After Hours Primary Medical Care Services in Australia

An analysis of research, current data and activity

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Foreword

This paper has been publicly released by the Commonwealth department of Health and Aged Care as part of the Department's Occasional Papers: New Series. The purpose of the series is to promote informed debate on some key policy questions confronting Australia in the area of health and aged care.

The author, Dr. Rob Pegram, is a Senior Medical Adviser in the Health Services Division of the Department. He has spent six years in this position advising on GP reform issues and is currently responsible for the After Hours Primary Medical Care Trials. The analysis and views expressed in the paper remain the author's and are not necessarily those of the Commonwealth Government.

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Comments and other views on issues raised in the paper are welcome and should be directed to the author at rob.pegram@health.gov.au or in writing to Dr. Rob Pegram, GP Strategic Policy Development unit, MDP 71, GPO Box 9848, Canberra, ACT,2601. Extra copies of the paper can be obtained from the same addresses.

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1 Background

The organisation and provision of after hours primary medical care services involves a complex set of issues involves a complex set of issues. Clearly there is a need for such services as people become ill at all hours. It is equally clear that a single individual provider cannot be expected to provide services at all times. A number of questions arise in this context. What can consumers reasonably demand of a health system in terms of the provision of after hours primary medical services and what is the best way of meeting this demand? How should this be paid for? Is it equitable to use price signals to control demand? What is the clinical content of after hours care and does it differ from in hours reasons for encounter? What are the training and safety issues for practitioners who provide this care? Does it all need to be provided by medically trained people? If not, how should the balance be achieved? What is the current mix of after hours services in terms of organisation and patterns of service provision, and what are the trends over time? What options for reform are feasible? Where is the line between public and private provision? These are some of the key issues that this report seeks to address using a mix of information derived from the literature, Divisions of General Practice project reports, GPEP grant reports, analysis of the Health Insurance Commission Medicare data set (HIC) and the Bettering and Evaluation of the Care of Health (BEACH) data. Some of the data presented are published for the first time. The report seeks to draw from this information likely successful models of after hours service provision and funding, and to create a basis for the debate of issues concerning the provision of after hours primary medical care services.

2 Literature Overview

Most literature concerning after hours services at the primary care level is concerned with the organisation, utilisation of and payment for services – not the clinical content or health outcomes. Few studies are Australian. Whilst there are a number of intervention studies most are descriptive and often follow imposed changes. Findings in overseas research need to be interpreted carefully given the diverse arrangements for the way in which primary care is organised and paid for across different systems and even within the same system. In addition, the arrangements for the provision of primary medical services after hours in different

countries reflect historical relationships, culture and structures that may not be transportable. Few studies looked at patient outcomes. This paper presents a literature overview to establish a knowledge background to inform the discussion presented later. It is not an exhaustive literature review search - rather it is intended to tease out key issues. Material was gained by searching MEDLINE using the terms “after hours” and “general practice”. All items from 1980 to 1999 in English were included. 150 articles were found. Comments and letters were excluded but editorials were used where important points of principle and/or policy were made. In addition to the literature, the paper also draws on reports and other materials available at the time of writing.

2.1 Selected Studies - United Kingdom

The literature has a large body of contributions based on the UK health system. The impetus for many studies has been the imposition of reform changes such as the new GP contracts of the early 1990’s that required practices to be responsible for the 24 hour care of their list patients. It is still by no means clear as to what the “UK” model should look like as there remain considerable variations at the local level. However, there is an emerging support for cooperative structures supported by triaging systems. The use of deputising services remains high in many areas. There is no literature as yet on the role of the new Primary Care Groups in the organisation and provision of after hours services, but two major reports are now available on the impact of the NHS Direct national call centre service (discussed in a later section) and, more recently, the NHS has released a major review of out of hours issues (Carson 2000). There is also some overlap between home visits and emergencies (required all hours) and the provision of after hours services. The relationship between GP services and hospital based emergency departments remains undefined.

It is well documented that people of lower socioeconomic status are high users of health services. A study by Carlisle et al (1998) in Nottingham used a deprivation score (Jarman index – see Po 1998 for brief definition and key literature on this index) in examining the use of after hours services. They found that the incidence of after hours events varied from 110 to 350 per 1000 registered patients per year. They also concluded that rates of attendance at accident and emergency departments were high in areas where after hours service provision by GPs was also high – that is, no substitution appeared to be occurring. In addition, they concluded that close proximity to an accident and emergency department was not a predictor of usage once deprivation score was taken into account. This differed from a similar cited study in Northern Ireland that found that proximity was a predictor of usage of accident and emergency departments.

An earlier study in London using two practices showed after hours usage rates of around 130 per 1000 patients per year and night visit rates of 19 per 1000 patients per year. The study also shows that 24% of after hours requests were dealt with by telephone (Livingstone et al 1989). This is similar to the figures provided by Heaney and Gorman (1996) who found that

in an audit of eight general practices there were 265 calls per 1000 patients per year with 63% of calls resulting in a home visit and 29% receiving telephone advice only. Eighteen per cent of calls required a night visit (a rate of about 45 per 1000 per year). It should be noted that this study was done after the 1992 contract came into force compared with the previous 1989 study. The national average number of night calls per GP per year rose during that time from 39 in 1989 to 65 in 1991 (Richmond 1996). About a third of the calls were deemed as "trivial" by the GPs. These studies were descriptive rather than intervention designs.

Brogan et al (1998) used a cross sectional survey to examine the patient contacts and costs of out of hours services provided by general practices, accident and emergency departments, ambulance services and community nursing services. Contact rates varied from 21 per 1000 population per year for ambulance services to 197 contacts per 1000 patients per year for general practices – accident and emergency departments rated 117 contacts (note the comparison to the previous study). The main reasons for attendance differed across services – in particular for general practice 23% were for URTI, 12% GIT symptoms, 8% ear pain, 7% chest infections and 5% abdominal pains. For A&E services the main reasons for attendance were injuries (29%), lacerations (11%), fractures (5%) and GP referral for specialist assessment (9%). The low percentages reflect the large range of conditions, typical of primary care medicine. There was no comparison with case mix "in hours" in this study. An attempt to analyse costs associated with each type of service did not provide any useful conclusions due to incomplete data and variable payment systems. The distribution of clinical issues should be compared to Australian data presented later in this report, keeping in mind that the classification of clinical problems used is an important variable.

Another view of the issue of primary care and emergency departments is contained in a series of papers based on a large study of the impact of GPs working in emergency departments. This was not an "after hours" study – in fact most of the data was collected on attendances between 10 am and 9 pm. The first part of the study examined prospectively the effectiveness of nurse triage to sort out "primary care" patients from "ED" patients. In terms of patient characteristics, those triaged into primary care were more likely to be young adults, have symptoms of longer than 24 hours duration and have problems not related to injury. Despite this some 9.7 % were subsequently referred to admitting teams. The paper states "many patients in this category, however, receive interventions likely to support their decision to attend accident and emergency." (Dale et al 1995). The second paper in the series examines the difference between GPs and hospital doctors in terms of ordering of investigations, prescriptions or referrals (Dale et al 1995). Patients triaged as primary care were allocated to either a GP, junior doctor or registrar. A room specifically set up for primary care consultations was provided. GPs tended to prescribe less (of mainly antibiotics, analgesics and non- steroidal anti- inflammatories), order less investigations and referrals but junior doctors and registrars did not differ – suggesting that experience alone was not an explanatory variable. There were a number of interpretation issues raised by the investigators, including

generalisability. The third paper examined patient and economic outcomes (Dale et al 1996). The cost of care was measures along with 7-10 day post attendance measures of health status and satisfaction. The paper concludes “Management of patients with primary care needs in accident and emergency department by general practitioners reduced costs with no apparent detrimental effect on outcome.” This series needs to be interpreted with caution, as it should be clear that a) this was not an “after hours” service, b) the patients were triaged first and c) there was a specific primary care consulting facility in the ED. Also, the study does not indicate whether the approach made any impact on waiting times or attendance numbers.

A similar study by Murphy et al (1996) looked at the cost effectiveness of GPs in an emergency department in Ireland. The study found a similar saving in costs of care for no loss in outcome. However, this study differed from the first in two key areas. First, the design was a randomised controlled trial - although there were problems in keeping the randomisation process intact. Second, the trial targeted all non- emergency patients, not only primary care type patients. That is, the GPs were scheduled to see particular categories of patients in the emergency department, rather than primary care type patients in a facility specifically designed for this.

In commenting on this research Robertson-Steel (1998) makes a couple of important points. First he states “ These studies allow us to reach the following conclusions. Firstly, about 40% of new attenders in accident and emergency departments can be safely triaged by trained nurses to receive primary care. Secondly, general practitioners working in accident and emergency departments can safely and effectively treat these patients at less cost than hospital doctors.” The second point made is that there ought to be a specific “primary care” triage classification independent of the urgency system used. This has significant implications for Australian emergency departments and should be considered for further development.

Avery et al (1999) provide clinical information on the Nottingham after hours study referred to previously. The top 20 presenting conditions are depicted in table 2.1 along with the proportion of that type of problem dealt with by telephone advice only. It would be convenient to compare this data to the BEACH data presented later on Australian practice. However, the classification systems used are not comparable. Nevertheless, it is interesting to note the absence of any psychological presentations, including insomnia, in the UK data.

An audit of an urban Scottish deputising service by Soler et al (1991) demonstrated that the most common condition seen was respiratory illness (26%) followed by other infections (15%) and “ill defined conditions” (14%). Thirty four of 450 patients were admitted to hospital for myocardial infarction (23%), respiratory disease (18%) and gastrointestinal problems (18%).

Jessopp et al (1997) looked at general practice cooperatives established to provide after hours services, and found them to have naturally formed into groups ranging from 20 to 256 GP members (mean 82) – again similar to Australian Divisions of General Practice of medium

Table 2.01 : Presenting Problems in 3181 contacts (after Avery et al 1999)

Presenting Problem	Problems (%)	Telephone only (%)
Fever	396 (10)	108 (27)
Abdo pain	329 (8)	64 (19)
Vomiting (no diarrhoea)	248 (6)	88 (35)
Cough	172 (4)	38 (22)
Shortness of breath	160 (4)	17 (11)
Headache	156 (4)	44(28)
Earache	133 (3)	40 (30)
Accident/injury	123 (3)	51 (41)
Chest pain	121 (3)	28 (23)
Diarrhoea (No vomiting)	116 (3)	41 (35)
Diarrhoea and vomiting	105 (3)	51 (49)
Sore throat	98 (2)	23 (23)
Advice re medication	93 (2)	83 (89)
Generalised rash	88 (2)	39 (44)
Back pain	86 (2)	22 (26)
Excessive crying	79 (2)	26 (33)
Localised rash	64 (2)	22 (26)
Vertigo/dizziness	49 (1)	26 (33)
Head cold	45 (1)	22 (34)
Neck pain	43 (1)	18 (37)
Total	4062 (100)	1269 (31)

size, although variation by a factor of 10 would imply that it is by no means clear as to the optimum size. There is no discussion as to what may determine the size of groups.

Lattimer et al (1996) asked GPs as to their preferred intention with respect to the provision of after hours services and found that 61% of a group of 123 GPs hoped to reduce their commitment to out of hours work with 25% hoping to opt out completely. As Brogan et al (1998) observed, use of deputising services may reflect their availability more than a deep commitment from GPs to provide 24 hour coverage. Indeed, one UK study found the key themes emerging from GP focus groups relating to the provision of after hours services were:

Dislike of out-of-hours work
Damage to family life
Worry about safety when on call
Stress caused to the doctor and his/her partner
Anger felt by the doctor when on call
(Charles-Jones and Houlker 1999)

The focus groups were asked about GP cooperatives as a possible way of organising out of hours services. Whilst the study has admitted limitations it did conclude that "out of hours work is viewed less negatively and has less effect on the lives of the participating GPs and their families once such a cooperative has been established."

A short survey by Longhurst et al (1998) of GP registrars found that where a practice handled its own after hours work trainees worked an average of 16 hours per month on call (range 4 – 56 hours). This compared to trainees in practices that were part of a cooperative who worked an average of 6.6 hours per month on call (range 0-40 hours). This survey also highlighted registrars' perceptions of training shortcomings with respect to handling telephone consultations, home visits and inter-agency referrals and communication. This suggests that organisational as well as clinical skills required for after hours work are different to the skills required for work performed in hours in a surgery setting.

Heaney at al (1998) published a study of self reported stress levels in 36 GPs in Scotland before and after forming an out of hours primary care centre. The lowering of stress scores over the study led the authors to conclude " overall stress levels decreased and arousal levels increased…..These results suggest that out-of-hours cooperatives may alleviate stress and this is an important finding for GPs." A more general survey concerning the determinants of stress and poor health of GPs was published by Appleton et al in the same year. Out of hours commitments including on call work were seen as one of a number of issues that had driven overall job satisfaction levels and health status down over a 4 year period, after the introduction of the 1990 contracts (Appleton et al 1998).

Salisbury (1993) examined trends from 1982 to 1992 in the provision of night visits in the UK in a retrospective analysis following the change in remuneration arrangements occurring in 1990. This allowed for higher fees where a night visit (defined as between 2200 and 0800 whereas previously set at 2300 to 0700) was performed by the patients' own GP as opposed to a deputising service. The study tried to explain how much of the observed increase in services was due to the change in hours in which the fee applied, as against the change in payment.

Between 1989 and 1992 there was a 39% increase in night visits even when the extended hours were allowed for. Salisbury's explanation is of an ongoing increase in demand (ie demand driven) rather than increased service provision in response to the fee increase (supply driven). This explanation is offered despite the observation that deputising GPs handled only 3% of inquiries by phone whereas GP practice principals handled about 35% of calls through phone advice only.

The GP cooperative is an expanding option for out of hours care, particularly in Europe. Salisbury's later study demonstrates that GPs provide services differently under this model as compared to deputising services. Calls were handled as telephone advice by the cooperative on 57.8% of occasions (deputising service 19.3%) whereas visits were provided on only 32% of occasions (76.3%), (Salisbury 1997). This pattern occurred across all age ranges. This

suggests that within the same overall health system with constant remuneration systems the way in which out of hours services are organised will influence the way in which services are provided, regardless of presenting complaint. The deputising services also tended to provide more prescriptions (51.7 % of patients seen compared to 37.7% for cooperative services). This may reflect a different case mix and/or a different workforce with different practising habits.

In a comprehensive randomised study by Cragg et al (1997) this same differential was noted between deputising services and patients seen by their own practice after hours. Here prescribing rates were 63.2% versus 56.1%. Their conclusion is that "by contrast with practice doctors, deputising doctors providing out of hours care less readily give telephone advice, take longer to visit at home and have patterns of prescribing that may be less discriminating." A second paper by the same authors on the same sample looked at outcomes of care (McKinley et al 1997). The extension study also looked at patient satisfaction and found that one of the major differences – that of delays in visiting, was also a major point of satisfaction/dissatisfaction with patients. However, despite the differences in style of service and satisfaction levels there was no significant difference in health outcome between patients seen by deputising doctors versus practice doctors. However, it should be noted that the score to measure outcome in this study was a general health status score, and not resolution of the presenting symptoms/condition.

Bain et al (1997) describe the outcomes of a Dundee cooperative after one year. The cooperative had a contact rate of 272 per 1000 patients. The cooperative had two GPs operating who managed the 24,746 calls by telephone advice (37%), consultation on site (23%) or home visit (34%). Seventy one percent of patients responding to a survey expressed a view that the cooperative arrangements were an improvement on previous arrangements. Home visiting GPs were accompanied by a security guard.

A recent study on patient satisfaction produced similar results (Shipman et al 2000). Whilst the response rate of 53.2% is not high, raising issues of representativeness, the survey results indicated that patients were equally satisfied with practice based, co-operative and deputising service arrangements. Patients were least satisfied with telephone consultations. Difficulty in contacting a service and arranging a home visit were associated with increased attendance at emergency departments. This study used the same methods as the earlier study of Salisbury (1997) and would seem to indicate that there has been some shift towards acceptance of co-operatives over the last 4 years.

A study in the UK used a nurse triage system (SWOOP 1997). The series was small (56 calls) but demonstrated the capacity of appropriately trained nurses to deal with unfiltered incoming calls. Thirty eight percent were handled by the nurse alone and no initial nurse clinical assessment was changed when the patient subsequently saw a GP. The small sample needs careful interpretation as many serious and complex problems in primary care occur

infrequently, and may not have occurred in the time of this study. This contrasts with the reforms in Scandinavia where GP run triage systems are in place. However, a year later a more extensive study under the SWOOP system was published based on a randomised trial of nurse telephone triage versus GP management of calls (Lattimer et al 1998). The study looked at adverse events as outcome measures (deaths, emergency admissions and A&E attendances) and found no statistically significant difference across over 7000 patient contacts in each arm. The study used "experienced and specially trained nurses". This arrangement has, of course, been in place in many rural communities for many years.

An additional small study in a South Tyneside practice of 11,300 registered patients found that a nurse triage telephone system was also effective in reducing daytime surgery workloads – a useful outcome where volume of services and income are not inter-related (Gallagher et al 1998).

The needs assessment project in London (Dale et al 1997) produced a list of problems faced in providing after hours general practice services which mirrored those discussed at the after hours forum held in Canberra in 1997. These were: meeting variable local needs, appropriateness of provision and usage, access and availability, communication between providers and other agencies, professional isolation and personal safety, quality and accountability of services, training and education needs in relation to out of hours working. This may reflect the growing gap in many developed countries between the expectations of consumers for ready, cheap, quality services and the ability/desire of providers to work the necessary hours to provide that service. Linked to this is the perception that many presenting complaints are of a medically trivial nature although most studies use the provider's assessment of this – patients may not be in a position to make such judgements.

Hallam published a review in 1994 which summarised the after hours literature to date drawing mainly from the UK experience (Hallam 1994). Data presented confirms the view that GPs have undergone a fundamental attitudinal change towards providing 24 hour care. For example, between 1964 and 1977 the proportion of GPs on call for five or more nights each week fell from 39% to 9%. In the five years from 1985 to 1990 the average number of hours spent on call between 1pm Saturday and 8am Monday fell from 26 hours to 22 hours. Regional variations observed were similar to the Australian data presented by Mira et al (1995). Where deputising services were available they tend to be used as the preferred option. The lack of availability of deputising services has created some impetus for cooperative services. Single handed practices (including night work) fell from 43% of practices in 1952 to 11% in 1989. This period also incorporates major population changes, technological advancements and alterations to what GPs do and how they are paid. Nevertheless, the organisational changes allowed cooperatives to develop more easily. On the demand side, studies have suggested that between 41 and 60% of calls were classified as "unnecessary". One criticism of general practice has been its unwillingness to provide after hours care which has resulted in more pressure on accident and emergency sites. Hallam cites studies that show

that only 3-6% of patients attending accident and emergency sites had previously tried to contact a GP, even though they may be aware that a GP service was available.

Hallam and Cragg (1994) surveyed family health services authorities in England and Wales to determine the current pattern of organisation and provision of after hours services. An interview was used to gain information with items based on the previously mentioned literature review findings. Ninety seven of 98 authorities responded. Interesting results are that the mean number of night visits per GP per 1000 patients per year was 47. Rural and semi-rural rates were lower than urban rates with the exception of greater London area. This survey also provides information on the type of service provided in that in 46 urban areas deputising services were available and 75% of GPs had consent to use them but only 21% of night visits were covered by these services. Hence, many urban GPs provided a mix of their own care plus use of the deputising services on occasions – not unlike the Australian situation.

In 1990 in the UK a new government contract was imposed. There was considerable professional dissatisfaction with the government's response to the increasing use of deputising services for the provision of after hours care. All GPs were made responsible for the 24 hour care of their list patients and a significant premium was paid if that care was directly provided by the practice GPs (48 pounds for a home visit compared to 16 pounds if performed by a deputising service). A number of studies looked at the effect of this change. A survey of GPs by Sutherland and Cooper (1992) found increases in stress from night calls, emergencies during surgery hours and interruption of family life by telephone calls after the contract compared to before. Scores for somatic anxiety and depression also increased in both male and female GPs. Job satisfaction scores decreased. The survey used a number of previously validated scales and changes were significant at the $p< 0.001$ level.

Patient assessment of after hours services was studied by Bollam et al (1988) prior to the new arrangements under the fundholding era following the 1990 GP agreement in the UK. The study admitted to sampling problems questioning the generalisability and representativeness of their results. They found that young people and people with sick children were least satisfied with the service obtained whilst those over 60 were most satisfied. The study suggested that practices provide written information on out of hours arrangements – a requirement in the RACGP entry standards for Australian general practices (RACGP 1996).

A later study interviewed patients who contacted an after hours centre and were asked to attend the centre, as opposed to receiving a home visit (Cragg et al 1994). An average of 22.4% of those ringing agreed to attend over five centres (range 8.9 – 52.3%). The major reasons for non-attendance were no transport (40.3%) and too ill (34.5%). There was no significant difference in outcome as measured by prescribing rates or hospital admission rates between attenders and non- attenders.

An important survey by Hobbs (1994) looked at the issue of safety for GPs. A retrospective self-reported survey indicated that 71% of GPs who graduated from India or Pakistan and 51% of UK graduates had experienced some form of patient intimidation in the previous 12 months. These figures rose to 90% and 73% respectively for night visits. These figures are broadly consistent with the Australian findings reported elsewhere in this paper. Hobbs concludes that specific training is required to equip GPs to be able to better deal with aggressive patients. It is common to hear the argument that after hours services need to be better remunerated – yet the link between payment and safety is not clear apart from the capacity to employ security drivers/guards.

A study by Baker et al (1994) demonstrated that in the study area (90 family health services across England) the impact of the new contract in its first year was an increase of 33% in night visits by practice principals and a 19% reduction in night visits by deputising GPs. Interestingly the increase was largely in services to the elderly living alone and the affluent suggesting some discretion by the GPs in how they respond to calls.

A study by Court et al (1996) examined factors that influenced a GPs decision to undertake a home visit by asking 720 GPs to rank them. The top five factors were if a patient/carer says that it is urgent; GP not wanting to miss an urgent condition; if a visit is demanded; if the patient is (or claims to be) unfit to travel and wanting to avoid complaints. Interestingly, two of the factors deemed not to be relevant in the decision included concern for personal safety and worrying about coping tomorrow.

One of the issues currently debated in Australia is the relationship between general practice and emergency departments of public hospitals, particularly in urban areas where there is a perception that A&E departments are used as “GP services” by some. A study in London looked at this issue at a population level by examining the use of an A&E by patients registered to two large practices (18,000 patients) (Hull et al 1998). The study found that frequent attenders at A&E were also frequent attenders at the general practice surgery, suggesting that , at least in this group, substitution was not occurring. Most (80%) A&E attendances were self referred with 12.4% GP referred. Nearly 20 % of attendances occurred after hours, despite the practices utilising a deputising service and running extended hours clinics (to 10pm), although the overall attendance rate of 163 per 1000 patients per year is below the national rate of 241 and the inner London rate of 176. Of the GP referrals only 8.6% were “after hours” ie between 10pm and 8am – suggesting that most after hours attendances are self referred. The study concludes that if patients who know about practice arrangements still chose to use the A&E for primary care attendances, it would seem sensible to pursue a primary care in A&E approach to service organisation. Also, if this finding is not locally specific it would indicate that expanding access to GP based after hours services may not necessarily reduce A&E attendances.

2.2 Selected studies -Scandinavia

GPs in the study of Brogan et al (1998) complained that many of the attendances were of a trivial nature – as judged by the GP, not the patient. Denmark has attempted to deal with the increased demands on GPs for trivial complaint services after hours by instituting a telephone triage system, run by GPs (Olesen and Jolleys 1994). The fee structure was set up to encourage the provision of telephone advice in preference to visits which could occur, either at the patient's home or at another site. A secondary effect of potential interest to Australia was the reduction in pressure on rural GPs and the capacity to improve their remuneration for after hours work at the same time. Christensen and Olesen (1998) present data from the first five years of this program. During this time telephone consultations have almost doubled to 48% whereas home visits were reduced to 18% of all services - the remainder being surgery consultations. It should be noted that telephone consultations, properly recorded, are remunerated, thereby removing the financial incentive to see the patient. The system relies on a county infrastructure covering 50-600,000 people – not unlike Australian Divisions of General Practice in size. Unfortunately there is no data on patient outcome, although the authors rely on the study by McKinley et al (1997) from Leicester which did demonstrate no significant difference in health outcomes between patients managed by deputising services and their own GPs.

There is no doubt that there has been a change in attitude to out of hours work by many GPs over recent times. The Danish study of Christensen and Olesen noted that the advent of telephone out of hours services had been accompanied by a rise in the percentage of GPs opting out of out of hours work from 23% to 36% over three years. Additionally, a study of patient satisfaction revealed that this fell after the change from 87.3% to 72.3% one year after the change and 80.9% three years after (significant at p=.0002). This may simply indicate resistance to change per se, but over that time telephone consultations doubled while home visits dropped to a third of pre-change levels (Hansen and Munck 1998).

A large study was undertaken by Vedsted and Olesen (1999a) where 101,321 adults who had contacted an after hours practice in 1990 were longitudinally followed for four years. The purpose of the study was to examine the use of after hours services by "frequent attenders" (FAs) who made up 10% of the population. These people, all adults, made 42% of all the after hours contacts in the first year. Whilst 25% of FAs contacted the service in each of the four years of follow up only 7% of the original cohort remained FA at the end of the study. This led the authors to conclude that frequent attendance was a short lived phenomenon. No other studies with a longitudinal cohort were found for comparison. The same authors also published a study that examined the impact of the introduction of the telephone triage system in Denmark. They concluded that "The reorganisation of the after hours service produced a significant fall in attendance and costs, especially with respect to adult FAs." (Vedsted and Olesen, 1999b).

An interesting study in Finland looked at the reasons for referral from general practice to hospitals during weekends (Vehvilainen et al 1998), using ICPC as the coding mechanism. They found that the GPs working at the weekends tended to be younger and less experienced. One hundred and seventy eight GPs made 530 referrals over two weekends for a population covered of 1.5 million people. This converts to approximately 10 weekend referrals per 1000 people per year. More patients were male (53%) and, on Saturdays, males 15-64 years constituted 62% of referrals. The main reasons for referral for males were fractures (13.3%), sprains/injuries (6.4%), atrial fibrillation (3.9%) abdominal pain (3.9%) and Infarctus cordis (3.6%). For females the main reasons for referral were fractures (13.2%), abdominal pain (6.6%), sprains/other injuries (5.7%), angina (4.1%) and abortion (3.7%). Clearly, trauma and major illness are key reasons for referral. Nevertheless, these significantly ill patients were initially seen in primary care settings.

2.3 Selected studies -Other Countries

Substitution occurs where patients seek the services of emergency departments for complaints that would otherwise have been handled by a general practitioner. Roberts and Mays (1998) undertook a literature review of this issue. They point out that "while there has long been evidence to suggest that poor access to primary care services leads to inappropriate pressure on hospital emergency departments, the extent to which primary and community –based services can attract patients with minor illness and injury away from the emergency department is less clear." Their review demonstrated that eight out of nine included studies showed that an increase in the provision of local primary care services results in large reductions in demand for accident and emergency services, in contrast to the earlier cited study from London (Hull et al 1998). The studies used spanned the USA, Canada, Sweden UK and Israel, which illustrates the likelihood of different conclusions in different countries when the same issues are examined. Most of the studies that showed reduced impact on emergency departments as a result of the expansion/reorganisation of primary care services, were daytime interventions. The reviewers were disappointed with the lack of studies that focused on out of hours service delivery in terms of the interplay of accident and emergency services, general practice and deputising services. The few studies that were specifically focused on out of hours interventions failed to show significant impacts. Hence, it seems that demand on emergency departments during normal office hours can be reduced by improving primary care services, but the same cannot be said for after hours care. Perhaps there is a consumer perception that after hours primary care is fundamentally different to office hours care and this perception impacts on choice of service when problems occur out of hours.

Gribben published a random population survey of general practitioner services in the south Auckland region in New Zealand (Gribben 1993). Although a little dated now given the New Zealand reforms in primary care since that time, the survey did show that patients were least satisfied with charges (3.00), home visit access (3.31), weekend services (3..39) and after

hours services (3.48) – using a scale of 1 (least) to 5 (most satisfied). Satisfaction was lowest in indigenous people and the young. The conclusion was that essentially GPs could improve satisfaction by providing more (better access to more services) for less (reduced charges) – not a surprising finding!

A Canadian study looked at the availability of primary care paediatricians and family physicians across several cities (Patel et al 1997). Availability varied from a high of 92.4% (in Winnipeg) to a low of 26.9% (in Montreal). Older doctors were more likely to be available after hours than younger. The authors raise the interesting "chicken and egg" question as to whether reduced availability results from the growth of alternative sources of care (eg deputising services), or whether these latter services have emerged to meet demand following the reduction in availability of physicians.

Also in Canada, Bass et al (1998) looked at trends in workforce and work practices from 1974 to 1994 in London, Ontario. They found that compared to 1974, family physicians were seeing more patients per week, doing less hospital and almost no home visits but more weekend work in 1994. The percentage of solo practitioners also decreased significantly, as did the proportion practising obstetrics. The study suggests a clear trend to office practice, although in this case accompanied by an increased weekend workload. This data complements the earlier study by Cohen et al (1991) that looked at gender differences. They found that female general practitioners were more likely to be working part time and saw fewer patients, but more females. They were less likely to provide house calls, after hours services, hospital care or surgical services. They were more likely to order laboratory tests and to provide psychological services. There are obvious workforce implications, particularly in the context of this report – ie, the provision of an after hours workforce – if this pattern were replicated in Australia, and there is some evidence later in the report that this is the case.

Finally, a small study in Lebanon looked at the reasons for and distribution of house calls (Sarru and Abyad 1998). Whilst the calls were scattered across the 24 hour period, most calls were conducted between 6 am and 6pm (46%) and 6.30 pm to midnight (47%). Only 6% of calls came after midnight, consistent with Australian data on this period (see later).

A comprehensive literature review has been carried out in the context of the National Evaluation of the After Hours Primary medical Care Trials and is awaiting finalisation for publication.

3 Call Centres and telephone triage

The demand for after hours primary medical care services is at odds with the decreasing willingness of providers (GPs in particular) to provide such services. One option that has been explored for dealing with this problem is the use of call centres. There are a number of variations on this theme but basically the idea is to provide a site based first point of contact for consumers staffed by either trained lay people, nurses or GPs who can provide advice.

This advice may range from information and/or reassurance through simple instructions to arranging a home visit or some other service. It is possible to have a call centre without triage services (such as health information services) and, conversely, it is possible to have a traige service that is not a call centre (such as that provided by nurses in hospital emergency departments) . Often the two are mixed. In addition, most call centres with a triage function are 24 hour services, rather than after hours only. However, it is clear that such services can potentially reduce demand on face to face service provision . The dilemma is that during the day service providers dependent on volume throughput for income may see such services as unreasonable competition, whilst after hours such services may be seen as reducing pressure on providers to provide services around the clock.. Certainly any widespread implementation of call cntre services needs to address the impact on existing services.

There is a range of overseas experience in this area and most of the Australian After Hours Primary Medical Care Trials (AHPMCTs) have a call centre methodology in that a single point of contact is provided. Telephone triage is a specific example of call centre approach. Call centres can be used as a demand management tool (Bleich 1998) and have been used widely throughout industry such that the Australian National Audit Office has produced a handbook called a “Better Practice Guide” (ANAO 1999). They are not without critics. For example, the BMA has criticised the expansion of the NHS Direct nurse triage system ahead of the outcomes of its evaluation (McKee 1998).

The SWOOP project has already been mentioned (SWOOP 1997). The importance of appropriate training was examined in a small observational study on paediatric resident medical officers. The study found that the advice provided to callers did not vary with experience provided training follow up was available (Benjamin 1997). It should not be assumed that competent providers in a clinic setting are automatically competent on the telephone where important visual cues are not available. This training/skills issue was also raised in a commentary on the Australian system by Oberklaid (1998) and in a prospective study of emergency department triage advice by Patel et al (1997). An earlier study by Poole et al (1993) was used as a comparator by Benjamin. This study retrospectively analysed calls to a primary care call centre established by paediatricians in Denver (remember that there is no gatekeeping role for family physicians in the USA). Calls were taken by experienced paediatric nurses. Over 107,938 calls not one adverse clinical outcome was found (note that this assumes that such events would have been reported and recorded). Management of calls was based on agreed protocols. Funding came largely from subscribing physicians – this might be termed a deputising call centre. Where HMOs are responsible for the cost of services a virtual gatekeeping role is often established through a requirement for the consumer to ring a central number before accessing services (Berliner 1998).

The question of who should staff call centres/services is not an easy one to answer. Clearly, where staff are already in situ, such as an emergency department, such staff can provide this

service – whether doctors or nurses. This is also one area where GPs may be less threatened by a "takeover" given that many of them do not welcome the lifestyle disruption of after hours care, particularly where calls are seen as trivial. The depth of the issue is illustrated by the UK case where a nurse after hours call service was seen as a threat to territory by local GPs, even though it subsequently reduced GP call outs by 40-50% (at which point its acceptance was much broader).

An interesting study in a single practice in Oxfordshire looked at the nature of calls received both "in hours" and "after hours" to examine if this represented a potential extra burden of patient contacts or an alternative

way of dealing with contacts that would have occurred anyway (Brown and Armstrong 1995). It should be noted that in this system there is no financial advantage for the GP to perform face to face versus telephone consultations. Those patients who had their own transport were more likely to prefer a telephone consultation. Whilst this is a small study it suggests that access as a driver of telephone demand is not significant.

The first interim report on the NHS Direct project was published in December 1998 (MCRU 1998). At that stage three primary sites provided data. Around a third of calls were received after hours (6pm to 8am), and a third of calls were received on the weekend. Callers were advised to seek professional care in terms of seeing the GP immediately (5.9%), later (8.4%), referred to emergency immediately (31.1%) or urgently (43.7%) or not advised to seek professional care. The report indicates that there was no evidence of any impact on three existing services, namely ambulance, emergency departments or GP co-operatives, in terms of utilisation before and after the introduction of the NHS Direct Service.

A second interim report was published in 2000 (MCRU 2000) along with a summary article in the BMJ (Munro et al 2000). The earlier tends have changed as more data has become available, but in only one area. Demand on after hours GP services has diminished. However, there has been no significant impact on demand/attendances for ambulance services or emergency department usage. The report concludes " That GP co-op workload, but not A&E or ambulance activity, has been affected by NHS Direct is entirely consistent with the evidence presented above that this is a telephone-accessed health service which particularly attracts out-of-hours use for a wide range of primary care type problems".

There are a number of health related call centres operating in Australia, most for information purposes. Health Direct has been funded in Western Australia and is part of the AHPMCTs, where its impact on existing services is being measured. The service provides a full range of telephone advice from general information to individual consultation type advice. Early unpublished data indicates similar results to the NHS experience in that attendances at emergency departments have not significantly changed, although there may be early evidence of an increase in attendances for low acuity conditions. This may reflect a low threshold for referral in the on line protocols used in the centre. More data is needed to further assess this.

In particular, there may be a "learning curve" on the part of the population served as people get to know the nature of the service, how to access it and how to use it effectively. The first annual report of the service (Health West 2000), shows, for example, that referral to emergency departments for paediatric problems is high at 17%, compared to adults. This reflects the difficulty of assessing paediatric problems over the telephone and adoption of a reasonable "if in doubt, refer" approach. Impact on existing services is not reported. There is some data on this in the National Evaluation of the AHPMCTs, yet to be finalised and published.

Despite there being no evidence of reduction in emergency department attendances in the data available so far, speakers at a recent call centres conference claimed that they remain a future demand management tool in terms of reducing pressures on hospitals (Dunn and Hann, 2000). One of the possible variables in this response is the nature of the protocols used. Those with low thresholds for referral will have less impact on EDs and other services. There will be a learning process which may well lead to extension of protocols and algorithms to deal with more issues on line – leading to lower referral rates in the long term. This remains an hypothesis at this stage.

There is no doubt that call centres will increase in scope in the future. The NHS strategy certainly has NHS Direct as a key component, and will concentrate on linakges to other providers such as GP cooperatives and emergency departments. There are assumptions that need to be tested in terms of changing consumer and provider behaviour and work remains on issues of privacy, accountability, quality assurance and cost effectiveness. Preliminary data from the AHPMCTs show that the call centre performed well in dealing with a range of issues presented as part of a QA assessment. Conversely, recent reports from the UK have questioned NHS Direct's capacity to deal with some clinical issues (Which?2000). However, it would be unfair to make judgements on the effectiveness of call centre services against "perfection" – ie always getting it right, as current alternative systems don't perform at that level either. In that sense more work is needed to establish reasonable performance benchmarks around outcomes, as opposed to process measures such as time to responds etc.

Another issue is the differentiation between protocols, algorithms and cognitive systems. Protocols ask a series of questions designed to ascertain the likely urgency of the problem and, hence, what action is to be recommended to the caller. Algorithms use a cascade of yes/ no questions which link symptoms to possible diagnoses. When a point is reached where a particular diagnosis cannot be ruled out, the severity of that diagnosis drives the action recommended. It is not saying that that diagnosis is right – but that, as it cannot be ruled out, action must depend on dealing effectively with that diagnostic possibility. Cognitive systems require the collection of a set of information which is matched against a set of possible diagnoses. The operator must choose which alternative is more likely, ort determine the correct action to be recommended. It is clear that Cognitive and protocol driven systems must be operated by staff with clinical training – medical practitioner or nurse. Algorithms may be

operated by non-clinical people with appropriate training – with medical back up available. This is obviously more attractive in a cost sense and is more compatible with a call centre model that provides generic information as well as advice on specific presenting clinical complaints.

A final issue regarding call centres/triage is remoteness. How can a centrally based call centre provide advice that has local relevance across a wide geographic base. The Perth Call centre evaluation will provide data on this issue. Rural Practitioners in particular are sceptical that their community's needs can be met remotely. For example, in one rural locality waiting times for GP appointments are typically two weeks (apart from emergencies). Advising patients to see their GP the next day would be a waste of time. To be effective wide ranging call centres will need to build a substantial data base of local arrangements and resources – not a trivial exercise.

4 Current activity/ research in Australia

4.1 Research studies

The issue of rural versus urban after hours care provision was examined by Mira et al (1995) in an Australian study. A random sample of GPs were asked about after hours arrangements. In metropolitan practice 35% provided their own after hours care exclusively compared to 52% in the rural sample. Forty three percent of rural practices worked in cooperation with other practices whereas no urban practices used this model. This has clear implications for the introduction of cooperative models in urban areas, if the results are in any way generalisable, although the study data is now several years old and predates many GP reform initiatives. Over 50% of urban practices used a deputising service at least some of the time. This compares to UK figures where 45% of GPs nationally, 67% in London and 90% in Manchester use a deputising service (Iliffe and Haug 1991). This service is not available to rural practices. Thus choice of service type may be a pragmatic one based on availability rather than any firm belief in a particular arrangement as being preferred. This hypothesis needs to be tested. In particular, the arrangements in large regional/rural centres need to be ascertained compared to smaller communities, and urban outer suburbs to inner older suburbs.

One of the few Australian studies was published in 1990 by Tolhurst, Ireland and Dickinson. This study looked at rural after hours work and collected data on severity of presenting complaint and the skills and time required to deal with each case. During a single month 18 doctors provided 1197 emergency attendances of which 47 were obstetric and 26.5% occurred in normal working hours. This gives a crude rate of 48 cases per doctor per month after hours. HIC figures give the Hunter rural area an average emergency after hours rate of 15 – 20 cases per quarter per full time male GP (DHFS 1997). This gives a per month rate of 3 - 7 per month. Even allowing for the non-contemporaneous and non- uniform nature of the data, there is a clear difference in rate of service provision. The huge discrepancy reflects the fact that in many rural areas after hours emergencies are handled at the hospital by the GPs. These

attendances are often not paid for by Medicare and so do not show up in the HIC dataset. In addition in this study calls also included those to attend public inpatients – also not included in the HIC figures for after hours emergencies. This service is state funded. As such the HIC data will significantly underestimate the after hours workload of rural GPs. This mismatch between HIC data and actual work done needs to be investigated further, particularly as health policy and resource allocation decisions are often made on the HIC data set. Further data on this issue, from the BEACH study is presented later in this report.

In contrast to the UK studies referred to above, the Hunter study indicated that only 3.5% of calls were deemed to be trivial and 11.4% as grade 2 (by the authors' classification). About 50% of calls were for problems that could be managed at home, 13.5% needed a hospital outpatient facility and 32.7% required admission or were already inpatients. Forty nine percent of calls took less than 15 minutes to deal with, 37% 15-30 minutes, 12% 30 mins to 1 hour and 3% over 1 hour. Skills used were a range of medical management (85%), counselling (47%), technical (14%) and specific technical skills (8%). The paper also examines the GP income issues involved in providing this type of care.

An intervention study in Brisbane surveyed the community with respect to preferred after hours arrangements then used this to discuss with GPs an appropriate response (Del Mar and Lostroh 1996). As a result of the process a GP cooperative was established with 44% of GPs in the area participating. On review 12 months later there was a " small but insignificant increase in satisfaction with the provision of after hours care from 45% to 48%." It is interesting that the study area was one of low socioeconomic status with high unemployment, high rental tenants and a media image of high violence rates. Clearly all of these issues impact on the provision of after hours services yet none would be affected by the restructure. It should be pointed out that by the authors own admission the satisfaction instrument was crude and perhaps did not capture the true impact of the intervention.

A discussion paper from the NSW state health department was circulated in November 1999 (NSW Policy Division 1999). This paper looked at the interface between emergency departments and general practice and was centred on the concern that increasing numbers of patients treated in emergency departments could have been managed in general practice. The paper quotes a number of surveys that sought (subjective) assessment of emergency department patients as to whether they were "general practice patients". The figures range from 15% (1992) to 55% (1994) and 30% (1995). The paper does not describe the way in which the data was collected so comparisons with other studies are difficult. The paper contends that the use of emergency departments by non urgent patients is due to access problems with alternatives, financial constraints and community perception of illness and hospitals. The source of data that leads to these conclusions is not presented. EDIS (Emergency Department Information System) data in the report shows that for metropolitan emergency departments some 46% of patients are in triage category 4 and 18% in category 5 compared to rural figures of 40% and 36% respectively. Not all of these patients would be

considered “general practice” but it is clear that in these figures for 1997-98 rural emergency departments see a bigger proportion of “general practice’ patients than metropolitan departments, reflecting organisational arrangements previously mentioned.. There is a need to examine hospital data and GP data in tandem in more detail. In addition, the contention that many emergency department attenders could be seen in general practice should be considered in the light of the UK data above that shows that regardless of the availability of primary care services, a proportion of the population will still continue to use hospitals as a primary care resource.

A number of Divisions of General Practice have looked at the provision of after hours services and sought ways to better organise and deliver such services (ADGP 2000). Divisions are, by their nature, local organisations so generalising from single projects to possible models of after hours service provision across Australia should be done with caution.

The Sherbrooke and Pakenham Division undertook a feasibility study in 1996 that looked at the needs and expectations of both GPs and consumers with respect to after hours care. The study utilised interviews and focus groups to obtain information. The overall conclusion was that “ the study found general approval with regard to the provision of emergency care across the Division. The surrounding hospitals and emergency services were seen as effective. In contrast, generally, inadequacy was identified with regard to the after hours care required to treat those ailments that were not deemed as emergency but were still sufficiently concerning to create patients’ needs to access medical care.” (Sydenham-Clarke 1997). The study found seventeen different arrangements for patients to access after hours primary medical care within the same division. General Practitioners recommended a number of cooperative models as ideal. Consumers recognised the impracticality of being able to access their prime GP at all times. However, they were also of the view that a 24 hour clinic with “doctor quickly available” was ideal. Some saw this as a role for the public/private hospital system. The feasibility study did not lead to a trial of any intervention to address these issues. The report states “ the diversity of views and tenacity to which views were subscribed made the development of an acceptable recommendation most difficult.”

The Hunter Urban Division undertook a more comprehensive project in 1996 in which they sought to establish barriers to service provision, desirable characteristics of an after hours service, examine current arrangements and develop an alternative model. The study found that most problems with existing services related to access over 24 hours, availability of home visits and cost. (Foster et al 1996). The study contains a considerable volume of data that, if even partly applicable to similar demographic regions, provides a good starting point for service reorganisation. For example, despite the availability of four hospital emergency departments, two deputising services, one primary care centre and a number of extended hours clinics the Hunter urban area still had some 60 individual GPs on call on any one night. A survey of 316 GPs produced a 78% response rate and found that 49% of GPs provided an on call service, 39% used a deputising service, 10% were in a cooperative and 2% had some

other or no arrangements for patients after hours. GPs were more satisfied when involved with on call or cooperative arrangements and least satisfied with deputising services. Similarly, a survey of 2,424 patients found that dissatisfaction was highest for deputising services and cooperatives (19.7%) and lowest for GP on call arrangements (9.8%). With such a large pool of providers it is not surprising to find that emergency departments are only significant providers after 10 pm when the area demand is around 15 patients per hour and dropping to 6 per hour after midnight (contrasted with around 87 patients per hour prior to 10 pm.

The Hunter study also looked at the characteristics of patients seen by the various types of after hours service. The GP cooperative had a much younger mostly paediatric patient group, one deputising service had 32% of patients over 60 yrs whilst the other deputising service had only 15% over 60 yrs. It is not clear from the study as to why these patterns are observed – it may simply reflect different geographic areas of operation servicing demographically different populations. A higher proportion of elderly patients sought care between midnight and 8 am, although numbers were small. The majority of services were sought between 6pm and 10 pm on weeknights and 12 midday to 6 pm on weekends.

The two week audit of all providers shows a clear pattern. Extended hours clinics are the dominant provider of services between 6pm and 10 pm. The question is raised as to whether this relates to meeting real needs or utilisation by patients because the clinics are open. After 10 pm the main service providers become the hospital based services. Other forms of after hours care drop off considerably although GP cooperatives and on call practices remain available. In addition there may be a perception that hospitals are a better bet after 10 pm as the availability of ancillary services such as pharmacy and radiology are limited at this time elsewhere. The recommendations of the study pre empt some of the changes introduced since its completion including increased rebates to GPs for after hours emergency services,

Table 4.01 : Percent of Males and Females Providing Home Visits and Various After Hours Services in the Last 12 Months

Service	% Males	% Females
None Provided	0.9	6.6
Home Visits in hours	89.6	74.7
Home visits after hours	82.1	58.2
After hour service at hospital	89.6	67.0
After hours consultation at surgery	52.4	23.1
After hours service at community centre	3.3	4.4
After hours service at an AMS	1.4	2.2
After hours visit to correctional facility	8.5	3.3
All of the above provided	0.5	0.0

(from Tolhurst et al 1999, Table 10)

particularly for “unsociable” hours, and payments for participation in after hours care through the Better Practice Program (now the Practice Incentives Program).

One key concern for Australian GPs is safety as it is in the UK GPs (Hobbs 1994). It is clearly risky to be moving around alone at unsociable hours and known to be carrying valuable goods, including drugs. In addition, some patients with acute mental illness or affected by drugs, including alcohol, may be aggressive. A GPEP funded grant examined the safety issue in the setting of rural practice (Tolhurst et al 1999). The study used focus groups and questionnaires to sample over 300 doctors from NSW, Vic and WA. The study found that 73% of respondents had experienced some form of violent patient behaviour at some time in their career and 20% admitted to actual physical abuse. The most common sites at which violence occurred were private practices and hospitals. This contradicts the common myth that the home visit is the most vulnerable setting for the GP. However, the data is not related to occurrences per number of encounters, so the result may simply reflect the sites at which most patient encounters occur. More serious violence tended to occur after hours and at weekends. The report indicated that some GPs responded to the threat of and actual violence by withdrawing from after hours and weekend work. Despite these findings some 58% of the respondents “did not feel that anything prevented them from working in safety in the last 12

Figure 4.01: Key features of after hours care models from the GP and patient perspective.

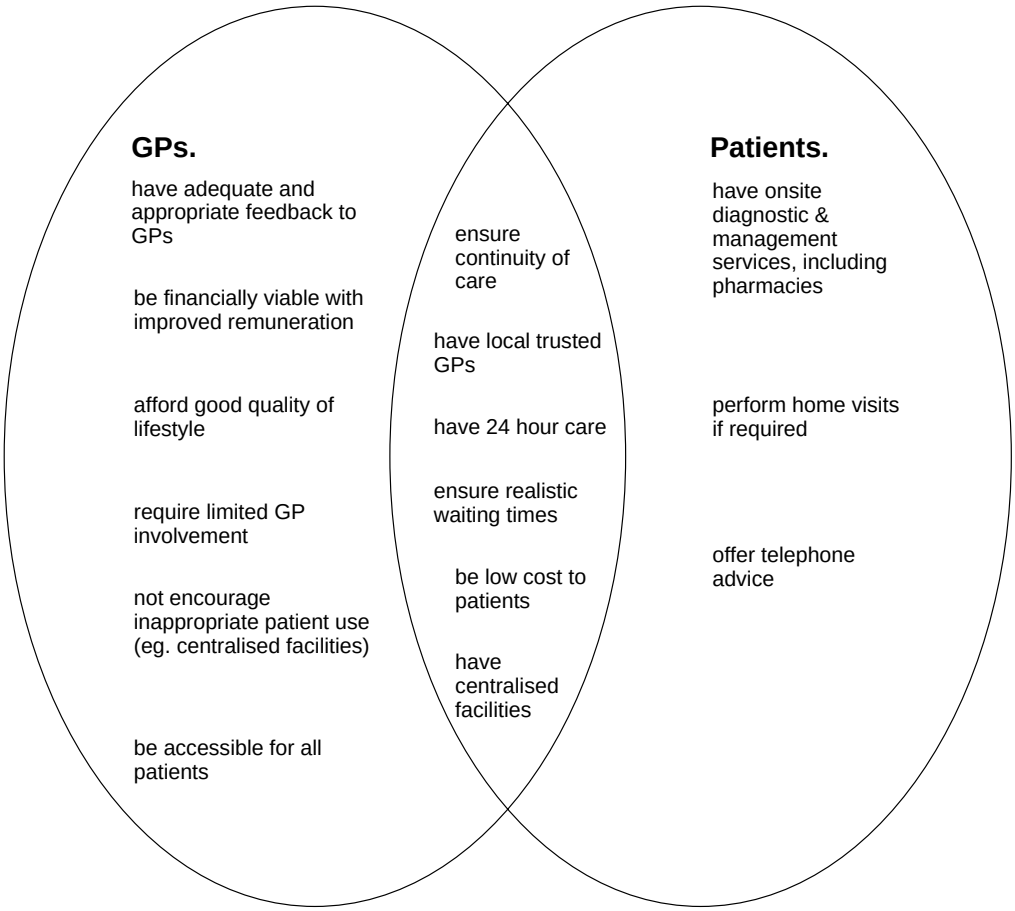


Table 4.02 : Potential Minimum Indicators for After Hours GP access

Outcome	Indicators	Measure
Access to after hours care	Relative number of after hours A&E attendance' s classified as primary care	hosp.data
	Waiting time for service	after hours service survey
	Satisfaction of GPs working for service	GP participant survey

Source: Karabatsos 1999

Table 4.03 : Draft Outcomes and Indicators for After Hours Services

Frameword	Outcome (quadrant)	Indicator	Measure
Current Practice and Needs	The Division has mapped current providers (Div.)	The Division has surveyed the following: • Number of GPs offering own after hours • Number and position of extended hours practices • A&E in area • Deputising services	 • GP survey • GP survey • Survey • Survey
	The Division has gathered and collated information on pattern of service utilisation (Div.)	The Division has gathered the following: • Number and time of after hours calls to GPs, deputising services, others (A&E, ambulance) • Number and time of home visits by GPs, deputising services • Number and time of A&E attendance classified as primary care • waiting times for service • travel time/distance travelled	 • Survey • GP survey • hosp. data • patient survey • patient survey
	GPs aware of services currently available in the area (GP)	% GPs in the Division who are aware of the services currently available	• GP survey
	Consumer needs/attitudes considered (Pt)	The number of consumer/groups consulted	• Audit of documentation
Service model	The Division has identified a locally suitable service model (Div.)	Evidence of a rationale for choosing the model over others	• Audit of documentation
	The Division has considered the cost efficiency of the service (Div.)	Evidence of cost efficiency considerations in the above rationale	• Audit of documentation
	GPs satisfied with service (GP)	% GPs in the Division who are satisfied with the service	• GP survey
	The service is cost effective for the GP (GP)	Cost to individual GP to participate in service to incl.: • $ contribution to deputising service • hours of participation	• GP participant survey
	Improved access to timely and appropriate services (Pt)	• Primary care attendance' s at A&E • utilisation of other providers' service (deputising agencies, ambulance) • waiting times	• hosp. data survey • health provider data • survey
	Improved morbidity	Out of hours avoidable A&E admissions (query asthma)	• hosp. data

Source: Karabatsos 1999

months." Apart from sexual harassment (where female GPs were significantly more likely to report such an event at 45.1% versus 14.6% for males) there were no differences between genders in the forms of violence experienced. Despite this, females were more likely to report having changed practising habits in response to actual or fear of violence including non-provision of home visiting and after hours services. This is shown in table 4.1.

Finally, the study makes a number of recommendations that are worth studying as they cover responsibilities of all key stakeholders, including governments, practices, Divisions, universities/training organisations and consumers.

The Access SERU (Support and Evaluation Resource Unit) has produced a concise summary of other Divisions' efforts along with some guidance for Divisions contemplating an after hours service program (Karabatsos 1999). The paper includes a list of possible minimum indicators (Table 4.2) along with an outline of an outcomes approach in line with the outcomes based funding model now in place for Divisions (Table 4.3), a summary of possible organisational models and a list of factors that have influenced the provision and organisation of primary care medical services after hours. The indicators are based on an integrated model of data collection including HIC data, hospital data and survey data collected specifically for this purpose. It also summarises the Divisions' experiences to date, both positive and negative. The importance of Divisions as a possible vehicle for the assessment and re-organisation of after hours services is reflected in the fourth report on Divisions' activities (Magarey et al 1999). Of 87 Divisions that responded to the question on involvement in service access improvements 43 (49%) indicated that after hours services were the focus of their activities.

The role of locums and deputising services in Australia was examined in 1995 in a Commonwealth consultancy (Campbell 1995). In a series of reports the consultant asked GPs, consumers, deputising services and other key industry people their views on the use of these two services. For this paper the deputising services are of interest. It should be remembered that the report predates the provider number restriction legislation that came into effect in November 1996. Even so, the report indicates a slight but declining trend in workforce availability to meet what was a growing demand for services. On average, each deputising service looked after an area in which 979 GPs were active, of which 475 were "officially" using the service. There is a curious mismatch in that the peak availability of GPs occurs on Sunday during the day whereas the peak demand in terms of calls occurs on Sunday evenings. There was, and still is, a reliance on temporary visa doctors to staff the service. The survey reported that 14 deputising services had a total of 307 GPs working for them (average 21.9 per service), although there was no data in the report on the full time equivalence of the doctor numbers. As many doctors working in this area do so part time, the head count numbers will not totally reflect the work capacity. In a separate question services were asked to advice of GP availability over three time periods – 1989, 1993 and 1994. Total GP availability was 345,298 and 260 respectively. Again, this is head counts so interpreting in terms of work capacity is not possible. It is also not clear as to whether this fall is totally the result of availability or of changed work practices by deputising services and/or practices. Later data shows that the total number of months worked by temporary resident doctors fell from 420 in 1990 to 196 in 1994. In a separate report results of a survey of deputising doctors were presented. This shows that 57% of respondents (n=42) listed income as the most

important reason to do this work – the next most common reason being job satisfaction at 10%. The author also reports the apparent paradox that deputising doctors found flexibility the most attractive aspect of the work yet the inconvenient hours the most unattractive factor.

Veitch et al (1999) studied a single after hours GP cooperative in Queensland. This service had been in operation since 1984. Patient and practitioner views were sought. The patient data indicate that where a service is recommended by their usual GP who is part of that service, satisfaction levels are high even though they are more likely to see a different doctor if they actually use the service. The report outlines a list of success factors for this service as follows.

> Mutual respect and trust;
> Common goals at the time of establishment;
> Common broad ideal and expectations of traditional general practice;
> A desire to ensure that their patients receive appropriate and competent after hours care;
> A willingness to share workload to the benefit of all;
> Acceptance that colleagues will not "poach" patients;
> Limited guidelines rather than rigid rules and regulations;
> A desire to reduce after hours workload, without a reduction in continuity of patients' care;
> Little expectation or desire to seek financial reward through after hours work;
> A proportion of members' after hours income is retained to cover operational costs;
> The benefit of informal "peer review'; and
> An element of selectivity linked with a recognition that there is an optimum membership size.
> (Veitch et al 1999 P4)

Whilst extrapolation should be done with caution, the list makes intuitive sense. The cooperative in question has since ceased to operate with much after hours care being referred to private and public hospitals. The more recent closure of a large private hospital emergency department has created a need to reconstruct the GP cooperative approach, under the auspices of the local Division of General Practice. This report also summarised key features of after hours care models from the GP and patient perspective (Figure 4.1).

One model that has attracted considerable attention has been the Balmain General Practice Casualty (GPC) model. This service is an acute primary care service set up in a hospital that was earmarked for closure. The project was established under a GP grant and has continued as part of area health block funding. Whilst providing considerable data on its cost effectiveness and high levels of patient satisfaction, it is not without its critics. Ieraci et al, for example, argue that the GPC model should not be compared with urban emergency

departments and, in particular, that it not be promoted as a solution to emergency department pressures (Ieraci et al 2000). They argue that increases in waiting times for low acuity patients are due to upstream bed pressures - and this cannot be solved by alternative arrangements.

However, their view of emergency departments is to "provide rapid, high quality and continuously accessible unscheduled care, for conditions covering the full spectrum of acute illness and injury." This is not fundamentally different from general practice - to which comprehensive ongoing care of chronic illness could be added. It is a matter of degree. In reply Bolton et al (2000) hints at the UK model where primary care specialists are part of the acute care management team in large hospitals, working alongside their emergency care colleagues.

5 After hours primary medical care trials

In 1997 the Commonwealth agreed to fund a number of trials exploring better ways of providing after hours primary medical care. This followed a workshop in Canberra in October 1997 which, in turn, was a response to a perceived crisis in after hours care triggered by the fall in provision of such services by many practices and concerns regarding safety of GPs who did perform such tasks. Trials were to use existing resources where possible and to develop sustainable models that could continue to support instituted systems after the trial funding period. Proposals had to define current problems and propose innovative solutions, preferably with wider system application. All of the other selection criteria related to the way in which the service was organised and delivered. No part of the trials related to the clinical content of services to be delivered (DHFS 1997). Five trials have been funded. Some difficulty was experienced in some trials where there was to be an impact on existing services. For example, the trials in Sydney and Newcastle needed to develop a methodology that took into account existing deputising services. In the former the trial will take place alongside the service whilst in the latter the trial has "bought out" the service, at least for the period of the trial. All trials are to be independently evaluated at both the local and national level, the latter to include economic data collection. The trials are:

Hunter Urban Division of General Practice/Maitland Hospital/Hunter After Hours Service; An integrated ambulatory care model utilising 24 hour telephone triage (hospital emergency department based), a GP staffed after hours clinic (hospital based), funded transport and a home visit service.

Central Sydney Area Health Service consortium; telephone triage covering central Sydney and Broken Hill, after hours GP clinic (hospital based)

Western Victoria; telephone triage operating only after hours and nurse staffed, home visiting service

Tasmania (Hobart); GP operated triage service linked to a deputising service providing home visits

Western Australia; protocol based call centre covering all metropolitan areas, metropolitan wide after hours needs assessment.

At the time of writing detailed definitive evaluation results were not available. However, the trials have provided a good base for learning what issues need to be dealt with and most have

had to modify the trail methodology as they have progressed. Issues have emerged around staff training, cost effectiveness, quality assurance of advice provided and sustainability. Despite this the trials are, at this time, progressing towards meeting their individual objectives. One of the key challenges will be to assess the practicality and costs of broader roll outs. Since the commencement of the trials a number of other Divisions have indicated that they are keen to address after hours service provision in their area - usually in collaboration with the local area health authority and/or hospitals.

6 An analysis of Medicare/HIC Data

There have been a number of changes to item numbers available for after hours service rebates. It is important to understand these changes, as well as the content of the items, to understand the HIC data. As will become clear, it is not true to say that the after hours item number usage describes closely what is actually provided. However, the data does provide some interesting trends and patterns that have important implications for future policy setting, service organisation and service provision

6.1 Item Number Definitions:

The Medicare Benefits Schedule of November 1999 lists the following item numbers as specific to after hours emergency services.

As at November 1999:

> Item1 - Professional Attendance by general practitioner at a place other than consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken after hours period and where the patient's medical condition requires immediate treatment - each attendance other than an attendance between11pm and 7am, on a public holiday, on a Sunday, before 8am or after 1pm on a Saturday, or at any time other than between 8am and 8pm on a day not being a Saturday, Sunday or public holiday.
> Item 2 - Professional attendance at consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken period and where the patient's medical condition requires immediate treatment and where it is necessary for the doctor to return to, and specially open, consulting rooms for the attendance - each attendance other than an attendance between11pm and 7am, on a public holiday, on a Sunday, before 8am or after 1pm on a Saturday, or at any time other than between 8am and 8pm on a day not being a Saturday, Sunday or public holiday.

Items for recognised GPs, after hours, not "unsociable"

> Item 601 - Professional Attendance by general practitioner at a place other than consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken after hours period and where the patient's medical condition requires immediate treatment - each attendance on any day of the week between 11pm and 7am.

Item 602 - Professional attendance at consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken period and where the patient's medical condition requires immediate treatment and where it is necessary for the doctor to return to, and specially open, consulting rooms for the attendance - each attendance on any day of the week between 11pm and 7am.

Items for recognised GPs, unsociable hours

Item 97 - Professional Attendance by general practitioner at a place other than consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken after hours period and where the patient's medical condition requires immediate treatment - each attendance other than an attendance between11pm and 7am, on a public holiday, on a Sunday, before 8am or after 1pm on a Saturday, or at any time other than between 8am and 8pm on a day not being a Saturday, Sunday or public holiday.
Item 98 - Professional Attendance by general practitioner at a place other than consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken after hours period and where the patient's medical condition requires immediate treatment - each attendance other than an attendance between11pm and 7am, on a public holiday, on a Sunday, before 8am or after 1pm on a Saturday, or at any time other than between 8am and 8pm on a day not being a Saturday, Sunday or public holiday.

Items for non-VR GPs, not "unsociable" hours

Item 697 - Professional Attendance by general practitioner at a place other than consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken after hours period and where the patient's medical condition requires immediate treatment - each attendance on any day of the week between 11pm and 7am.
Item 698 - Professional attendance at consulting rooms where the attendance is initiated by or on behalf of the patient in the same unbroken period and where the patient's medical condition requires immediate treatment and where it is necessary for the doctor to return to, and specially open, consulting rooms for the attendance - each attendance on any day of the week between 11pm and 7am.

Items for non-VR GPs for unsociable hours.

(Commonwealth Department of Health and Aged Care 1999)

Note that items 1,2,601 and 602 relate to services provided by recognised GPs (A1 items in the schedule) and items 97,98, 697 and 698 relate to services provided by other medical practitioners (OMPs) (A2 items in the schedule). Also, items 1,601, 97, 697 relate to service provided at a place other than consulting rooms whereas items 2,602, 98 and 698 relate to services provided in rooms where the practitioner has returned to consulting rooms specifically for the patient.

It should also be noted that the regulations require that these item numbers only be used for the first patient attended. That is, if two or more patients are seen, regardless of location, only the first service attracts the higher rebate - other services attract standard item rebates, typically item 23 if in consulting rooms. There is no data available that examines adherence to this regulation and from the GP perspective it is difficult to see how seeing two or more patients should be no more onerous than one.

Note that the definition for "unsociable hours" of 11pm to 7am leaves an odd hour between this time period and normal hours, which commence at 8am. There is also the vexed issue of time of consultation versus time of the patient making the call. For example, if a patient calls a service at 6am but cannot be seen until 7.30 am, does this constitute an after hours call or not?

Services provided by extended hours clinics do not attract these benefits. These items only apply where the clinic has ceased operations for the period and has cause to reopen to attend to a patient. Again, there is no data available on services provided in the extended hours period that would otherwise have been scheduled as emergency after hours, as service in extended hours clinics may be provided at the patients convenience rather than purely on medical needs. None of the item numbers provide information on the clinical content of the service that was provided.

There is confusion in the item number descriptions between after hours and emergency medicine. The items are labelled "emergency attendance - after hours" but there are no item numbers for emergency attendance in hours or non- emergency attendance after hours. The descriptors seem to suggest that all after hours attendances other than in extended hours clinics and where multiple patients are seen, are emergencies, at least for the first patient seen. The lack of correlation between the item descriptors and the way in which practices run and patients present is clearly an issue of concern for GPs.

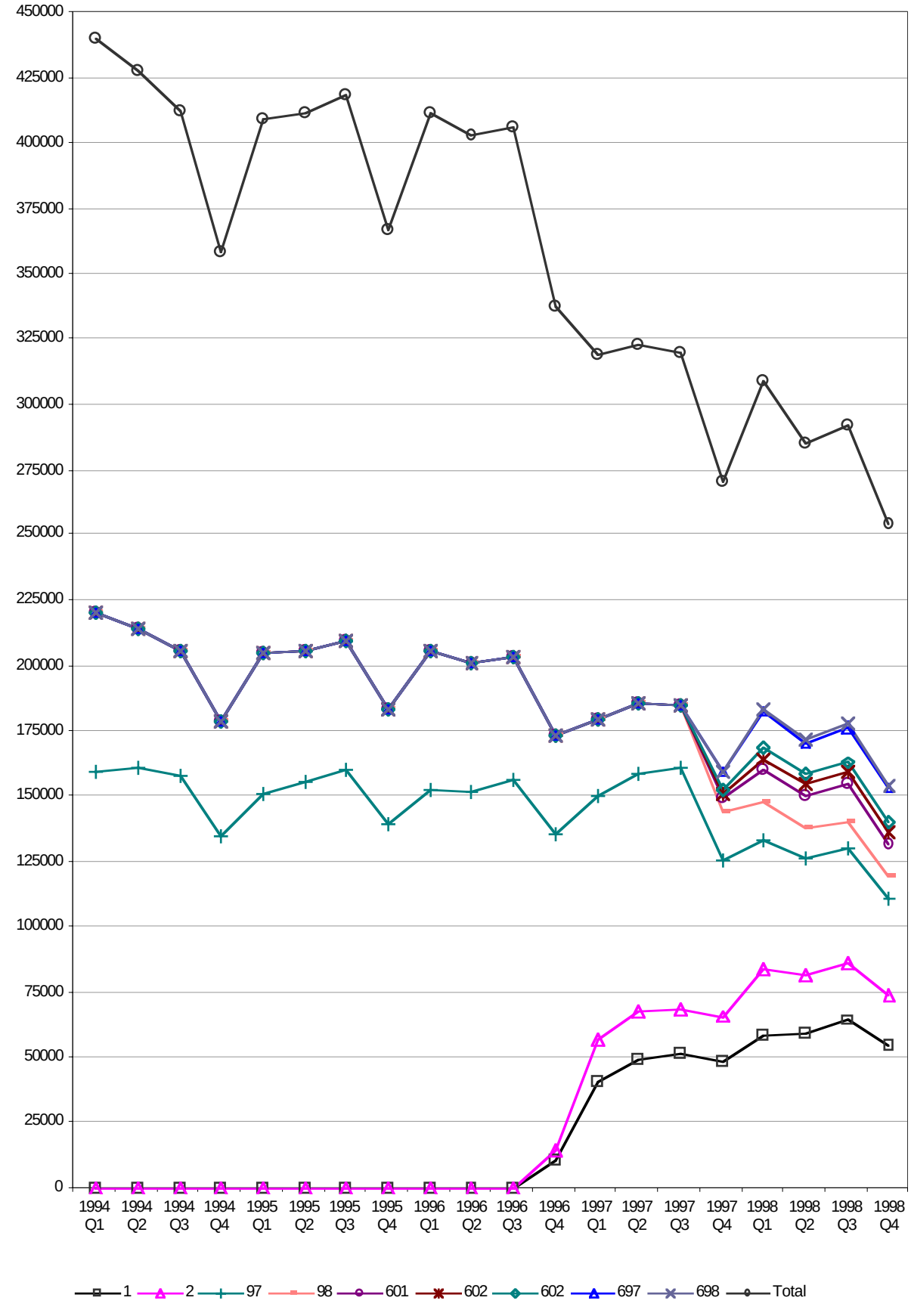
6.2 Changes in item number description and value

Prior to November 1996 there were only two item numbers available for after hours services, 97 and 98. At that time after hours was defined as " an attendance on a public holiday, on a Sunday, before 8am or after 1 pm on a Saturday, or at any time other than between 8am and 8pm on a week day not being a public holiday." (DHFS 1995). There was no distinction between recognised GPs and others, the items being listed as of the "A3" type.

In November 1996 items 1 and 2 were introduced for emergency after hours attendances performed by (recognised) general practitioners (A1 type) and items 97and 98 were incorporated into "other attendances -typeA2", the A3 list being deleted. However, there was no difference in the rebate values of all four items. The only change to the attached regulations was a note to the effect that extended hours clinics could not use these item numbers during their normal opening hours (DHFS 1996). These changes coincided with the introduction of the provider number restrictions that prevented new non- recognised GPs and

Figure 6.01 : After hours item number utilisation (by quarter)

Number of services



Source: WHM.SASGC1. Program (R692B)

trainee doctors from gaining a provider number, thereby restricting the capacity of these doctors to "moonlight" in after hours and deputising services.

In November 1997 the item numbers 601,602,697,698 were introduced. These items referred to services provided in "unsociable hours" and a premium was provided for the rebate. In addition, at that time increases were provided for other after hours rebates. These frequent changes make analysis of time trends in item number utilisation difficult.

6.3 Results of HIC data analysis

The entire Medicare claims data set was analysed by quarter back to 1994 - approximately 500 million claim items. Claims against any of the above after hours item numbers were sought and aggregated by RRMA of practice, gender of practitioner and billing method. Claims that did not make sense (such as items claimed when they did not actually exist) were deemed to be false data and were excluded. This did not exceed more than a hundred items of claim per year, so did not affect the end results.

Data was analysed initially by quarter to examine seasonal fluctuations. Figure 6.1 shows the overall trend in item number utilisation.

It is clear that the overall claims show a consistent downward trend over the period 1994 to 1998. Preliminary analysis of the 1999 data indicates that this trend has continued. The introduction of new item numbers in 1996 (1 and 2) and again in the third quarter of 1997 (601,602,697,698) have not affected the overall trend. Utilisation of item numbers 97 and 98 represent the largest contribution to the downward trend. These relate to services provided by Other Medical Practitioners (OMPs) after November 1996, and fall following the introduction of the Provider Number legislation in November 1996. This legislation restricted the issue of provider numbers to recognised GPs or those working in areas of need, particularly rural. Prior to this the deputising services and other after hours services had relied to a large degree on access to the population of doctors who were still in training in the hospital system or who, for whatever reason, were not vocationally registered. Recently the government has moved to relax this restriction and allow provider numbers for non-VR doctors who agree to only provide after hours home visiting services where there is a workforce need. It does not extend to work in other forms of after hours service organisation, such as extended hours clinics, where differentiating between services billed as item 53 in hours or "after hours", for example, would not be possible as Medicare claims do not record time of day. The data also demonstrate a consistent seasonal variability, with reductions in claims in the first quarter of each year – the summer holiday period.

One possible explanation for this consistent downward trend is that substitution is occurring. That is, the demand for after hours primary medical care services has not diminished but has shifted to other forms of service and forms of claiming. Two likely candidates are hospital emergency departments and extended hours clinics (either purpose built or through existing

Table 6.01 : The distribution of consultation services claims provided by GPs.

Frameword	Jun-95	Jun-96	Jun-97	Jun-98	% change 95 to 98
Level A	2.2	2.1	1.4	1.4	-36.4
Level B	79.1	78.4	74.3	74.4	-5.9
Level C	6.7	7.4	7.4	8.0	+19.4
Level D	0.6	0.7	0.7	0.8	+33.3
Home visits	2.9	2.8	2.5	2.2	-24.1
Hospital visits	0.7	0.7	0.6	0.5	-28.6
Nursing home visits	1.6	1.6	1.5	1.5	-6.3
Total	**93.8**	**93.7**	**88.4**	**88.8**	**-5.3**

Table 6.02 : Annual analysis of Providers and Utilisation of After Hours item Numbers

	1994-95		1995-96		1996-97		1997-98	
	Number of		Number of		Number of		Number of	
Item Number	Services	Providers	Services	Providers	Services	Providers	Services	Providers
1	0	0	0	0	100,315	4,205	216,009	6,334
2	0	0	0	0	38,301	3,598	84,955	4,656
97	598,359	11,212	603,232	11,085	461,091	10,317	244,879	7,658
98	197,734	7,105	196,933	7,000	143,301	6,419	68,598	4,345
601	0	0	0	0	0	0	29,648	2,882
602	0	0	0	0	0	0	10,731	1,225
697	0	0	0	0	0	0	32,270	880
698	0	0	0	0	0	0	2,749	312
Total	**796,093**	**12,190**	**800,165**	**12,105**	**743,008**	**12,255**	**689,839**	**12,118**
Services per provider		**65.3**		**66.1**		**60.6**		**56.9**

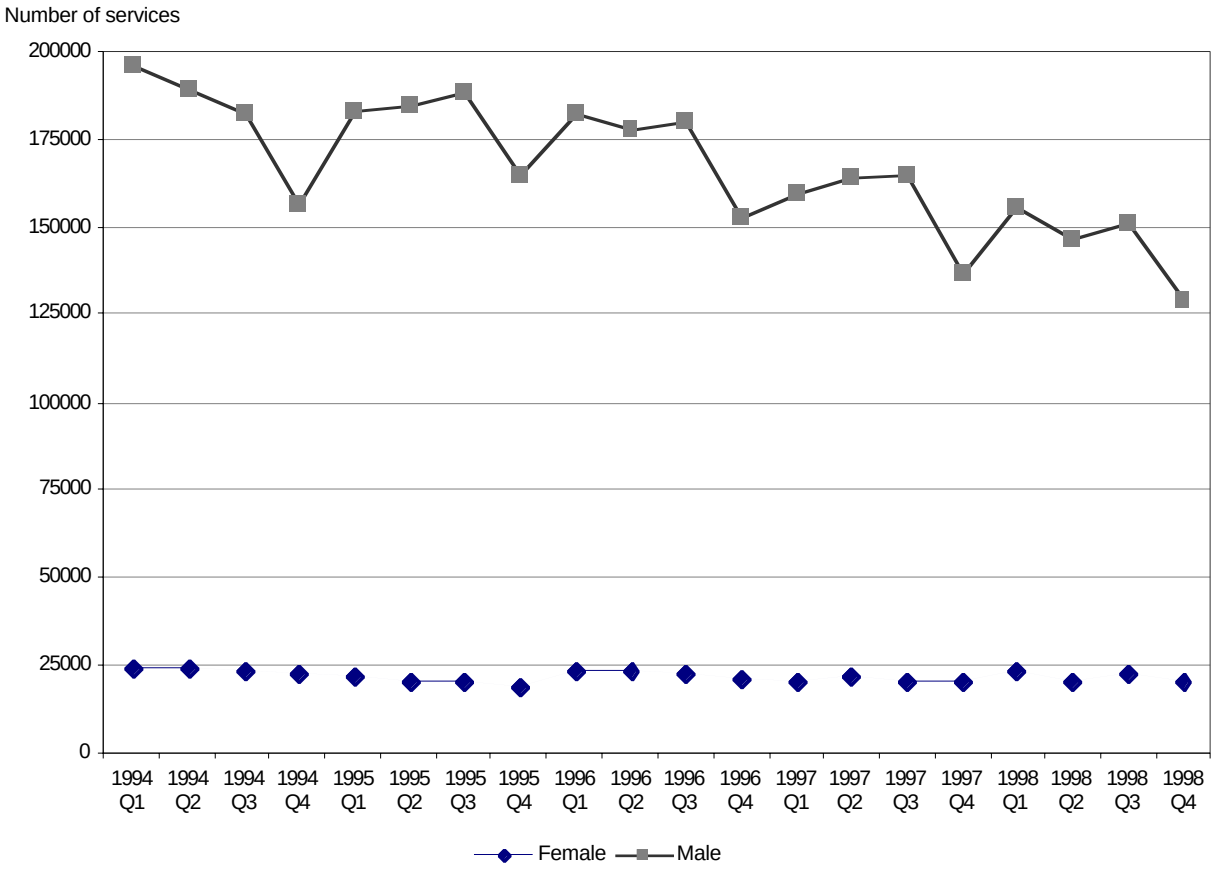
Source : HIC

practices extending their opening hours). The only data currently available to examine this second issue is via the BEACH (Bettering the Evaluation And Care of Health) study. However, this data relates to a rolling sample of recognised GPs – hence only comparisons with the recognised GP service item number utilisation would be valid. Further BEACH data is presented later in this report.

Table 6.1 shows the pattern of service provision for all GP services billed to Medicare over the last four years. The figures represent the proportion of all services claimed by GPs that are of a particular type. This illustrates in a broad way the mix of consultation services. There are clear trends away from shorter and off site services to longer consultations. This may be explained, at least in part, to the feminisation of the workforce, as data from the HIC data set indicates that female GPs tend to do more long consults and fewer off site visits (DHFS 2000).

Whilst there has been a steady decrease in the number of services being provided under the after hours item numbers, table 6.2 demonstrates that there has been no substantial change in the number of providers billing at least one of these items. Hence at a broad level the number of services per provider annually has decreased. There are a number of possible explanations for these figures. The decrease could be real. Alternatively, the growth of extended hours clinics has caused a significant amount of after hours work to be shifted to other item numbers. In rural areas more work may have been done in hospitals and not billed to Medicare. Certainly table 6.2 data does not support the argument for a falling workforce with respect to these items of service, although the data is at a high aggregate level and should not be interpolated to local markets and circumstances. Between 1994-95 and 1997-98 the number of providers that have at least one claim for one of the after hours items numbers has changed little from 12,190 to 12,118. During the same period the overall number of services per provider has fallen from 65.3 per annum to 56.9 per annum, representing a fall of about 100,000 claims per annum, Australia wide. Combined with the above overall item number data and comments this would suggest that the shift to a non-OMP workforce has not decreased the number of providers doing the service but that these providers are less inclined to perform the work (hence less work per capita of GP). This may indicate that GPs doing this work see it as extra and will be discriminating in deciding whether a consultation is necessary. This is not to imply that services provided by those working in deputising services are not

Figure 6.02 : Total services by gender



clinically necessary, but that some patients could probably wait until clinics are open without suffering any health detriment.

It should be noted in Table 6.2 that column totals for providers do not sum as individual providers may have provided more than one type of service.

6.3.1 Gender

The percentage of providers who are female has been steadily increasing over the last five years. If there was no gender difference in the utilisation of after hours item numbers, one would expect that the total number of services provided by males might have decreased but that the total number of services provided by females would have increased. This data is displayed in Figure 6.2.

Figure 6.03 : Female GP services by quarter

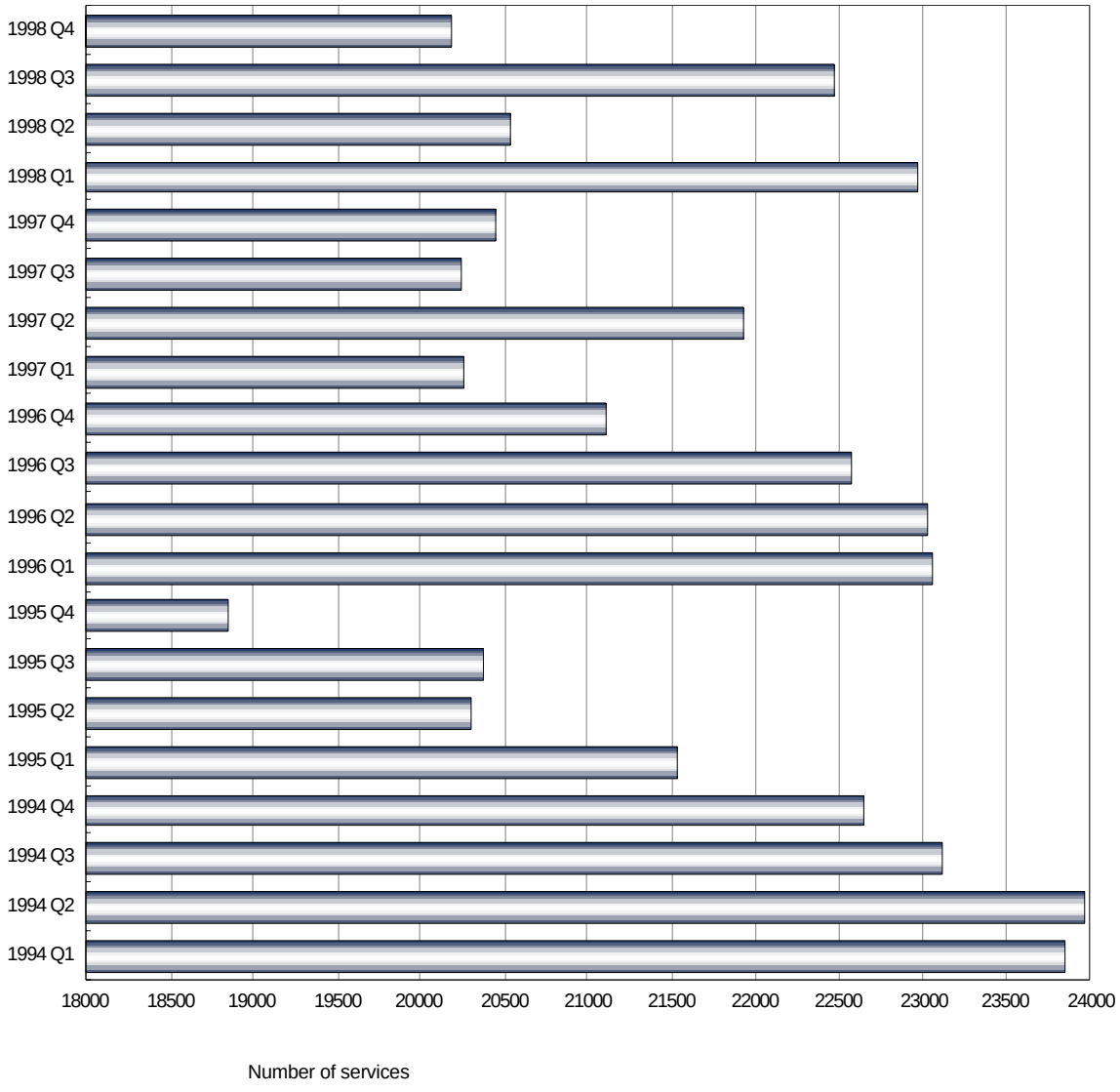
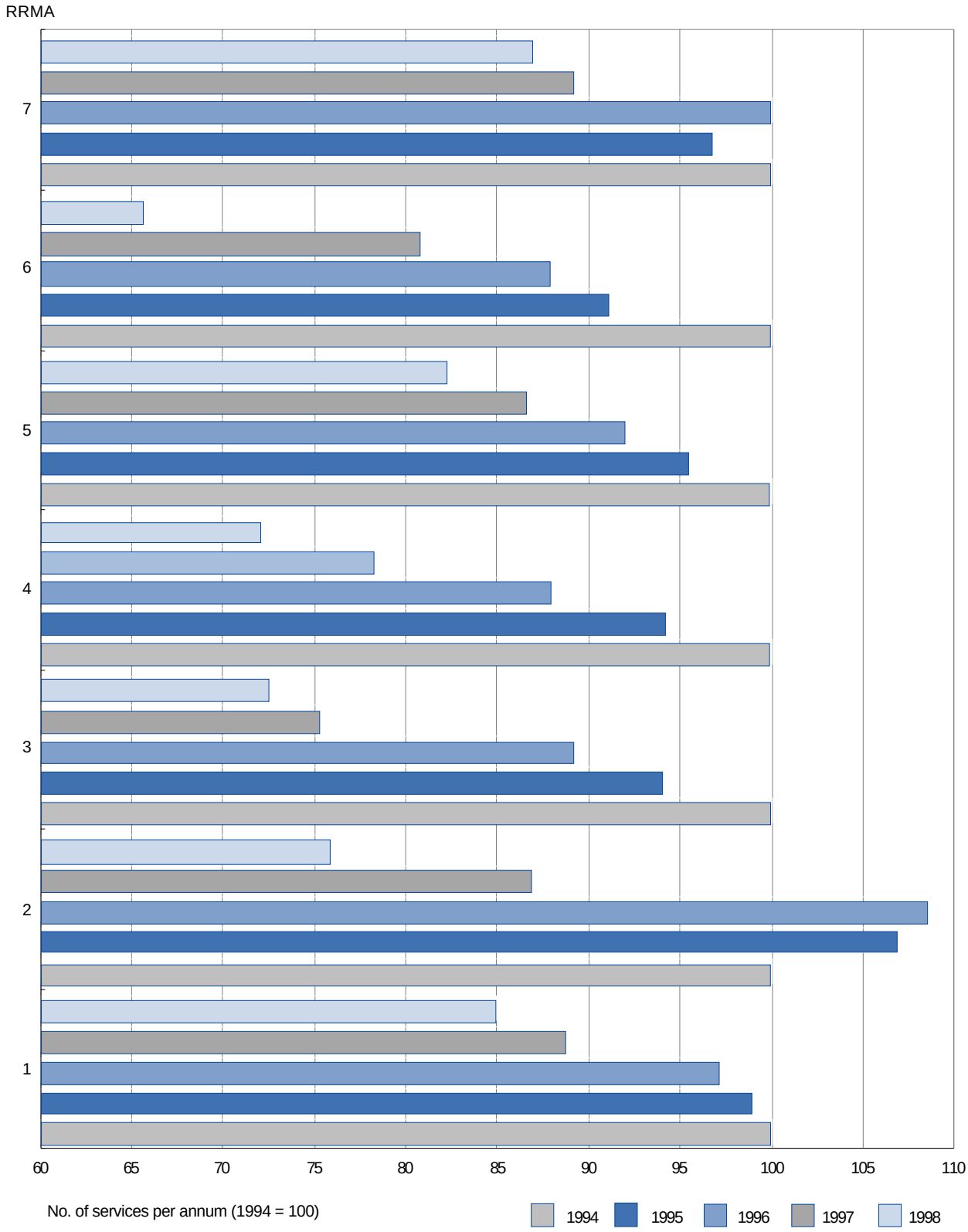


Figure 6.04 : Annual after hours item number utilisation by RRMA



The number of all after hours item numbers services provided by female providers has remained steady at around 20,000 services per quarter (Figure 6.2), whilst the proportion of the workforce that is female has increased from 30.9% to 33.2% between 1995 and 1998. This suggests that female GPs are either less inclined to perform this type of work or are more likely to seek work at fixed locations such as extended hours clinics, where after hours work would be billed as normal items. Interestingly, the obvious seasonal cycle in the data for males is not repeated in the female data. This is illustrated in Figure 6.3 where the female data has been expanded to enhance any seasonal variation. This may be simply due to the smaller numbers, as there is no clear explanation as to why this should be so.

6.3.2 Location

There are two opposing forces that influence the provision of after hours services and the method of billing for those services as related to practice location. Rural and remote practitioners are often the only available medical service providers and must of necessity provide after hours services. This might be expected to translate to higher service levels in those areas. Conversely, where hospitals exist some after hours care can be provided through the hospital, which may or may not be billed to Medicare depending on the local arrangements. In any event one might expect that the trend to extended hours clinics and use of other forms of service would be less in rural and remote locations. In addition, some primary care services can be provided by nurses through hospitals in rural areas without doctor input – hence no claims will be recorded. Figure 6.4 shows the services billed to the after hours item numbers by RRMA category by year for the years 1994-98, indexed to 1994.

It should be clear that the trend towards decreasing claims for services billed to after hours item numbers occurs in all RRMA categories. In particular the percentage change over the five year period is larger in non metropolitan areas. There are a number of possible interpretations of this data. First, the availability of deputising services in metropolitan areas would potentially act as a brake by providing non-hospital based services, some of which will be billed against the after hours item numbers. Second, the trend to extend surgery hours may be more marked in non-metropolitan areas where it is less onerous to deal with extra patients by keeping the surgery open than being called back (this differs from the extended hours clinics in metropolitan areas). Third, the figures may represent a real trend to divert more primary medical care demands to hospital emergency departments, representing a cost shift for after hours from the Commonwealth to the states. Finally, and least likely, the data may be demonstrating a real decrease in demand for this type of service or decreased provision. Further analysis of this issue is important to inform policy development and service planning. In particular, further research is needed to link after hours item number utilisation with hospital data and other services such as extended hours clinics and where multiple patients are seen. It should be noted that the data across regions and time has not been standardised for changes in age/sex demographics, but this is not likely to explain the variance seen.

Table : 6.03 BEACH data on 17278 encounters

Consultation time	No GPs	Total Encounters	Dist %
0800-1800	487	16084	93.1
1800-2000	219	901	5.2
2001-0759	95	293	1.7

6.3.3 Item Numbers Used

The above data relates to item numbers used in billing specifically provided for emergency after hours services on a “call back” basis. It is not possible to track services provided through extended hours arrangements in the HIC database as time of consultation is not included as part of the claim process. In addition, where more than one patient is seen normal item numbers apply to the second and subsequent patients. Hence the above data underestimates the level of after hours service provision in a systematic way. The Bettering of Evaluation And Care of Health (BEACH) study collects data from a rolling random sample of recognised GPs for all services provided for 100 consecutive consultations per GP. A recent sample of over 17,000 consultations included information on time of consultation. Table 6.3 provides a summary of this data.

The BEACH methodology has been validated elsewhere (Britt et al 1999a). In this sample of 487 GPs it can be seen that 219 (44.9%) provided services between 1800 and 2000 and 95 (1.9%) between 2000 and 0759. These figures are approximate as there may be some GPs who only provided services after 6pm, such as late shifts in extended hours clinics. If one accepts 0800-1800 as in hours then some 6.9% of all encounters provided by the sample GPs occurred “after hours”. Alternatively, the HIC definition of after hours as after 8pm would account for 1.7% of encounters. The HIC data above indicates that less than 1% of services billed to Medicare are billed to emergency after hours item numbers. If this is generalisable it suggests that about 15% (1/6.9) of services occurring after hours (that is, after 6pm) are billed as such. Conversely, if the 8pm cut off is used as the denominator, then around 60% of after hours services are claimed against after hours item numbers. There are clear implications if the Medicare system moved to time of day based item numbers or if there was a significant

Table 6.04 : Medicare Schedule Fee Values

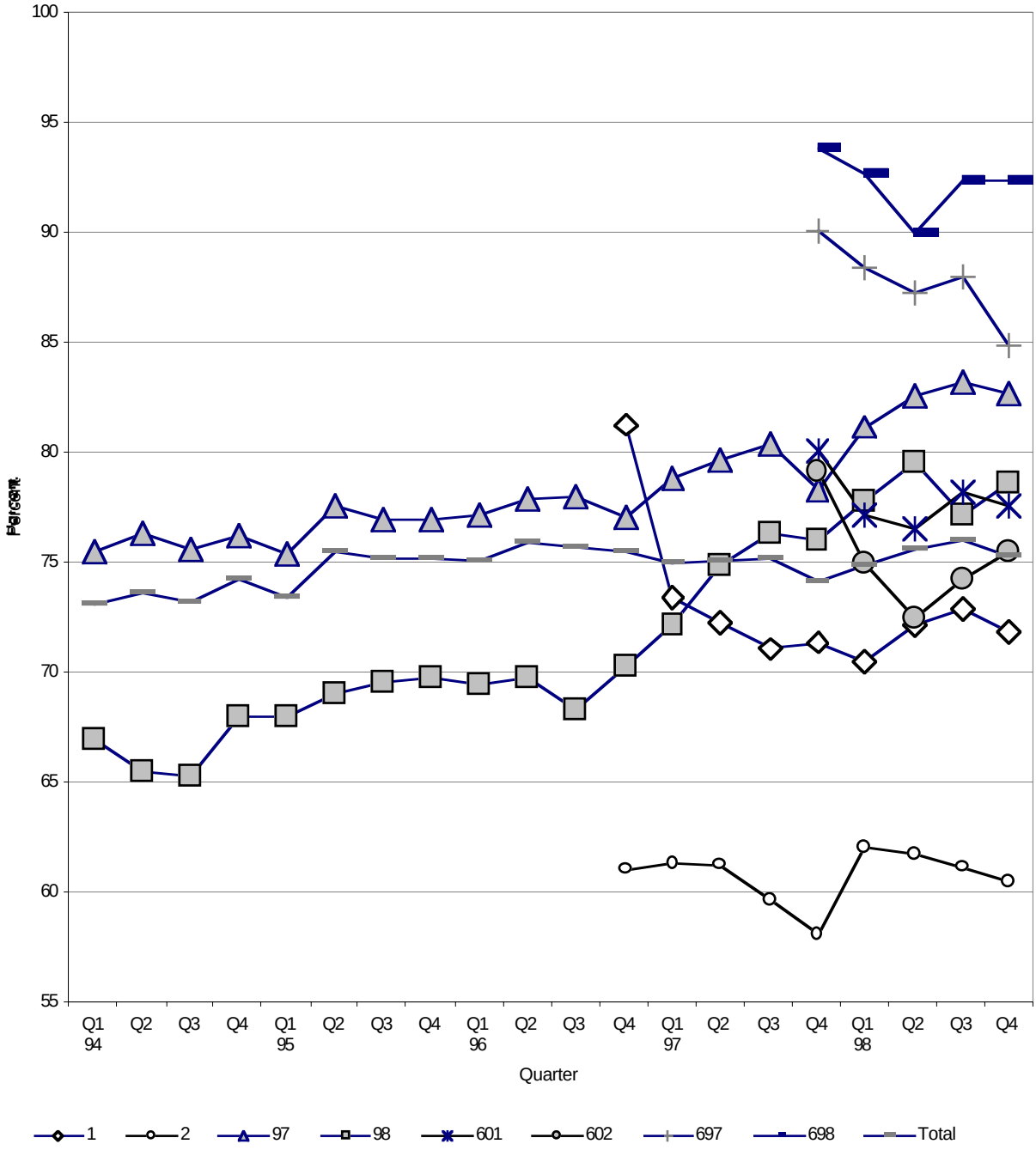
Item No.	Nov-95	Nov-96	Nov-97	Nov-98	Nov-99
1	N/A	46.20	54.45	55.25	56.95
2	N/A	46.20	54.45	55.25	56.95
601	N/A	N/A	65.05	66.05	68.10
602	N/A	N/A	65.05	66.05	68.10
97	46.20	46.20	50.95	50.95	50.95
98	46.20	46.20	50.95	50.95	50.95
697	N/A	N/A	61.55	61.55	61.55
698	N/A	N/A	61.55	61.55	61.55

shift back away from extended hours clinics. Interpreting the data accurately is difficult as there are overlaps and gaps. For example, the BEACH data does not distinguish day of the week, but is based on consecutive consultations. A number of the 8am to 6pm consultations would have occurred on Saturday and Sunday, albeit a small proportion. Hence the two data sets overlap but are not convergent.

6.3.4 Billing

Figure 6.5 shows the pattern of billing for emergency after hours item numbers. There is a clear and consistent trend that item numbers utilised by recognised GPs (1,2,601,602) are direct billed at lower levels than items numbers for OMPs (97,98,697,698). A part

Figure 6.05 : Percentage direct billed



explanation of these trends may be that they are illustrating different behaviours of different workforce sectors. The proportion of doctors working in deputising services who are not vocationally registered is higher than for general practice overall. In addition, deputising services may be more likely to bulk bill patients for a variety of reasons. For example, there is an incentive to attend patients to provide income – so the use of price signals to lessen demand is less likely. In addition, deputising services may see a wide range of patients that would create a difficult accounting problem if accounts were issued. The alternatives are to bulk bill or charge cash up front (and leave it to the patient to claim any reimbursement). Conversely, GPs from daytime practices may prefer to use a price signal to lessen demand for their after hours care. Another factor is the case mix and health care card status of the patients seeking service. It would, however, be far too simplistic to accept these as the only explanations and clearly more work is needed to understand the links between workforce, demand and billing patterns. Equally it is not clear as to what arrangement provides the best combination of patient care and efficient resource usage. It may well be that the data above illustrates a sensible result from a complex market reacting to the competing pressures of workload demand, income and lifestyle.

Table : 6.05 Recent Payments under the PIP Scheme

	August 1999	Nov-99
Number of Practices paid	4901	5022
Number of SWPEs covered	11,988,411	12,322,755
% of SWPEs in Australia covered (estimate)	72%	74%
Electronic Prescribing participation	51%	59%
Data connectivity participation	68%	76%
After hours tier 1	100%	100%
After hours tier 2	66%	69%
After hours tiers 3	27%	28%

Funds distributed - November 1999

	Average payment per practice	Total funds distributed
Electronic Prescribing	$2,682	$7,964,905
Data Connectivity	$1,668	$6,330,298
Data Flagfall	$2,147	$10,782,423
After hours tier 1	$1,226	$6,161,377
After hours tier 2	$1,361	$4,746,053
After hours tier 3	$1,248	$1,769,784
Rural Loading	$1,876	$2,536,978
Total funds distributed	$8,023	$40,291,820

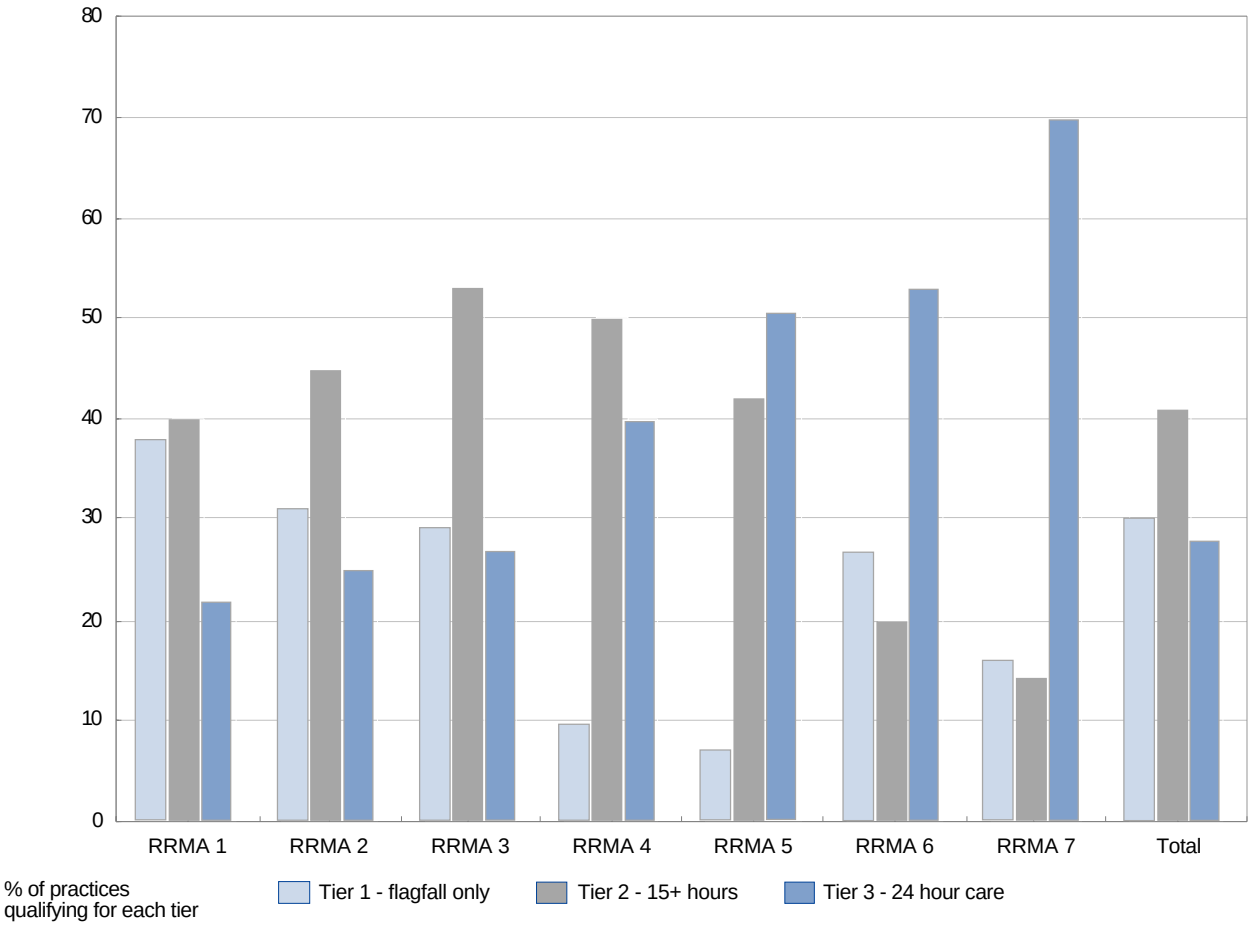
Source : Medicare Benefits Branch, DHAC

It is also worth considering the changes in value of the item numbers over time. Table 6.5 shows the Medicare schedule fees for each of the item numbers since 1995. The rebate is 85% of these figures. It remains to be seen as to whether the relative values study currently under way values these services differently.

6.3.5 Non-Volume based payments – the PIP

The Practice Incentives Program provides for supplementary direct payments to practices where the practitioners provide certain levels of after hours care. Table 6.5 shows the data from the November 1999 payments made broken down into payment categories. All of the participating practices received a payment for arranging 24 hour access for their patients. Two thirds of practices indicated that they were actually involved to some degree in the provision of that care and just under one third indicated that they provided all of the after hours care for their patients. This latter category was intended to meet the concern of rural GPs who wanted recognition of the difficulties they face in being perpetually on call. This is reflected in Figure 6.6 that shows the geographical uptake of the three tiers of payments. Note that the total after hours payments are around $12.5 million in the last payment run (a quarter) representing, at an average of around $50 per consult, a quarterly equivalent of around 250,000 items of service. This is a significant increase in Commonwealth outlays on after hours services.

Figure 6.06 : PIP after hours participation by region



Tier 1 payments are for practices where 24 hour access to care is arranged by the practice. There is currently debate within the profession and government as to whether this first tier is set at the right point. At present practices can receive a payment for simply using an answering machine to direct patients to another service which they may or may not subscribe to (that is commit to financially and/or on the workforce roster). In addition, this service does not have to be a general practice service – it could be a hospital emergency department. Over time this may further reduce the number of GPs available to perform after hours general practice work. Some private hospitals are also willingly providing this service to GPs, presumably to increase throughput and admissions, as well as providing a community service. Tier 2 is paid where this includes some direct involvement of practice doctors in the provision of those services (at least 15 hours per week per FTE). Again, there has been some debate as to whether this is appropriate. For example, the criteria can be met by being available for 3 hours a day (say from 5am to 8am) five days a week, rather than providing a single continuous session of work. Tier 3 is paid where the practice provides all of its own after hours care. It is not surprising that tier 3 payments increase significantly in rural areas, although this arrangement is by no means universal even in remote areas. Even here there has been some questioning of this tier as many rural GPs use the local hospital as a de facto deputising/triage service providing care to simple cases without disturbing the GP. This is important in reducing the onerousness of being on call in a small community all the time and, because of this, is probably an acceptable interpretation of the PIP.

Table 7.01 : Distribution of GPs by time of day

	0800-1759	1800-1959	2000-0759
<35 M	37.2	*25.0	*50.0
<35 F	62.8	*75.0	*50.0
35-44 M	57.7	65.1	76.9
35-44 F	42.3	34.9	23.1
45-54 M	66.2	76.3	80.0
45-54 F	33.8	23.7	20.0
55+ M	82.2	78.6	82.8
55+ F	17.8	21.4	17.2
Total M	64.8	68.7	78.7
Total F	35.2	31.3	21.3

*small numbers

7 Clinical Content

The diverse nature of general practice means that item numbers are used to cover a wide variety of clinical situations. Certainly the Medicare data set does not collect data on reason for encounter for consultation items as this information is rarely necessary in order to permit a payment claim to be processed. The question "what are we buying?" is therefore left open with respect to consultation item numbers. However, it is an important policy and workforce/ training issue to ask "does the clinical content of after hours work differ from in hours work?" Evidence is sketchy and a picture must be built from a variety of sources. The literature review earlier in this report contains a number of studies from overseas and one Australian study.

The Access SERU document (Karabatsos 1999), for example, provides an excellent overview of the present and possible arrangements for the provision of after hours services. This provides a framework in which clinical services are provided but not a description of the services themselves (this was not the intent of the document). The question of what type of clinical services are provided or needed is important in thinking through options for reform. An analogy might be trying to design a new hospital without any idea of the likely casemix that will need to be catered for.

Table 7.02 : Proportion of workforce in different timeslots by sessions worked per week.

Sessions per week	0800-1759	1800-1959	2000-0759
<5	13.3	8.3	9.6
6 to 10	67.4	68.2	64.9
11+	19.3	23.5	25.5

7.1 BEACH investigation

The University of Sydney Family Medicine Research Unit was commissioned through the BEACH study to seek information on the provision of services by GPs by time of day. The methodology has been described elsewhere (Britt et al 1999), but it should be remembered in looking at these results that this is based on a randomised rolling sample of recognised GPs, with a response rate of around 40%. The results shown here have not been published elsewhere.

A number of research questions were considered, but only the after hours issues are reported here. In addition to the data collected routinely by the BEACH instrument, GPs were asked to provide the time of day of each consultation. In addition the GPs were asked to describe the usual after hours arrangements for their practice.

The age sex distribution of the patients was similar to the expected distribution of general practice patients, with a majority being female. Table7.1 describes the characteristics of the participating GPs. It should be noted that the categories are not mutually exclusive (ie many of the GPs providing services in the 0800 to 1800 timeslot will also be providing services in other timeslots).

It is clear that female GPs predominate in the youngest category and that male GPs constitute a higher proportion of the active workforce towards the end of the day and overnight. If this is generalisable there are obvious workforce implications as the proportion of GPs overall that are female increases.

Table 7.2 shows the number of sessions worked by GPs who provided services in each timeslot. The figures show that those providing few sessions (less than five) are less likely to be providing after hours services.

Around two-thirds of the GPs worked 6-10 sessions per week and had graduated in Australia (just over 70% for all groups). There was no difference in practice size distribution across the timeslots, with around 20% of practices being solo, 35% 2-4 doctors and 45% being groups of five or more.

An additional BEACH sample was asked to record length of consultation. Three quarters of direct consultations (77.7%) were between 5 and 19 minutes duration. Only 1.7% were of less than 5 minutes duration, and 2.7% were of 40+minutes in length. The overall mean consultation length was 14.6 minutes and the median 12 minutes. The majority of consultations (93.9%) in this block were between the hours of 08:00 and 18:00, which is consistent with other BEACH data presented earlier in this report. The length of consultation

Table 7.03 : After-hours arrangements (by patient)

After-hours arrangements	No. GPs	Total encs	%	Lower 95% CI	Upper 95%CI
None	49	319	5.9	0.0	17.0
Normal practice	188	4662	86.8	83.6	90.0
By special arrangement	56	390	7.3	0.0	18.7
Total		**5371**			

Note that "None" was defined as "no special arrangements for this patient."

increased in relation to the number of comorbidities and the number of problems managed.

There were 338 encounters (5.7%) at which the GP reported providing a service when the practice was closed. A total of 79 (37.6%) GPs provided service when the practice was closed. The majority of consultations provided when the practice was closed were between the hours of 08:00-18:00. This implies that not all

practices are open during what might be considered “normal” hours. Of those consultations provided when the practice was closed, a higher proportion (11.2%) were of 40+ minutes in length compared to only 2.7% of all direct consultations.

GPs stated a variety of arrangements in defining what was their normal practice in relation to after-hours. Sixty-five GPs (31%) used a deputising service alone, while 87 (41%) GPs used a deputising service alone or in conjunction with another arrangement. The next most common

arrangement was for the 59 GPs (28%) who said that their practices arranged their own after-hours service. There were no GPs in rural or remote areas who used deputising services. This is consistent with data from the PIP and research literature presented earlier.

The majority of consultations (93.9%) were between the hours of 08:00 and 18:00. Only four GPs reported seeing patients between 23:01 and 06:59 in this sample.

Table 7.04 : Reasons for encounter by time of day (rates per 100 encounters and 95% confidence intervals)

	0800-1759	1800-1959	2000-0759
	N=23839	n=1233	n=426
General/unspecified	29.9 (28.6-31.2)	13.0 (9.0-17.0)	33.8 (25.9-41.6)
Respiratory	23.6 (22.4-24.8)	22.6 (18.2-27.1)	27.0 (18.2-35.7)
Musculoskeletal	16.4 (15.4-17.4)	15.43 (12.0-18.9)	13.3 (5.4-21.2)
Skin	14.6 (13.9-15.3)	17.8 (14.4-21.1)	14.7 (7-22.4)
Circulatory	11.2 (10.4-12.1)	11.2 (6.7-15.8)	9.6 (0-32.6)
Digestive	10.0 (9.4-10.5)	9.8 (5.9-13.7)	12.6 (0.3-25.0)
Psychological	7.4 (6.7-8.0)	8.4 (1.3-15.6)	4.4 (0-14.8)
Female genital	6.7 (5.8-7.6)	7.0 (0.0-14.0)	2.4 (0-13.7)
Neurologiocal	5.4 (5.0-5.8)	3.7 (0.0-9.4)	5.5 (0-18.6)
Endocrine	4.9 (4.3-5.4)	6.1 (0.4-11.8)	4.1 (0-31)
Ear	4.5 (4.1-5.0)	7.3 (2.6-12)	5.5 (0-14.7)
Pregnancy/family planning	4.2 (3.4-5.1)	4.5 (0.0-10.1)	3.8 (0-21.9)
Eye	2.9 (2.5-3.4)	3.8 (0.0-9.4)	4.4 (0-11.3)
Urology	2.7 (2.2-3.1)	3.2 (0.0-8.7)	2.1 (0-15.5)
Blood	1.8 (1.2-2.3)	1.3 (0.0-11.7)	1.7 (0-17.9)

7.2 After-hours arrangements (by patient)

GPs were asked to report if the particular encounter was the normal arrangement for the practice for this type of patient. At the majority of encounters (86.8%) the GP stated that the after-hours arrangements for this patient were “normal practice” (note that “normal practice” was defined as “the usual after-hours arrangements for your practice as described in the GP profile questionnaire”).

GPs stated that there were “special” after-hours arrangements for the patient at 7.3% (390) of encounters. A higher proportion of these patients were aged 75 plus years (20.5% compared to the 13.5% who had “normal practice”). There was no apparent difference in the types of problems that were being managed for these patients.

7.3 Reasons for encounter

The clinical content of consultations can be described from either the patient's or doctor's perspective. The former has been analysed as reason for encounter and the latter by problems managed. For example, a reason for encounter might be "rash" whereas this translates into "allergy" as the problem managed. The latter are coded in the BEACH study to the ICPC-2 Plus coding system. Table 7.4 compares the top 15 reasons for encounter across the three timeslots. One problem in this analysis is that individual problems occur so infrequently in

Table 7.05 : After-hours arrangements (from GP profile)

After hours arrangements	Number of GPs	%
Deputising service only	65	31
Practice does its own	59	28
Co-op with other practices	28	13
Referral to other	17	8
Deputising + practice does own	12	6
Referral + practice does own	7	3
None	2	1
Other combinations of above	20	10
Total	**210**	**100**

Table 7.06 : RRAMA classification by after-hours arrangements-deputising service (%)

After-hours - deputising	Rural,remote & metro. classification							
	Capital	Other metro	Large rural	Small rural	Other rural	Remote centre	Other remote	Total %
Yes	35.71	5.71	0.00	0.00	0.00	0.00	0.00	41.43
No	27.14	2.86	4.29	7.14	14.29	0.95	1.90	58.57
Total %	**62.86**	**8.57**	**4.29**	**7.14**	**14.29**	**0.95**	**1.90**	**100.00**
After-hours practice - does own								
Yes	20.48	4.29	2.86	1.43	8.10	0.48	1.43	39.05
No	42.38	4.29	1.43	5.71	6.19	0.48	0.48	60.95
Total %	**62.86**	**8.57**	**4.29**	**7.14**	**14.29**	**0.95**	**1.90**	**100.00**
Co-op with other practice								
Yes	5.24	0.95	0.95	3.81	6.67	0.48	0.00	18.10
No	57.62	7.62	3.33	3.33	7.62	0.48	1.90	81.90
Total %	**62.86**	**8.57**	**4.29**	**7.14**	**14.29**	**0.95**	**1.90**	**100.00**

general practice that even those most commonly seen occur in less than 10% of cases. A second issue is that for after hours services these numbers become so small as to blow out confidence intervals. The numbers required for statistically significant differences to be shown is very large. Nevertheless, although the ranking order differ slightly by time of day, the only reason for encounter that shows a statistically significant difference is the "general and unspecified" category that seem to take a plunge between 1800 and 1959 hours. One would have to conclude form this data that there is no statistically significant difference in the clinical reasons for encounter by time of day for vocationally registered GPs in practices (as opposed to deputising services or other forms of service provision). This analysis is by chapter level of ICPC and does not differentiate severity. Larger numbers are needed to enable analysis at a more granular level.

It would be useful to compare this data with data collected from other providers of after hours services such as deputising services. The numbers in this sample are indicative but not conclusive and a further 40,000 encounters will be sought over the next 12 months to expand the data set and improve precision. The only other available data comes from the After Hours Primary Medical Care trials. This data is coded by presenting complaint and has not been aggregated to the chapter level of ICPC and is consequently not comparable. The report of the national evaluation will provide more insight into this aspect of the trials.

7.4 After-hours arrangements

The after-hours arrangements as provided by the GPs from their profile questionnaire are presented in Table 7.5. Multiple responses were allowed as individual practices made different arrangements for different patients, and individual doctors in some larger practices may make their own arrangements. Sixty-five GPs (31%) stated that they used a deputising service as the only form of after hours service accessible to their patients, while 59 GPs (28%) said that their practice arranged its own after-hours service.

It should be noted that several of the GPs stated that they used different arrangements for different times of the day/week but this information has not been analysed. What is a little alarming is that two GPs provided no after hours access (and admitted this), despite being Vocationally Registered. This is most likely to be a central city practice catering for commuters where access after hours is not a significant problem. However, this would need to be confirmed.

The earlier data from the HIC indicated that the number of GPs claiming at least one service against an after hours item number in a year has not diminished over the last five years. The BEACH analysis supports the explanation that GPs are selective in their availability. In the BEACH sample of 210 GPs providing nearly 6,000 consultations, some 7.3% of encounters were described by the GPs as "special after hours arrangements for that patient". There was no significant difference in the problems managed under special arrangements compared to

"normal" after hours arrangement encounters. This suggests that either there is some parameter of the presenting problem that is not picked up in the coding system that drives this selective process or that some patient characteristics cause the GPs to respond differently.

In addition, the majority of encounters coded as "after hours" (71.9%) were, in fact, provided between the hours of 0800 to 1800, but the practice was closed at the time. These could include a large number of Sunday or Saturday afternoon encounters, as the BEACH analysis did not differentiate day of the week.

Patients seen when the surgery was closed tended to be older when compared to the overall patient population in the sample (24.3% over age 75 compared to 13.1% in the population overall). The average length of consultation was also longer with a higher proportion of encounters in the greater than 40 minutes category.

7.5 RRAMA classification by after-hours arrangements

The rural, remote, metropolitan classification has been used for the top three after-hours arrangements from Table 7.6 to give an indication of how these may differ across different areas.

The most predictable observation is that deputising services are not used at all outside metropolitan areas. This is consistent with findings presented elsewhere in the report.

It is also interesting to note that of the 22.4% of GPs who work in small rural, other rural or remote centre locations, 44.7% state that they provide all of their own after hours cover whilst 48.9% use some form of cooperative arrangement.

8 Discussion

The debate around the provision of after hours primary medical care services is complex and, at times, confusing. There is a considerable overlap between emergency care (the demand for which occurs at all hours) and after hours care. Similarly home visits are requested at all hours yet after hours home visits are seen as a separate entity. The Practice Incentives Program now rewards most those GPs who provide all of their own after hours services whilst the AMA is campaigning to restrict the working hours of doctors for safety reasons. Urban doctors prefer to use deputising services who, in turn, must see a minimum number of patients to remain in business in a purely fee for service system, although this is supplemented by subscription charges from participating practices (Note that at the time of writing deputising services are not eligible for PIP payments of any kind, although accreditation of deputising services is a real, not too distant possibility, presumably making them eligible for PIP as accredited practices). Rural doctors often raise concerns at the onerous task of being on call for long periods, although the exact burden of this task in terms of actual call outs is not known as data on state funded services provided through hospitals is not readily available. In addition, in small rural communities the hospital staff may deal with many minor clinical

presentations, calling on medical expertise only for major problems. This reduces the load on rural GPs but also implies that when actually called the GP is more likely to be facing something major and demanding. Clearly there is a need to balance the provision of clinically needed services and the need for GPs to lead reasonably balanced lives.

As a society we value a health care system that can provide care on the basis of medical need independent of capacity to pay. However, not all demand is based on clinical need but more on expectations, often based on what has been available before. The public system, through public hospitals, is required under the Australian Health Care Agreements to provide care for any person presenting regardless of the time of presentation or the presenting complaint. Private medicine is not, although professional and/or ethical pressures influence this. An interesting issue relates to vocational registration in this regard. The RACGP is tasked with providing the HIC with the names of GPs who have satisfied the requirements for VR – and are therefore entitled to a higher rebate for services rendered to patients. In turn the RACGP standards require the provision of the organisation of the provision of after hours services. It could be argued, therefore, that VR GPs have a contractual obligation to satisfy this requirement if they are claiming the higher rebate.

After hours care is provided by a mix of these two systems and the interface is an area of intense debate over how this should be organised and resourced. In addition, general practice prices have been held down by market pressures, particularly in large population centres where GP:population ratios are higher. GPs , like all private providers in an open market, make choices about what services they are prepared to provide at the price that the customer is prepared to pay (in this case this is either the funder directly or the patient). For example, there is an increasing tendency for extended hours clinics to abandon the 24 hour open concept because the volume of demand after 10 or 11pm does not justify keeping the service open. If this were a public good it might be argued that the service should remain open and cross subsidisation provide the infrastructure and running costs for the service. However, as a private business it is a perfectly rational decision to only provide services that can at least cover costs if not provide a profit.

Rural doctors are often in a bind – they don't want to be on call all the time yet there is a professional obligation to be available in towns where no alternative is available. In this environment the general practice bridges the divide between a private business and a public good. There are a wide variety of locally specific models. The PIP data above shows that there are around 20% of PIP practices in metropolitan areas that claim to provide all of their own after hours care and this rises to nearly 70% in "remote, other" locations. Conversely, there are from less than 10% (RRMA 5) to over 30% (RRMA 1) of practices that claim flag fall levels only – that is the organisation of access to 24 hour care but not necessarily its provision. It is important to understand the unique problems faced by rural and remote GPs, but it is equally important to acknowledge that the dichotomy is not distinct. Any national policy framework must allow for local solutions.

There are a multiplicity of arrangements for the provision of after hours primary medical care. Driving factors are often local in nature and lead to unique solutions such as cooperatives and units such as the Balmain GP Casualty in central Sydney. Imposed changes that do not take into account local history and relationships will not be welcomed. There are clear "turfs" with skirmishes around the interfaces such as the role of general practitioners *in* emergency departments versus the role of emergency specialists and doctors in training; the intersection of extended hours clinics and GP cooperatives; the intersection between deputising services and site based clinics and so on.

It is generally accepted that continuity of care is an important component of a good health system. Where the treating after hours GP is the patients' own doctor this should not present a problem (although rural doctors have said informally that patients seen in a hospital after hours may not always have their notes sent on from that encounter to the surgery). Where the care is provided by another doctor there is clearly a need to have a system where details of encounters are provided to the patients' "usual" GP as soon as possible. Improvements in IT systems may facilitate this. But there are also issues of patient privacy and choice – it cannot

Table 8.01 : Characteristics of Different Forms of After Hours Service Provision

	Extended Hrs	Own Practice	Cooperative	Deputising	Emergency Dept
Known population	• •	• • •	• •	•	
Funding – private	•	•	•	•	•
Funding - C' Wealth	• •	• •	• •	• •	
Funding – State			•		• • •
Funding – GPs			•	• •	
Provides home visits	•	• •	•	• • •	
Site based services	• • •	•	• •	•	• • •
Workforce avail.	• • •	•	•		
Appeal to GPs	• • •	•	• •	• • •	• • •
Ancillary services	•	•	•		• • •
Recognised GPs	• •	• •	• •	•	
Triage incentive	• •		•		• • •
Accessibility	• •	•	• •	• • •	•
24 hr available	•	•	•	• •	• • •
Metro	• • •	•	• •	• • •	• • •
Provincial	• •	• •	• •	•	• • •
Rural Town	• •	• •	•		•
Remote	• •	• • •			

Key : • • • All services of this type should have this feature
• • Most services will have this feature to some degree
Note : Few services will have this feature or it will be a minor feature of the service type.
This characteristic is not a feature of this type of service

be automatically assumed that the patient wants their usual GP to know the occurrence or content of an after hours encounter or an encounter at an alternative service. Equally, a patient may not want an after hours doctor to have access to their full "day time" medical record. A recently launched service in Melbourne will examine this through on line access to GPs' patient records by home visiting locums. It is doubly difficult for deputising service around holiday times when there may be some delay between the encounter and the availability of the usual GP – should the deputising service provide follow up until the usual GP is available? The future may see patients more closely linked to practices, possibly under formal or informal contractual arrangements that would require the GP(s) to ensure the provision of after hours services, and home visits. The rapidly expanding corporatisation of general practice may play an important role here. An additional feature of after hours services is now the call centre – often with an incorporated medical triage service. At what point does a call become a consultation? The implication is that the service changes from the provision of general information to specific personal advice, often based on a computer generated protocol. There would be an implied duty of care of a clinical nature where personal advice is given. In addition good practice would imply that the nature of the advice and the content of the 'consultation" be provided to the patient's usual doctor at the earliest convenience. To do this requires loss of the anonymity of the call.

An emerging component of the emergency department/after hours general practice interface is the use of triage categories to label patients as "GP" type. It is important to emphasise that the Australian College of Emergency Medicine national triage system has nothing to do with general practice. It is simply a way of allocating a reasonable waiting time for each patient attending an emergency department in order that the most urgent are seen first. Hence low acuity patients will wait the longest. A significant percentage of low acuity patients are referred to emergency departments by GPs in the first place, and many will eventually be admitted. This is also a 24 hour phenomenon, not specifically after hours. What is needed is a triage category of primary care. That is, regardless of acuity, an assessment made on the reasonable level of skills that a vocationally trained GP might have. Where there are either GPs working in the emergency department or in a nearby location, such patients can then be redirected. If only ACEM triage category 4 and 5 patients are directed to the GPs, who will generally see patients more quickly, the paradoxical consequence will be that category 4 and 5 patients may have shorter waiting times that category 3 patients. It is also possible that if large volumes of category 4 and 5 patients are redirected, the hospital response to the reduced workload may be to reduce staffing levels – there is no guarantee that waiting times for low acuity patients will result – unless the triage benchmark waiting times are reduced accordingly.

Australia has about 20 million people. On that basis the literature would suggest that the demand for after hours services should be between 3 and 6 million services per year (based on literature figures of between 150 and 300 services per 1000 patients per year, as quoted in

studies previously described). After hours item numbers account for about 500,000 services per annum. The BEACH data suggest that this accounts for about 1 in 6 after hours consultations (remembering the caveats on the BEACH data set in terms of representativeness in this timeslot). This, as a very rough guide, suggests about 3 million after hours services per annum are currently being claimed against Medicare by GPs in one way or another, including through extended hours clinics. This is at the low end of estimates and would suggest that many more services are being provided through alternative funding systems, notably state hospitals, or that currently there is a significant unmet demand. Obviously more data is needed to clarify this estimation. Two of the key questions that arise is how many of these services are "necessary" and from who's perspective? It would be pointless to construct supply side reforms without some sense of demand side issues – and this must go beyond mere satisfaction surveys. To this end a major research project is currently progressing to determine the range of consumer responses to questions around the organisation, provision and financing of after hours services.

Let us examine the characteristics of the service mix that provides for after hours primary care medical services (Table 8.1). The information in Table 8.1 is compiled from the research and data contained in this report. Readers may have their own views on the relative strengths of the attributes of each type of service. Also, the table is not suggesting that all services in a given category are the same. However, it does demonstrate that each type of service provision has inherent strengths and weaknesses – there is no perfect model. The mix that a given community of both practitioners and patients may want will be influenced by local history and relationships, available resources and the willingness of each to either verify existing arrangements or seek alternatives.

Few services will have this feature or it will be a minor feature of the service type This characteristic is not a feature of this type of service

Clearly, the roles of the various players will depend on the mix. It will also depend on the funder's willingness to utilise the pool of money normally spent on these services in a more flexible and possibly linked way. For example, the evidence presented in this report would suggest that infrastructure grants to bona fide after hours cooperatives would remove the fee for service volume incentive. This might allow a telephone triage service that can provide the advice, information and reassurance that many patients are actually looking for when they request a service such as a home visit. Deputising services support this function through subscription fees, at least in part. This approach is the basis of the after hours trial in Tasmania. In Australia the current culture is that to get professional advice you have to have a "consultation" unless the patient is well known to the service when advice and/or services such as repeat prescriptions/referrals can be given. The increasing promotion of "free clinical advice" by pharmacies is an obvious marketing strategy to meet some of this demand. Although consumers make considerable use of complementary therapists, there is no readily available evidence as to what extent these services are available after hours. Twenty four hour

call centres are also an alternate and rapidly emerging service entity and can provide information on a range of services, including advice on complementary therapies if set up to do so, as well as triaging in an orthodox medicine paradigm.

In addition we now have the PIP top tier payment for after hours work as payable where the practice provides all of its own after hours services from within the practice's resources. This may be of benefit to larger practices but is onerous for solo practices, particularly in small rural communities where there is little choice. Having said that, it is clear that some interpretation of the rules exist – for example, where the first point of contact is actually the local hospital that filters calls to take the load off the GP. Is this strictly meeting the "all after hours services" provision? Where inter community cooperatives are occurring this removes the practices involved from the top tier arrangements. It is clear from the PIP data here that practices are currently receiving considerable extra payments for after hours services through the PIP scheme. However, there is no evidence of or compulsion to invest these payments into improving after hours services. The first layer of the PIP rewards practices that do little more than turn on an answering machine, which admittedly is better than no service at all. The next step to 15 hours per week of actual involvement in an after hours roster or service, is a big one. The extra payment of $2000 (plus any payment for the actual work) does not seem to be enough to tempt practitioners into the after hours workforce, and this places more pressure on those that do, including leading to provider number issues where workforce can only be supplied outside the vocationally recognised GP pool. The General Practice Financing Group is currently considering alternative settings to the PIP after hours arrangements in order to better reward those participate in after hours service provision. Whilst participation in after hours care is not required for practice accreditation purposes, practices who make alternative arrangements for patient care after hours will be required to explain how patients that require home visits are able to obtain them. This clearly signals that referral to a hospital emergency department (public or private) will not, in itself, be an acceptable arrangement.

General practice services have traditionally been separated from other primary care services by funding models and underlying tribalism. It is clear from the evidence that many after hours presentations could be effectively dealt with by appropriately trained nurses – either face to face or via telephone triage systems. At present there is no Commonwealth mechanism to pay for such services unless such professionals are employed by general practices (either directly or through after hours cooperatives) or through the state funded hospital system (or, increasingly, private hospitals), or by direct project/program grants. It would seem that the need to protect territory is paramount, whether it be professional territory or fiscal territory. This militates against the development of the most cost effective and efficient models of after hours care provision. In addition there is no program at either state or Commonwealth level that this author could find that seeks to educate consumers on their rights and responsibilities with respect to demand for after hours services, with almost all

activity and incentives aimed at the organisation and provision of supply. The most successful models found were purely anecdotal and exist in rural communities where considerable effort has been placed into educating the local community to use services appropriately in order to avoid burn out of providers, with potential reduction in service provision as a result. This is clearly an area where Divisions of General Practice could provide a resource to cooperate with local government and health administration, including hospitals, to provide this education. Whilst this can be facilitated by governments at state and federal level, such education can only work if it is placed in a local context. Such local solutions could be supported by a national approach to call centre information and triage service provision. Some of these issues are a feature of the after hours primary medical care trials, and the knowledge base on how to improve services will emerge in the process as part of the overall evaluation.

There is a need for training of all primary care providers in the work of after hours services. It should be made a compulsory curriculum requirement at both undergraduate and vocational postgraduate levels that both nurses and doctors undertake a minimum attachment to an after hours service of some kind. This is particularly true of off site care such as home visits where control of the situation is not always easy to achieve, and potential vulnerability, exploitation and real fear may be experienced. In addition, services that are remote from the patient and based on protocols , such as telephone triage, require all staff who are likely to answer the telephone to be well trained in the strengths, limitations and legal implications of the service.

As a society (and by implication, government) we need to decide whether the provision of after hours primary medical services is a public good or a private service. In the UK the decision is clearly of the former kind – hence the contractual requirement that general practices provide 24 hour care for their registered patients (this allows for subcontracting of the work to a third party). In Australia only public hospitals are contractually required under the Australian Health Care Agreements to provide a service to anyone seeking it at any time and at no cost. As stated previously, the increasing tendency for previously 24 hour general practices to close doors at 10pm or so is a logical business decision as volumes of patients after that are usually too small to support the service without cross subsidisation from other income sources at other times of the day. Should government be subcontracting out its 24 hour obligation to such sites, or, indeed, other providers such as deputising services or Divisions, to reduce load on public hospitals and the use of expensive facilities such as emergency departments for often trivial medical conditions? The reality is that changes may only be marginal as consumers who see the hospital emergency department as the appropriate place to go after hours may continue to do so, particularly where private practice uses price signals to dampen demand.

9 Possible models

The evidence presented in this paper indicates two main conclusions. First, there is no ideal universal way of organising and providing after hours primary medical care services, certainly not based on a central model. Second, there is insufficient data on which to base decisions about the best way of organising and paying for the development of new models at present – it is hoped that the evaluation of the after hours trials and ongoing accumulation of other data and knowledge will fill this gap. There are some confusing boundaries. Not all emergency care is after hours yet the link between after hours services and emergency departments of hospitals is clearly important. The majority of "after hours" services provided by general practitioners are actually provided through extended hours clinic settings and not through the utilisation of specific after hours item numbers. It is hardly surprising then, that changes to rebates for these items in 1997 produced no effect on the downward trend in their utilisation. They are not actually picking up the vast majority of after hours services. What GPs seem to be doing is finding alternative arrangements to enable their patients to be able to access care 24 hours a day, whilst allowing a reasonable lifestyle for themselves, often remaining available for selected patients Any changes contemplated with respect to funding of after hours services needs to take into account this behaviour pattern. Increases in funding need to be a mix of infrastructure payments (either through the PIP or through direct forms of funding) and rebate adjustments.

General practitioners operate in a free market industry. Competition creates price pressures that ensure that patients pay little or nothing at the point of service. Doctors working for services where they receive a proportion of billings are under pressure to see patients and are more likely to bill at the rebate level even if it is lower. Deputising services currently do not qualify for the PIP payments, so subsidisation through this route is not available – this may change for deputising services able to meet the RACGP standards for accreditation. Income can only be increased by increasing turnover of patients or enrolling more practices or increases in fees. Conversely, GPs who are providing a service but are not dependent on this for income may and do use price signals to control demand. Hospital departments , as part of the public system, cannot charge and must provide services to any patient that presents, at least in theory. Private hospitals, on the other hand, can and do charge patient moieties, and there is some evidence that more private hospitals want to operate emergency departments, including primary care after hours services, presumably to improve admission rates as well as providing access to an alternative service for consumers. Patients are confused. From the providers point of view there needs to be ways of minimising trivial and convenience calls in order that their clinical energy can be directed at those in medical need without sacrificing their own need for family and lifestyle quality. Female GPs are clearly better at reaching these compromises – but the increasing feminisation of the workforce creates a bad scenario for future after hours workforce planning, if current patterns of organisation and funding are

continued. This may be more so where GPs work as employees on a part time basis and have, as a consequence, less commitment to the patient population when they are not there – which includes after hours. In addition there is anecdotal evidence that employed doctors do not always receive the benefits of bonuses such as the PIP, even though they contribute to meeting the requirements that leads to a payment. One possibility may be to use female GPs online from home as part of telephone triage arrangements attached to other services.

The current arrangements encourage competitive market systems in hours but the literature and the primary medical care trials suggest that the best arrangements require GPs to cooperate after hours. More research is required to understand why they are so reluctant to do so. The fear that a sympathetic GP encountered at an hour of need will lead a patient to switch allegiances at other times is a real one – many young GPs have boosted their practice growth by exposing their talent to the population in an after hours setting. This leads to ludicrous situations where towns with half a dozen GPs have three or four on call at any one time - all complaining of workload and poor lifestyle. Clearly in this situation collborative approaches are more sensible and should be rewarded. In particular, transfer of simple care to other providers is an option to explore, either through direct substitution or through nurse based triage services, such as that used in the West Vistoca AHPMCT. There are worse situations where some GPs simply shut up shop and leave their patients to someone else – and this may happen in rural settings as well as urban environments. There may be an ethical/moral duty to ensure that 24 hour care is available to patients but it is not a legal requirement (unlike public hospitals), unless the practice has a contractual obligation to do so. The RACGP sets the standards and it is the role of the accreditation process to ensure that these are met and maintained.

There is no current national policy on after hours services. The National Health Strategy paper on general practice introduced debate on a range of issues including research, training, integration, Divisions, financing and so on – yet nowhere does it discuss the provision of after hours primary medical care as a specific issue (National Health Strategy 1992). Similarly, the review of the GP strategy study (DHFS 1998) does not tease out the provision of after hours care as an issue, and the only recommendation that refers to after hours is that the PIP contain an after hours payment, as it now does. The Practice Incentive Program is internally inconsistent in wishing to reward quality yet paying the highest amount for GPs who are prepared to be available all hours of all days. This latter arrangement does occur of necessity in some isolated communities – but there may be better ways of rewarding this commitment (for example through an “on call” fee such as currently paid in some rural areas through state systems). Recent moves to adjust the PIP to reward participation in after hours care more are to be commended. The recently signed memorandum of understanding locks in financing for several specific areas of concern for GPs – training, rural support, Divisions etc – but no mention of after hours services is made. Flexibility of arrangements is hampered by the insistence by many doctors that a fee for service arrangement should persist – despite the

evidence from almost every other health system that such an arrangement is not ideal for after hours care service provision. This is because FFS rewards volume at a time (after hours) when work should be minimised. Conversely, it is reasonable to expect a substantial payment for providing services at unsociable hours where this cannot be reasonably avoided. In addition, there is no mechanism to provide the infrastructure costs of alternative arrangements that might be overall more cost effective and better for both GPs and patients. An obvious solution here is to use the infrastructure provided by Divisions to organise and support after hours services – as planned in a number of the trials. Divisions would be particularly sensible where specific populations are concerned such as disadvantaged and indigenous people. The literature suggests that the former are high users of both general practice and other primary care services whilst the latter consistently under access primary care services of all types. The literature is also replete with studies that clearly show that doctors can be influenced by changes in payment systems (Pegram 1999), and behavioural response to the PIP current settings reflect this.. What is needed in this context is a financing approach that rewards GPs not only for provision of individual services, but for cooperation in the way that they are organised. An alternative model could provide funding held at the Division level and paid on a sessional basis for being on call, although this would require cooperation with the States to ensure that existing systems of on call payments in some rural areas are not jeopardised (such as in some rural areas of Victoria and western Australia). The complexity of existing systems is evident in reports such as that of Duckett and Kenny (2000).

It is also important that any changes in arrangements do not adversely affect existing services, particularly in a trial/pilot context – it may be difficult to resurrect services after the trial period. In this context carefully considered system change with parallel evaluation activities would be preferable to a stop-start pilot model. This will require agreement to collaborate from all levels of government as well as the professions involved. This must be matched to what is known about consumer preferences and in this context the research currently under way will be critical. Feasibility studies have been commissioned in two of the trials to explore how a wider roll out might be achieved. Impact on existing services is a key issue to be considered in these studies. Whilst it may be efficient to reduce the number of providers of services after hours, thereby consolidating resources, it may be seen as anti-competitive. Equally, there is a strong position statement from the Australian College of Emergency Medicine that does not favour GPs working in emergency departments, although near-location models are acceptable. The intersection of emergency medicine with after hours primary care is a critical area for debate.

In conclusion, more work is required to understand better the content of after hours primary care. There needs to be a nationally led discussion that seeks a policy framework that determines whether shoring up existing systems is more acceptable than system change. The overall pool currently being spent on after hours services, directly or indirectly, needs to be examined and alternative ways of distributing that pool considered. Training for after hours

work needs to be a feature of postgraduate training for all health professionals, but particularly doctors. Consumer groups and governments should be active in educating the population on using primary care and emergency services after hours more effectively. Consideration needs to be given to linkage of populations to practices to enable practices to better plan and deliver services to the community they serve. Groups such as the General Practice Partnership Advisory Council and all the organisations around that table should be prime movers in the debate. Further research is needed to better understand the ranges of issues outlined in the preliminary findings in this paper. In particular expanding the BEACH study and tapping into other research through GPEP grants and other data sets, deputising services, hospital data, consumer studies and so on. Through this it should be possible to build up a better picture of what the nature of after hours medicine is and the best way to organise its provision. We need to avoid the simplistic and temporary "more money" approach and seek to intelligently overcome cost shifting debates perpetrated by the current segmentation of resources for after hours services across government levels.

10 After Hours Services

The current financing of After Hours Services must be analysed in terms of the total amount of money spent and this must include the services which might otherwise be called Primary Care that are currently provided through Hospitals (often defaulted to Triage categories 4 and 5) whether this is through large teaching Hospitals in metropolitan areas or through patients turning up through casualty in small Community Hospitals whether this be by their own volition or directed by their local Medical Practitioner.

Once there is a better picture of what finances are currently being spent a judgement should be possible as to whether such resources are adequate or need to be supplemented, and how they might be redistributed in a reorganised system.

The emerging technology of Call Centres and the intersection of Call Centre technology with triage services will be an important component of any service reform. The After Hours Primary Medical Care Trials and other overseas literature certainly suggest that call centres are effective ways to reduce the volume of service provision through effective triage based services of which there are three models. There is some debate as to where the volume reductions might occur, and it is too early to tell how an Australian version of call centres will impact on hospitals and community based services. In addition the cost of setting up such centres is not trivial and questions of *cost*-effectiveness remain.

The first call centre model is purely protocol driven where by appropriately trained lay people can provide advice based on these protocols to callers. The second model is where nurses, again appropriately trained, are used as the service provider. The third model is where General Practitioners or Medical Practitioners are used. Models one and two require medical back up/supervision. There is obviously an increase in cost but there is some evidence from Denmark & the Hobart trial that whilst there may be an increased cost it may in fact be cost

effective in terms of the capacity to turn around calls more rapidly and deal with more cases without referral to other services. Never the less we will need to wait further information coming out of the trials. The other important difference between a after hours triage service and a call centre is that the latter is essential an information service and some of this information my be of a very general nature. Where it becomes a telephone consultation is when a caller has specific health problems for which they are seeking immediate advice. The legal parameters of that encounter are then clearly changed.

Finally we need to think in terms of innovative approaches to workforce utilisation. Certainly the previously accepted norms of After Hours Service provision of doctors in cars doing home visits as a preferred mode of service provision are now outdated. This is not to say that this form of service is now totally unnecessary, as there remains a need for domiciliary visits. However, there is clear evidence that the new generation of GPs are less inclined to engage in this type of work. Different forms of service organisation and provision and rewards are required. For example, triage services could be provided on line from home.

There are two inescapable conclusions from the analyses presented in this paper. The first is that there are many GP's that already provide high quality after hours services to their patients either directly or through well managed and well organised cooperatives and/or deputising services. Equally there are some GPs that for whatever reason do not feel under any obligation to either provide such services or to insure that those that they deputise this work to provide the service in an adequate fashion. The second inescapable conclusion is that the current way in which services are remunerated and resources are provided needs to be re-thought such that the way in which this happens in any given location best meets the needs of both the patients and the providores.

Communication and linkage issues to other forms of service provision will be a vital and developing component of After Hours Primary Medical Care Service Provision. Clearly as part of that innovative thinking there is a need for Commonwealth and State Governments to develop a collaborative approach rather than one in the past which has been based around cost shift and adversarial arguments. It would be sensible to develop and implement a strategic plan over a period of around three years. It is unlikely that quick fix overnight solutions are going to be sustainable in the long term. Any development should be in full consultation with consumers, profession and governments and other providores.

11 References

AMA/RDAA. Increasing Rural Medical Services: A discussion paper, 1998.

Australian National Audit Office. Telephone Call Centres: Accompanying Handbook, ANAO, Canberra, 1999.

Avery AJ, Groom L, Boot D, Eatwicker S, & Carlisle R. What problems do patients present with outside normal general practice surgery hours? A prospective study of the use of general practice and accident and emergency services. J Pub Health Med 1999;21(1):88-94.

Bain J, Gerrard , Russell A, Locke, R, Baird V 1997. The Dundee out –of-hours cooperative: preliminary outcomes for the first year of operation. Br J Gen Prac 1997;47:573-574.

Baker D, Klein R, Carter R. Impact of the 1990 contract for general practitioners on night visiting.

Br J Gen Prac 1994; 44 68-71.

Bass MJ, McWhinney IR, Stewart M, Grindrod,A. Changing face of family practice: Trends from 1974 to 1994 on one Canadian city. Can Fam Physician 1998;44 :2143-2149.

Benjamin JT. Pediatric Residents' Telephone Triage Experience. Arch Pediatr Adolesc Med 1997;151:1254-1257.

Berliner H. America on the line. Health Service Journal 1998;108:28-9.

Bleich M. Growth Strategies to Optimize the Functions of Telephonic Nursing Call Centres. Nursing Economics 1998;16:215.

Bollam M.J, McCarthy M, Modell M. Patients' assessment of out of hours care in general practice. BMJ 1988;296: 829-32.

Bolton P, Mira M, Sprogis A. Oranges are not the only fruit: the role of emergency departments in providing care to primary care patients. Australian Health Review 2000;23(3):132-136.

Britt H, Sayer G, Miller GC, Charles J Scahill,S, Horn, F, Bhasale,A. Bettering the Evaluation and Care of Health: A study of general practice activity. Six Month Interim Report. AIHW General Practice series No.1 Canberra, 1999.

Brogan, C., Pickard D, Gray A, Fairman S, Hill A. The use of out of hours health services : a cross sectional survey. Br Med J 1998;316: 524-7.

Brown A, Armstrong D. Telephone consultations in general practice: an additional or alternative service?

Br J Gen Prac 1995;45:673-675.

Campbell S. Locum and Deputising Services in General Practice. 1995 Volume 2 Part 1. Report of research findings of a survey of deputising service agencies and locum agencies. Part 2. Report of research findings of a survey of deputising practitioners and locums. RAMIS Corporation, Melbourne.

Carlisle R, Groom LM, Avery AJ, Boot D, Earwhicker S. Relation of out of hours activity by general practice and accident and emergency services with deprivation in Nottingham : longitudinal survey.

Br Med J 1998;316: 520-3

Carson D. Raising standards for patients. New Partnerships in Out-of-Hours Care. An independent Review of GP Oot-of-Hours Services in England. Department of Health, United Kingdom, 2000.

Charles-Jones H, Houlker M. Out-of –Hours work: the effect of setting up a general practitioner cooperative on GPs and their families. Br J Gen Prac 1999;49:215-216.

Christensen MB, Olesen F. Out of hours service in Denmark: evaluation five years after reform.

Br Med J 1998;316:1502-5.

Cohen M, Ferrier BM, Woodward CA, Goldsmith CH. Gender differences in practice patterns of Ontario family physicians. JAMWA 1991;46(2):49-54.

Commonwealth Department of Health and Family Services. After hours workshop: Proceedings, 1997.

Commonwealth Department of Health and Aged Care. Medicare Benefits Schedule , November 1999.

Court BV, Bradley CP, Cheng KK, Lancashire R.J. Responding to out of hours requests for visits: a survey of general practitioner opinion. Br Med J 1996;312:1401-1402.

Cragg DK, McKinley RK, Roland MO, Campbell SM, Van F, Hastings AM, French DP, Manku-Scott TK, Roberts C. Comparison of out of hours care provided by patients' own general practitioners and commercial deputising services: a randomised controlled trial. I: The process of care. Br Med J 1997;314:187-9.

Cragg DK, Campbell SM, Roland MO. Out of hours primary care centres: characteristics of those attending and declining to attend. Br Med J Vol309; 1627-9.

Dale J, Green J, Reid F., Glucksman E. Primary care in the accident and emergency department: I. Prospective identification of patients. Br Med J 1995;311:423-426.

Dale J, Green J, Reid F, Glucksman E, Higgs R. Primary care in the accident and emergency department: II. Comparison of general practitioners and hospital doctors. Br Med J 1995;311:427-430.

Dale J, Lang H, Roberts J, Green J, Glucksman E. Cost effectiveness of treating primary care patients in accident and emergency: a comparison between general practitioners, senior house officers, and registrars. Br Med J 1996;312:3240-13244.

Dale J, Shipman C, Lacock L, Davies M. Creating a shared vision of out of hours care: using rapid appraisal methods to create an interagency, community oriented, approach to service development.

Br Med J 1996;312:1206-10.

Department of Health and Family Services (1995). Medicare Benefits Schedule, November 1995.

Department of Health and Family Services (1996). Medicare Benefits Schedule.November 1996.

Department of Health and Family Services (DHFS) (1997). General Practice in Australia 1997 – Supplementary Tables. Commonwealth of Australia, Canberra.

Department of Health and Family Services (1998) Changing the Future Through Partnerships: report of the General Practice Startegy Review Group. Commonwealth of Australia. Canberra.

Del Mar CB, Lostroh, D. Can GPs co-operate after hours in a competitive urban environment? Aust. Fam. Phys. 1995;34:840-844.

Duckett SJ, Kenny A. Hospital Outpatient and Emergecny Services in Rural Victoria. Casemix Consulting. Victoria, 2000.

Duns S, Hann M. Assessing the need for health call centres in Australia – Demand/supply side. Address to Health Call Centres conference, Sydney, 29-30 June 2000.

Foster M, Kell A, Sprogis A. After Hours Care Project. Final Report. Divisions Grant 95-0217.5, Hunter Urban Division of General Practice, 1996.

Gallagher M, Huddart T, Henderson B. Telephone triage of acute illness by a practice nurse in general practice: outcomes of care. Br J Gen Prac 1998;48:1141-1145.

Gribben B. Satisfaction with access to general practitioner services in south Auckland. NZ Med J August 1993:360-363.

Hallam L. Primary medical care outside normal working hours : review of published work. Br Med J;308;249-53.

Hallm L, Cragg D. Organisation of Primary care services outside normal working hours. Br Med J 1994;309:1621-1623.

Hansen BL, Munck A. Out-of –hours service in Denmark: the effect of a structural change. Br J Gen Prac 1998;48:497-1499.

Heaney DJ, Gorman DR. Auditing Out-of –hours Primary Medical Care. Health Bulletin, 1996;54(6):495-498.

Heaney D, Gorman D, Porter M. Self-recorded stress levels for general practitioners before and after forming an out-of-hours primary care centre. Br J Gen Prac 1998;48:1077-1078.

Hull S, Jones IR, Moser K, Fisher,J. The use and overlap of AED and general practice services by patients registered at two inner London practices. Br J Gen Prac 1998;46:1575-1579.

Ieraci S, Cunningham P, Talbot-Stern J, Walker,S. Emergency medicine and “acute” general practice: comparing apples with oranges. Australian Health Review 2000;23(2):152-161.

Iliffe S, Haug U. Out of hours work in general practice. Br Med J 1991;302:584-6.

Jessopp L, Beck I, Hollins L, Shipman C, Reynolds M, Dale J. Changing the pattern of out of hours : a survey of general practice cooperatives. Br Med J 1997;314:199-200.

Karabatsos G. After Hours General Practice service: A guide for Divisions of General Practice. Access Support and Evaluation Resource Unit, Melbourne, 1999.

Lattimer V, Smith H, Hungin P, Glasper A, George S. Future provision of out of hours primary medical care: a survey with two general practice research networks. Br Med J 1996;312:352-6.

Lattimer V, Gorge S, Thompson F, Thomas E, Mullee M, Turnbull J, Smith H, Moore M, Bond H, Glasper A. Safety and effectiveness of nurse telephone consultation in out of hours primary care: randomised controlled trial.
Br Med J 1998;317:1054-9.

Legge A. Nurse-led hospital service takes on night calls. Nursing times 1998;94:57.

Livingstone AE, Jewell J, Robson J. Twenty four hour care in inner cities: two years' out of hours workload in east London general practice. Br Med J 1989;299:368-70.

Magarey A, Rogers W, Veale B, Weller D, Sibthorpe B. Dynamic Divisions: A report of the 1997-98 Annual Survey of Divisions. National Information Service, Adelaide, 1999.

McKee L. Telephone advice scheme criticised. Br Med J 1998;317(7156):429.

McKinley RK, Cragg DK, Hastings AM, French DP, Manku-Scott TK, Campbell SM, Van F, Roland MO, Roberts C. Comparison of out of hours care provided by patients' own general practitioners and commercial deputising services: a randomised controlled trial II : The outcome of care. Br Med J 1997;314:190-3.

Mira M, Cooper C, Maandag A. Contrasts between metropolitan and rural general practice in the delivery of after-hours care. Australian Family Physician. 1995;24. 1064-1067.

Munro J, Nicholl J, O'Cathain A, Knowles E, Foster A. Evaluation of NHS Direct first wave sites. First interim report to the Department of Health,. Medical Care Research Unit, University of Sheffield, 1998.

Munro J, Nicholl J, O'Cathain A, Knowles E, Dagnall A. Evaluation of NHS Direct first wave sites. Second interim report to the Department of Health. Univeristy of Sheffield, 2000.

Munro J, Nicholl J, O'Cathain A, Knowles E. (2000). Impact of NHS Direct on demand for immediate care: observational study. Br Med J 2000;321:150-153.

Murphy AW, Bury G, Plunkett PK, Gibney D, Smith M, Mullan E, Johnson Z (1996). Randomised controlled trial of general practitioner versus usual medical care in an urban accident and emergency department: process, outcome and comparative cost. Br Med J 1996;312:1135-1142.

National Health Strategy. The Future of General Practice. Issues Paper No 3. Treble Press, Canberra, 1992.

NSW Health. Draft discussion paper: Improving the interface between Emergency Departments and General Practice. Policy Division, NSW Health Department. 1999.

Oberklaid F. Twenty-four hour access to health information and advice. Med J Aust 1998;169:125-126.

O'Brien P. Feasibility study: After hours General Practice Clininc and GP Locum Service. Divisions Grant 93-0356.2 . Western Melbourne Division of General Practice. Six month Report, 1994.

Olesen F Jolleys, JV. Out of Hours Service: the Danish solution examined. Br Med J 1994;309:1624-26.

Patel A, Dale J, Crouch R. Satisfaction with telephone advice from an accident and emergency department: identifying areas for service improvement. Quality in Health Care 1997;6:140-145.

Patel H, Macarthur C, Feldman W. Where do children go? Comparing the after-hours availability of family physicians and primary care paediatricians in four Canadian cities. Can Fam Physician 1997;43:1235-1239.

Pegram R. The Influence of Payment systems on Physician Behaviour : a literature review and discussion. Unpublished discussion paper, 1999.

Po A. Dictionary of Evidence-Based Medicine. Radcliffe Medical Press. Oxford, 1998.

Poole SR, Scmitt BD, Carruth T, Peterson-Smith A, Slusarski M. After-Hours Telephone Coverage: The Application of an Area-Wide Telephone Triage and Advice System for Pediatric Practices. Pediatrics 1993;92:670-679.

RACGP (Royal Australian College of General Practitioners). Entry Standards for General Practice, 1996.

Richmond C. Triviality and frequency of night calls irk British GPs. Can Med Assoc J 1996;154(1):82-83.

Roberts E, Mays N. Can primary care and community-based models of emergency care substitute for the hospital accident and emergency (A&E) department? Health Policy 1998;44:191-214.

Robertson-Steel IRS (1998). Providing primary care in the accident and emergency department. Br Med J 1998;316:409.

Salisbury C. Visiting through the night. Br Med J 1993;306:762-4.

Salisbury C. Observational study of a general practice out of hours cooperative: measures of activity. Br Med J 1997;314:182-6.

Sarru E, Abyad A. House calls in Lebanon: reflections on personal experience. Family Practice 1998;15(6):571-575.

Soler M, Dowers A, Jones RB. Out of Hours Work in Primary Care: An audit of an urban co-operative deputising service. Health Bulletin 1991;49/1:40- 48.

South Wiltshire Out of Hours Project Group (SWOOP). Nurse telephone triage in out of hours primary care: a pilot study. Br Med J 1997;314;1998-9.

Sutherland VJ, Cooper CL. Job stress, satisfaction and mental health among general practitioners before and after the introduction of new contract. Br Med J 1992;304:1545-1548.

Sydenham-Clarke J. Feasibility study into the needs and expectations of General Practitioners and consumers in the provision of after hours care. Divisions Grant 96-0321.3. Sherbrooke and Pakenham Division of General Practice, 1997.

Tolhurst HM, Ireland MC, Dickinson JA. Emergency and after-hours work performed in country hospitals. Med J A 1990;153:458-465.

Tolhurst H, Talbot J, Bell P, Baker L, Murray G, McMillan J, Sutton A, Treloar C, Harris,G. After Hours Medical Care and Personal Safety of Rural General Practitioners. GPEP Seeding Grant #571 Final Report. University of Newcastle, 1999.

Vedsted P Olesen F. Frequent attenders in out-of-hours general practice care: attendance prognosis. Family Practice 1999;16(3):P283-288.

Vehvilainen AT, Kumpusalo EA, Takala JK (1998). Saturday night fever? Reasons for referral from health centres to hospitals during weekends in Finland. Family Practice 1998;15(6):507-512.

Veitch C, Crossland LJ, Hays. Evaluation of a long-standing after-hours cooperative. Final report on GPEP grant No.612, 1999.