: a classification and coding system for reason-for-visit and diagnosis in primary medical care, officially adopted in New Zealand.

Referral: the direction of a patient to an additional source of care.

RfV: Reason-for-visit – the statement of a patient's reason for visiting the GP.

RGN: Registered general nurse.

RGON: Registered general and obstetric nurse.

RM: Registered midwife.

Sed: Sedimentary.

Severity: a GP's assessment of the capacity for harm of the most severe of the patient's problems; this covers life-threatening (applies only to a new problem), intermediate and self-limiting.

RNZCGP: Royal New Zealand College of General Practitioners.

Social support: includes assessment of primary and family/whānau relationships, housing and neighbourhood, work, transport and financial resources.

Treatment: synonymous with action.

Uncertainty: the degree of a GP's lack of certainty as to how to manage the patient (uncertainty is low if diagnosis is uncertain but the need for emergency referral is clear).

Urgency: a GP's assessment, in hindsight, of the time within which the patient should have been seen; applied to the most urgent problem detected.

Visit: an interaction between GP and patient; synonymous with consultation and encounter.

WaiMedCa: Waikato Medical Care Survey 1991/92 – the previous survey similar to that reported here.

White Pages listings: the section of the telephone directory that lists Medical Practitioners and Clinics.