5 Hypotheses Formulation

5.1 Initial Hypotheses Set

As discussed in Section 2, the primary methodology used in the study was a hypotheses-driven approach where issues related to the problem of unexpected increase in ED demand were first identified, and then hypotheses relating to the issues were generated. The initial set of hypotheses that provided the framework for analysis was discussed in Section 2.

5.2 Stakeholder Perspectives

All policy stakeholders nominated by participating states for interview and national peak body representatives were asked to comment on the initial hypotheses set. There was strong acceptance that the hypotheses set did capture the full range of potential ED primary care demand drivers, with only a small number of suggestions for change. Stakeholders also emphasised the multi-factorial nature of ED demand, and the complexity of the linked relationship between supply and demand side factors.

5.2.1 Demand Side Drivers

As a result of stakeholder advice, the following changes were made to demand side factors in the initial hypotheses set:

- ***Less extended family support*** was added to the patient demographic factor to test the view that this may be impacting on the practicality of home care for older Australians
- ***More chronic conditions*** and ***more acute episodes*** were added to the patient morbidity factor to reflect the importance of the growing burden of chronic disease and the impact of acute episodes, particularly in older patients who were living longer
- ***Higher ambulance transport rates*** and ***referrals from health help lines*** were moved from the supply side to the demand side under the referral pattern factor reflecting the fact that they are really drivers of demand on EDs rather than supply side factors in this context
- ***Increased self-referrals from untapped demand*** was added to the improved population health campaign factor to reflect the suggestion that campaigns such as Heart Week resulted in an increase in demand, including an initial spike
- ***Reduced regular public transport services, Improved road access to urban centres*** and ***more fragmented community services*** were included in a new factor ***Changing infrastructure and community services*** to test the view that physical access and proximity to services, and the way services are organised, may impact on ED demand

5.2.2 Supply Side Drivers

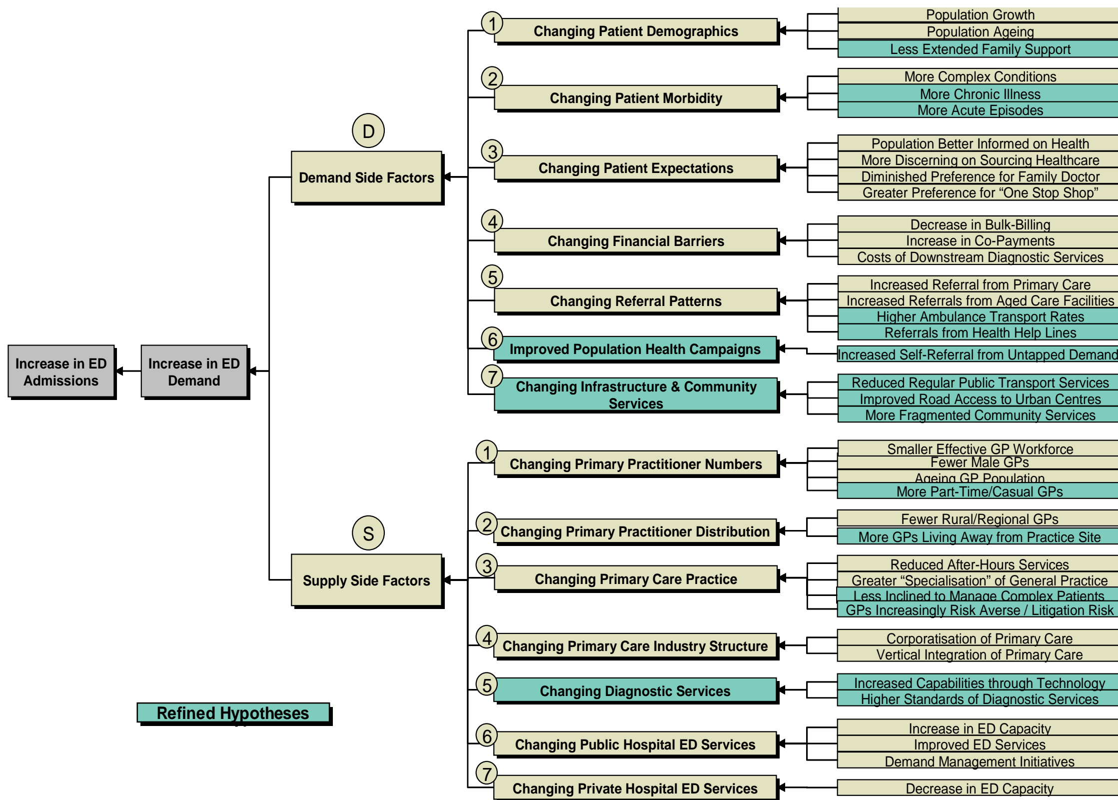
As a result of stakeholder advice, the following changes were made to supply side factors in the initial hypotheses set:

- ***More part-time casual GPs*** were added to the primary care practitioner numbers factor to test the view that GPs were working fewer hours and aiming for improved work-life balance
- ***More GPs living away from practice site*** was added to the changing primary care practitioner distribution factor to reflect anecdotal evidence that GP home location may be impacting on after hours/on call services
- ***Less inclined to manage complex patients*** and ***GPs increasingly risk averse*** were added to the changing primary care practice factor to test the view that GP remuneration models and increased litigation by patients against GPs might be reducing access for some types of patients
- ***Increased capabilities through technology*** and ***Higher standards of diagnostic services*** were included in a new factor ***Changing diagnostic services*** to test the idea that technological advances allow an increasing range of diagnostic services, and promote a higher expectation of the standard of care required for the ED primary care cohort

5.3 Refined Hypotheses Set

Based on the stakeholder feedback outlined above, the revised hypotheses set shown at figure 22 below was developed.

Figure 22: Revised Hypotheses Set



The specific methodologies used to test individual hypotheses in the revised hypotheses set are detailed below.

Figure 23: Methodologies Applied to Revised Hypotheses Set

Increase in ED Admissions ← Increase in ED Demand ← D: Demand Side Factors / S: Supply Side Factors

Hypotheses	Policy / Stakeholder Interviews	Quantitative Data Analysis	National Patient Survey	GP Survey	Aged Care Survey	Pilot Cluster Analysis
D – Demand Side Factors						
1 Changing Patient Demographics	✓	✓	✓	✓	✓	✓
2 Changing Patient Morbidity	✓	✓	✓	✓	✓	✓
3 Changing Patient Expectations	✓		✓	✓	✓	✓
4 Changing Financial Barriers	✓	✓	✓	✓		✓
5 Changing Referral Patterns	✓	✓	✓	✓	✓	✓
6 Improved Population Health Campaigns	✓		✓	✓	✓	✓
7 Changing Infrastructure & Community Services	✓					✓
S – Supply Side Factors						
1 Changing Primary Practitioner Numbers	✓	✓		✓	✓	✓
2 Changing Primary Practitioner Distribution	✓	✓		✓	✓	✓
3 Changing Primary Care Practice	✓	✓	✓	✓	✓	✓
4 Changing Primary Care Industry Structure	✓	✓	✓	✓	✓	✓
5 Changing Diagnostic Services	✓					✓
6 Changing Public Hospital ED Services	✓		✓	✓	✓	✓
7 Changing Private Hospital ED Services	✓	✓	✓		✓	✓

6 Field Research Demand Side Driver Analysis

6.1 Introduction

Demand side factors were analysed to understand how demand is driven by patients' changes, primary care providers and the government through its health campaigns, Medicare payments and infrastructure services.

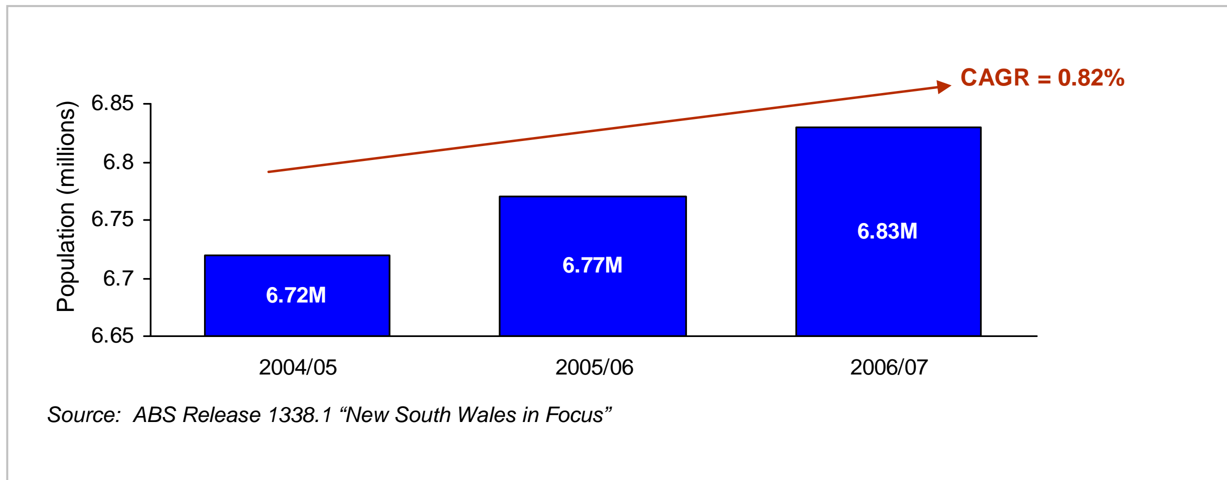
6.2 Changing Patient Demographics

6.2.1 Population Growth

There is natural demand increase based on an increase in the overall population of NSW, however population can only account for a very small proportion of the overall increase in demand at ED. While the CAGR of the ED demands is 6.9%, the growth of permanent population in New South Wales was only 0.82% over the past three years.

This means that the largest proportion of easy demand is explained by factors other than population growth.

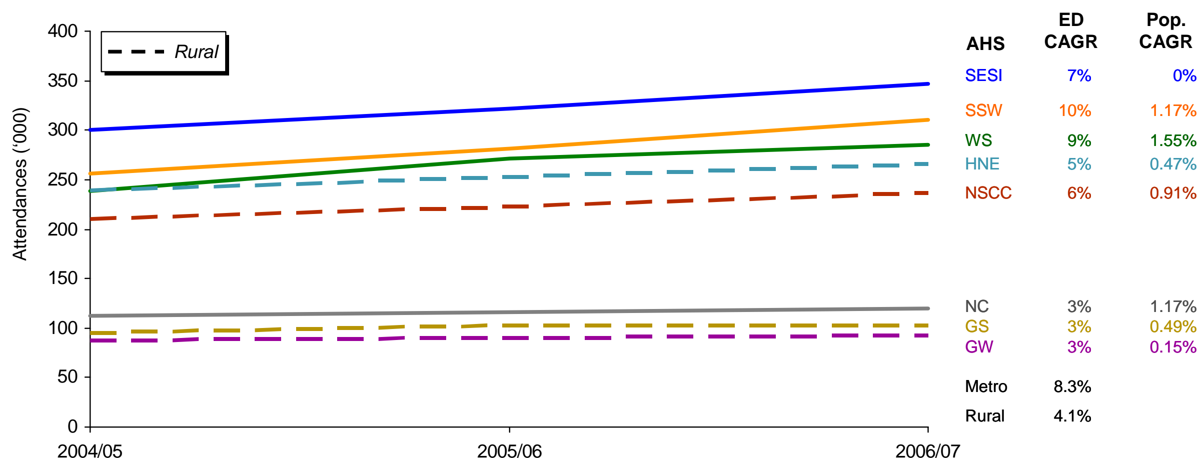
Figure 24: Permanent NSW Population Growth 2004/05-2006/07



Source: ABS Release 1338.1 "New South Wales in Focus"

Permanent population growth does little to explain ED demand growth in different AHSs such as Sydney South West where population growth is only 1.17% and ED demand growth is 10% compounded over the past two years.

Figure 25: All ED Demand by AHS 2004/05-2006/07



Source: NSW Health EDIS data & NSW AHS population data

Note: 2006 SESI population only available rounded to nearest 10,000 so CAGR may be marginally inaccurate

Hypothesis: Population Growth

Conclusion: Hypothesis is supported by the data

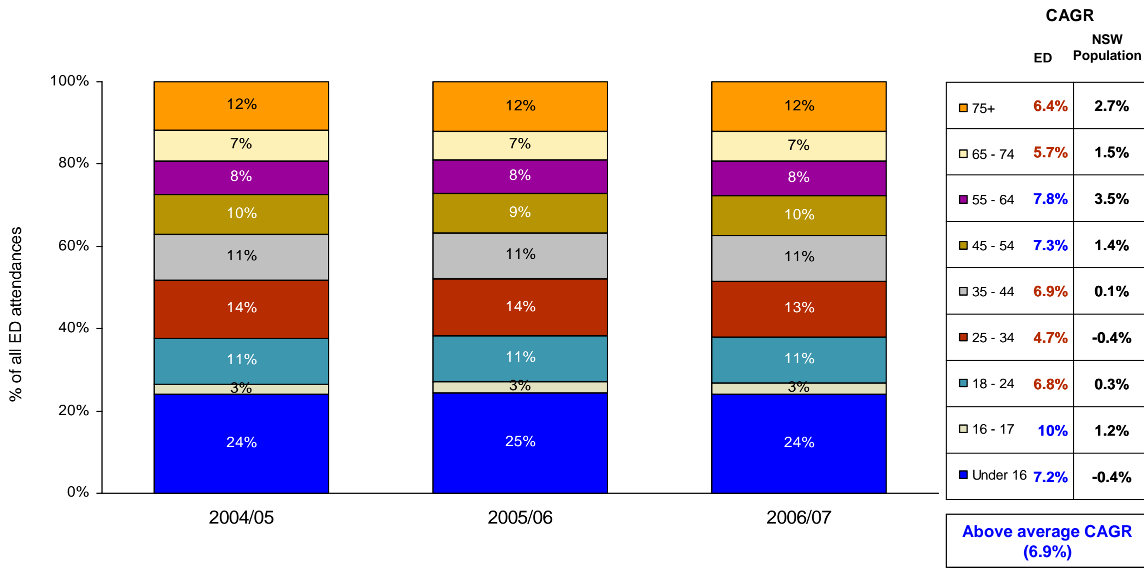
In summary, only a small proportion of ED demand growth can be explained by the growth in the population.

6.2.2 Population Ageing

The median age of the Australian population has increased from 36.2 to 36.6 years from 2003 to 2006[15]. While there has been growth in the older age groups, the highest growth has been in the 16 to 17, under 16, 55-64, 45-54 age groups where their growth has been higher than the average growth rate for all patients. Particularly for the younger age groups (under 24) the growth of patients in the ED has grown much faster than those groups have grown in the general NSW population over the same period.

[15] *Source: Australian Bureau of Statistics*

Figure 26: All ED Patients by Age Group 2004/05-2006/07



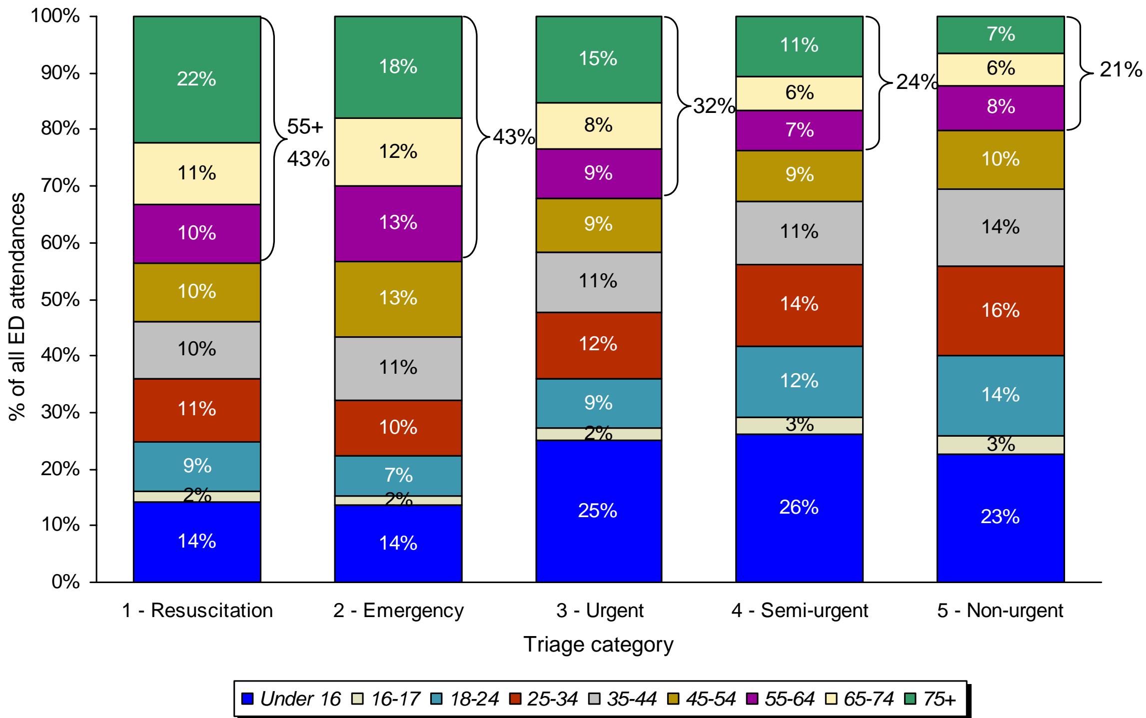
Source: NSW Health EDIS data, ABS Release 1338.1 "New South Wales in Focus"

Note: Calculations include all patients (primary and non-primary care).

Initially it was hypothesised that it was the older patients that were driving demand into the emergency department. To understand how different age groups are affecting the emergency department we need to look at the age groups across the different triage categories.

Older patients over 55 years of age make up 43% of the Triage 1 category whereas they make up only 21% of the non-urgent Triage 5 category. On the other hand patients under 25 years make up only 25% of the Triage 1 category but 40% of the Triage 5 category. This indicates that while the ageing population certainly does have an impact on the higher triage categories the more primary care patient types are typically in the younger age groups. This attitudinal difference has been confirmed by the National Patient Survey which showed that the under 25 groups are that strongest promoters of emergency departments.

Figure 27: All ED Patients by Age Group and Triage Category 2006/07



Source: NSW Health EDIS data

Interview Quotes from the GP survey:

- *"Under 24s , usually are referred for acute / sub-acute conditions and hopefully expect to be seen and processed quickly… people at the other end of the age scale tend to approach casualty departments with more stoicism and trepidation and expect to wait and wait some more… Middle aged people would mostly rather be seen and managed outside the Casualty departments if at all possible"*[16]
- *"Older patients generally expect the Emergency Department to be a point of entry to the hospital, and become disappointed on some occasions when they are sent home or kept in ED for several hours under observation instead of being admitted. Younger patients view ED as a hospital department which treats their acute needs and in most cases, they expect to be discharged after being treated efficiently and promptly, with observation of their status as necessary prior to discharge"* [17]

Hypothesis: Population Ageing

Conclusion: Hypothesis is supported by the data / FURTHER INVESTIGATION REQUIRED

In summary, the ageing population is reflected in growth in aged patients in the ED. However, there are two different cohorts – Under 25 vs. 65+ years – who have different needs in the ED.

[16] *Source: Booz Allen Hamilton GP Survey*

[17] *Source: Booz Allen Hamilton GP Survey*

6.2.3 Less extended family support

While there is no strong evidence of less extended family support for aged people, the Aged Care Facility Survey showed that 48% of staff believes that patients are receiving less support while they are in the aged care facility compared to two years ago[18]. This is based on the personal impression of carers in aged care facilities. However, it is worthwhile noting that family members are not explicitly asked by aged care facilities staff to provide the medical support or daily care.

Hypothesis: Less extended family support

Conclusion: Hypothesis not fully supported by data / FURTHER INVESTIGATION REQUIRED

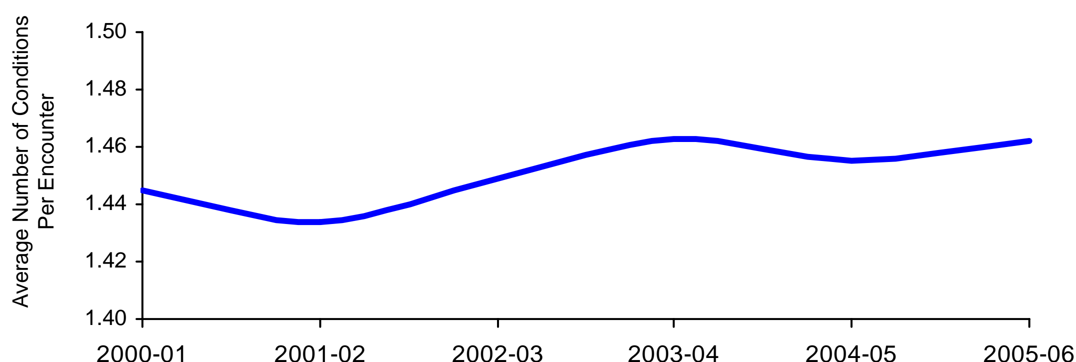
In summary, there is currently no evidence to prove that there is less extended family support or to what extent it contributes to demand. Further investigation is required.

6.3 Changing Patient Morbidity

6.3.1 More Complex Conditions

While initially anecdotal evidence suggested that patients' conditions are becoming more complex and more difficult to treat by GPs, the annual BEACH report on GPs shows that there is a stable level of complexity based on the average number of conditions that GPs are treating in each encounter with a patient. From 2000/01 to 2005/06 the average number of conditions of patients seen by a GP went up from 1.45 to 1.46. This slight increase in complexity is not reflected in the level of co-morbidity's hospital inpatients over the period of 2000 and 45 in 2006 7. The average number of diagnosis for hospital inpatients fell from 4.23 in 2004/05 to 3.61 in 2006/07.

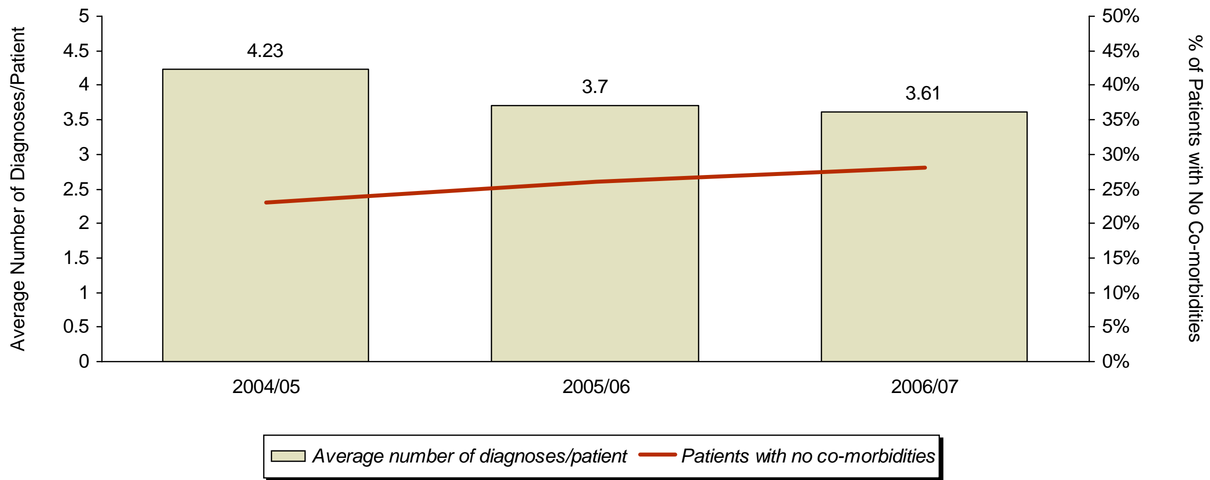
Figure 28: Complexity Based on the Number of Conditions Per Patient Treated by GPs 2000/01-2005/06



Source: General Practice Activity in Australia 2005/06 (BEACH)

[18] *Source: Booz Allen Hamilton Aged Care Facility Survey 2007*

Figure 29: Complexity Based on the Number of Diagnosis[19] Per Patient in Admitted Patients 2004/05-2006/07



Source: NSW Health Inpatient Database

The analysis of the complexity based on the number of diagnosis, not the number of "visit" by patients suggests a moderate decline over time.

The National Patient Survey asked respondents to state for which conditions the patient was attending the ED. In 91%[20] of cases there was only one condition reported which indicates a potentially non-complex problem that a GP could have attended to if they were available.

Hypothesis: More Complex Conditions

Conclusion: Hypothesis not supported by data/ FURTHER INVESTIGATION REQUIRED

In summary, complexity of conditions was not cited by GPs as being a strong trend, and hospital records do not show increasing complexity.

6.3.2 More Chronic Conditions

During the last nine years the prevalence of many chronic diseases in Australia has increased significantly. For example, hospitalisation for osteoporosis and chronic kidney disease had increased by 62% and 56% respectively, oral diseases had increased by 30%, depression by 26%, osteoarthritis by 17%, and colorectal cancer by 12%. This increase in such chronic diseases increases the group of potential patients who require ongoing medical treatment and can seek emergency department services on the continued basis. This level of chronic disease has been reflected in the number of patients repeatedly presenting to emergency departments.

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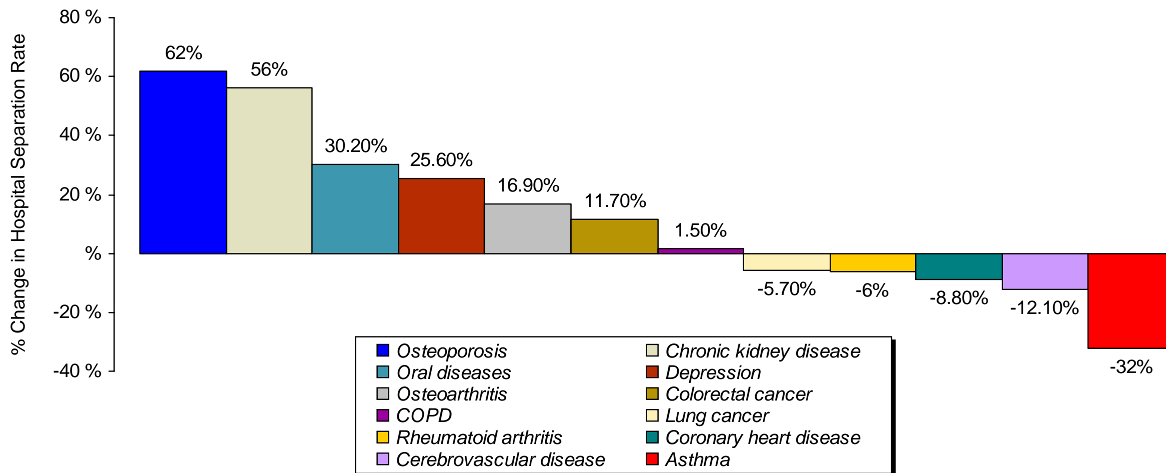
[19] *Diagnosis is defined as the respective diagnostic code allocated to the attending patient by the triage nurse*

[20] *Source: Booz Allen Hamilton National Patient Survey*

Figure 30: Growth in Admission to Hospital for Chronic Diseases 1998/99–2003/04



Source: Australian Institute of Health and Welfare, "Chronic Diseases and Associated Risk Factors in Australia, 2006", Canberra, November 2006.

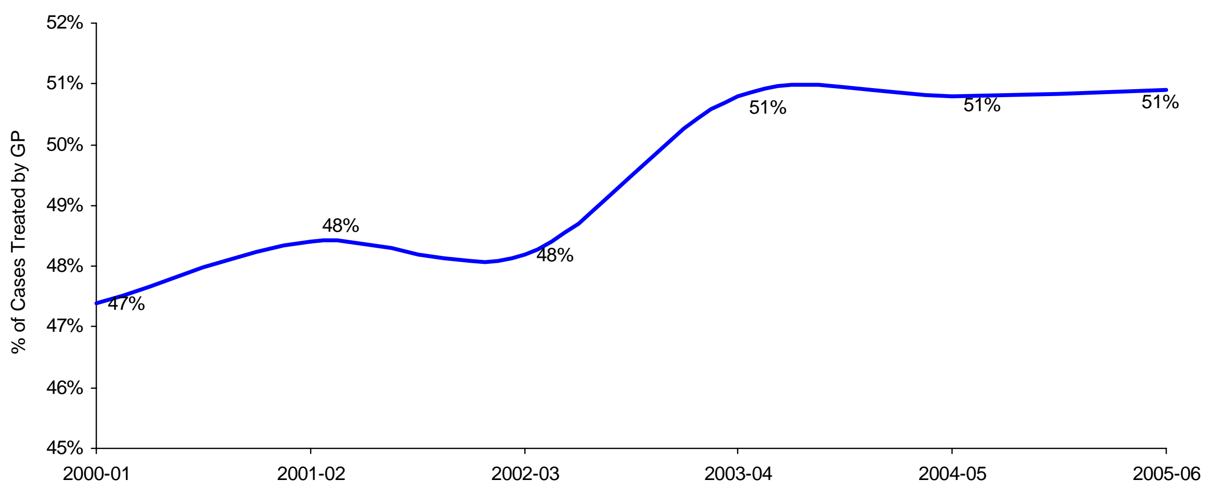
Note: Rate is measured as number of hospital separations per 100,000 people

Hospitalisation for some other chronic diseases such as coronary heart disease and asthma can be reflected in an increase in attendances at emergency departments for those problems. Coronary heart disease hospitalisation has decreased by 12% across Australia over the past nine years, however over the past two years alone there has been a compound increase of 10% annually of patients presenting to ED with cardiovascular diseases[21].

This may indicate the transfer of chronic disease management away from hospitals and into emergency departments.

GPs also reported an increase in chronic conditions amongst patients, with 51% of patients treated by a GP with related chronic conditions.

Figure 31: Growth in Chronic Disease Presentations to GPs 2000/01–2005/06



Source: General Practice Activity in Australia 2005/06 (BEACH)

[21] *Source: NSW Health EDIS data*

Hypothesis: More Chronic Conditions

Conclusion: Hypothesis supported by data

In summary, evidence indicates that chronic diseases are increasing both in hospitals and during GP consultations.

6.3.3 More acute conditions

Qualitative interviews indicated that acute conditions are not a strong influence and that rather it is chronic conditions driving demand. Quantitative data on acute conditions was not used and would require further testing.

Hypothesis: More acute conditions

Conclusion: Hypothesis not supported by data available / FURTHER INVESTIGATION REQUIRED

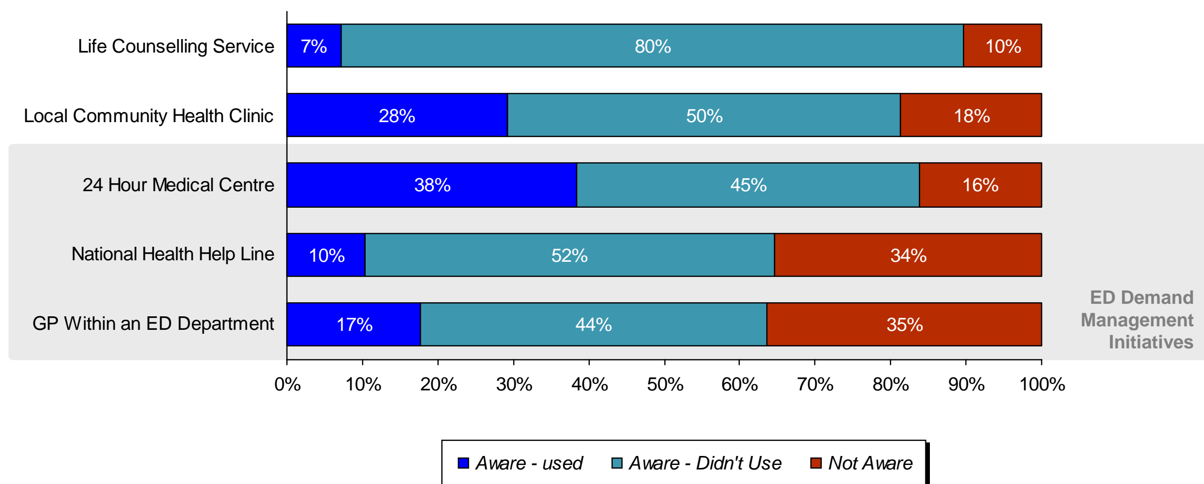
In summary, qualitative interviews show that acute conditions are not a major driver of demand. Further data analysis is required to further test this hypothesis.

6.4 Changing Patient Expectations

6.4.1 Population Better Informed on Health

The government has previously implemented a variety of demand management initiatives aimed at reducing the number of primary care patients at emergency department. The National Patient Survey shows that while there is a high level of awareness of services such as 24-hour medical centres (83% aware), the National Health Help Line (62%) and a GP within the ED department (61%), there is a lower level of usage.

Figure 32: Patient Awareness and Usage of Primary Care Related Services



Source: Booz Allen Hamilton National Patient Survey 2007

Note: Percentages may not add to 100 as in some cases patients did not answer the question. This did not exceed 4% of the sample. ED Demand Management Initiatives identified through qualitative interviews.

Hypothesis: Population Better Informed on Health

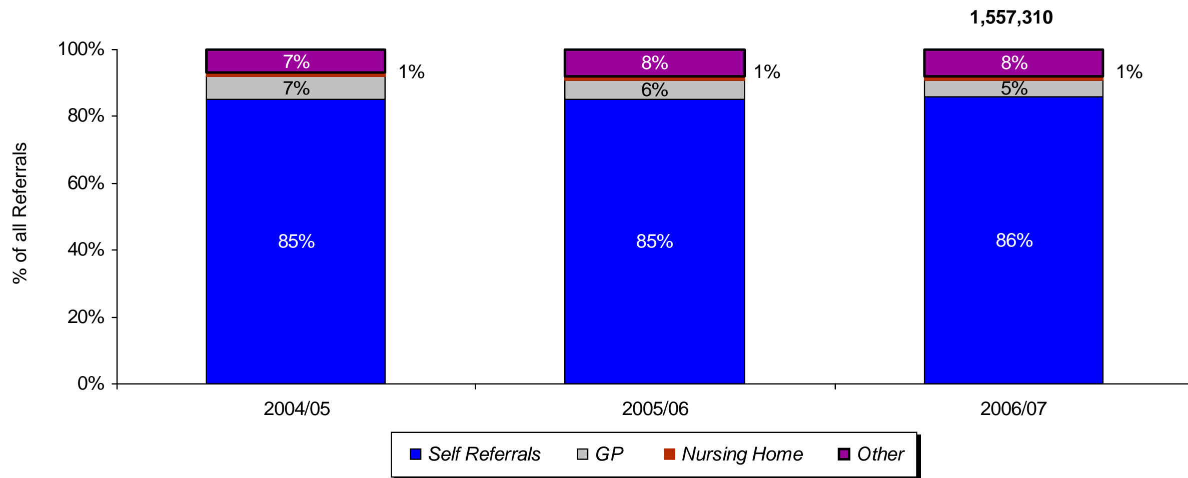
Conclusion: Hypothesis supported by data

In summary, patients are well informed about services aimed at reducing primary care demand in EDs.However the National Patient Survey indicates that there is low usage of these and therefore the impact of reducing ED demand is not strong.

6.4.2 More Discerning on healthcare

Research conducted with both GPs and patients shows that patients are seeking a wider variety of services in one place and are typically making the decision to attend an ED alone or based on the advice of family and friends. ED data shows that the number of patients self referring is at an all-time high of 86%. However, these data need to be interpreted with some caution, as this is not a mandatory data field in the data collection.

Figure 33: All Patients – Source of Referral 2004/05-2006/07

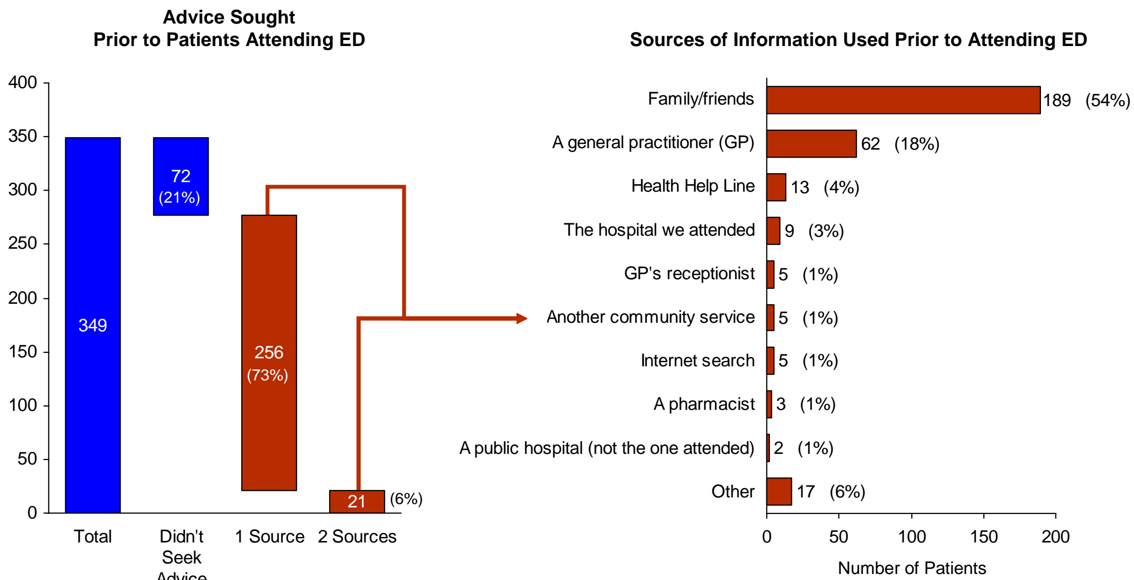


Source: NSW Health EDIS data

Note: The numbers are calculated as a percentage of all patients with this field filled in. The completion rates for this field in 2004/05, 2005/06 and 2006/07 were 77%, 88% and 89% respectively. A small margin of error should be taken into account when interpreting these figures. Analysis is indicative of trends and behaviour. Additional sources, such as interviews and the National Patient survey indicate that self-referrals are high.

The National Patient Survey showed that patients are usually making the decision to attend the ED after consulting one source, and that this tends to be family and friends.

Figure 34: Sources of Decision Making Information Used by Survey Patients



Source: Booz Allen Hamilton National Patient Survey 2007

Note: n=349

Hypothesis: More Discerning on healthcare

Conclusion: Hypothesis supported by data

In summary, patients are increasingly self-referring and bypassing their GP when making the decision to attend the ED. Patients typically are seeking advice from their family and friends.

6.4.3 Diminished preference for family doctor

While changing preference for the family doctor is suggested through bypassing a GP when making the decision to attend the ED, there is no evidence to show this is a trend. Further investigation is required.

Hypothesis: Diminished preference for family doctor

Conclusion: Hypothesis not supported by data / FURTHER INVESTIGATION REQUIRED

In summary, no evidence to prove that this is a contributing factor to ED demand. Further investigation would be required to understand how relationships are changing between GPs and different patient age groups.

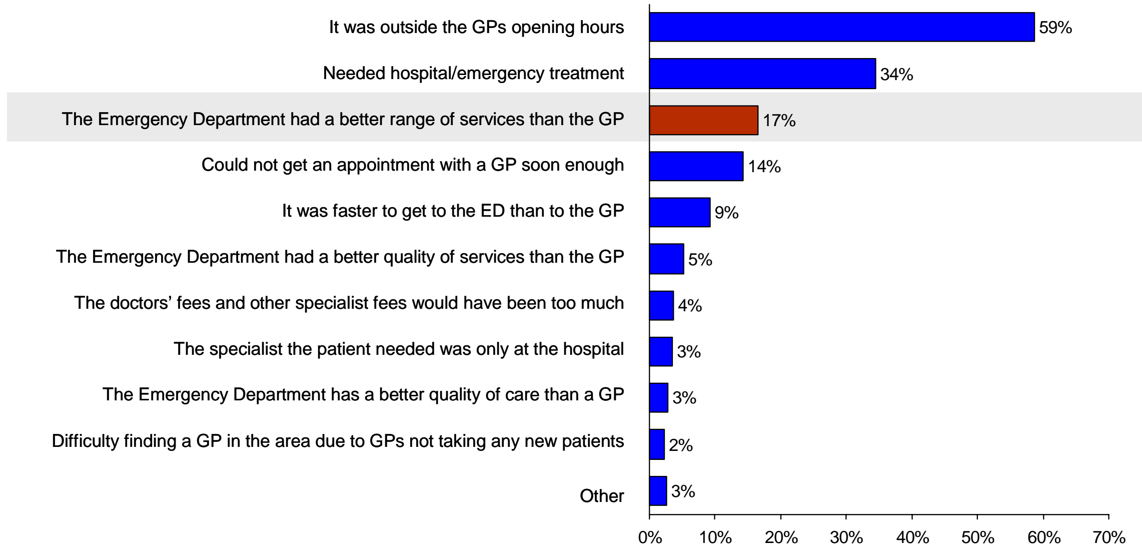
6.4.4 Greater preference for one stop shop

EDs provide all of the diagnostic and treatment services a patient may require, providing a 'one-stop-shop' for patients. The desire for accessing such a variety of services in one location has been driven both by patients and their GPs.

The National Patient Survey showed that if those patients had been to their GP prior to the ED, in 52% of cases they would have needed to be referred for additional testing and services. This could be driving patients to attend the ED where all of the

services are available at one location. In 17% of cases, the survey respondent reported that the ED was visited as there was a better range of services than the GP.

Figure 35: Patient Stated Reasons for Attending ED rather than GP – Focus on Services

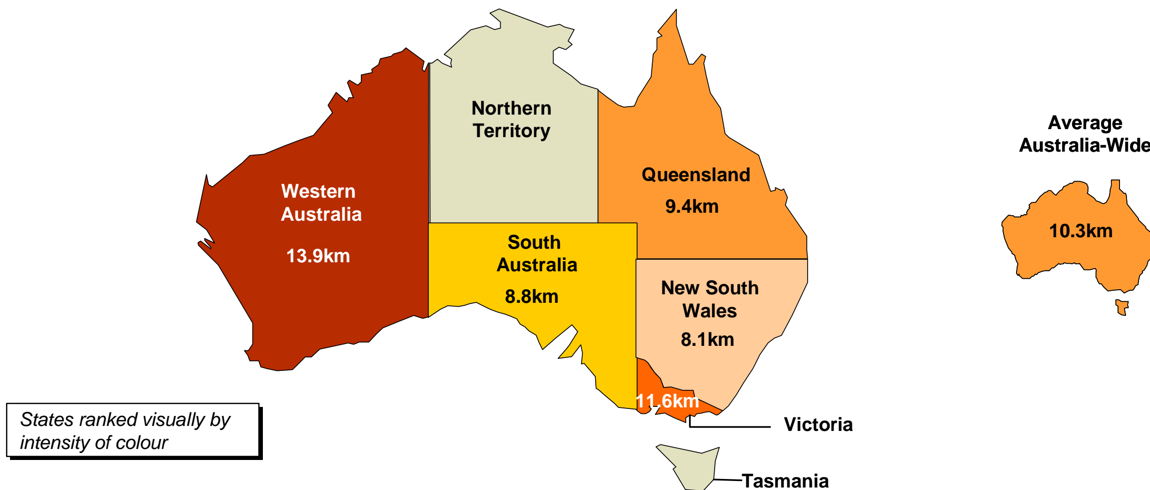


Source: Booz Allen Hamilton National Patient Survey 2007

Note: n=349

The National Patient Survey also showed that the primary care patients are willing to drive on average 10.3 kms to obtain all of the services that were required.

Figure 36: Distance Primary Care Survey Patients Travelled to Reach the ED

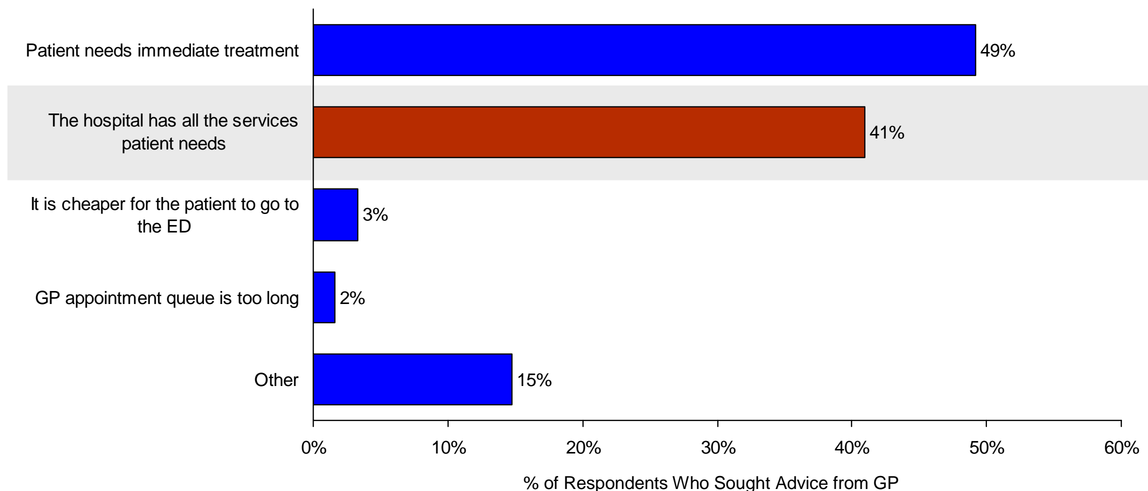


Source: Booz Allen Hamilton National Patient Survey, Booz Allen Hamilton Geo-Mapping analysis

Note: Distance travelled by patients calculated as the distance between their postcode and the postcode of the hospital they reported attending. The overall analysis includes only 316 Cases- it excludes patients who travelled interstate, those who travelled more than 70 kms, and the NT cases. While TAS and ACT were included in the average calculation their Individual averages are omitted due to their small sample size

The National Patient Survey also showed that GPs are, to a large extent, driving patient's beliefs about EDs, with 41% of the patients who had consulted their GP being advised by the GP to attend the ED because the hospital had all the services the patient needed.

Figure 37: Advice GPs Gave to Survey Patients to Attend ED



Source: Booz Allen Hamilton National Patient Survey 2007

Note: n=62 – the patients who had sought advice from a GP prior to attending the ED

In-depth interviews identified that generations X and Y patients are more likely to shop around for the care — they want the full range of services to be available as required.

Interview Quotes:

- *"People think of primary care as a commodity – more so in younger generations – focus on convenience"*

Hypothesis: Greater preference for one stop shop

Conclusion: Hypothesis supported by data

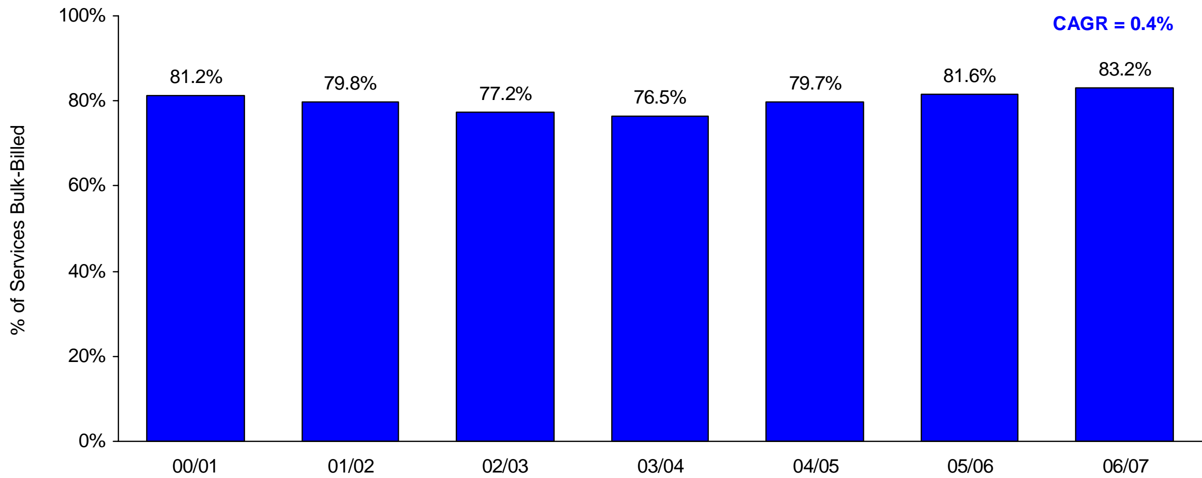
In summary, patients expressed a desire to access services in one location, and were willing to drive a far distance to obtain this. Younger patients especially seek the 'one-stop-shop'. This behaviour is in part driven by GPs advising patients that they can get all services in one place.

6.5 Changing Financial Barriers

6.5.1 Decrease in bulk billing

While anecdotal comments suggest that there is a decrease in bulk billing, Medicare data shows that GP bulk billing rates (overall for all services) had increased over the past three years from 79.7% in 2004/05 to 83.2% in 2006/07.

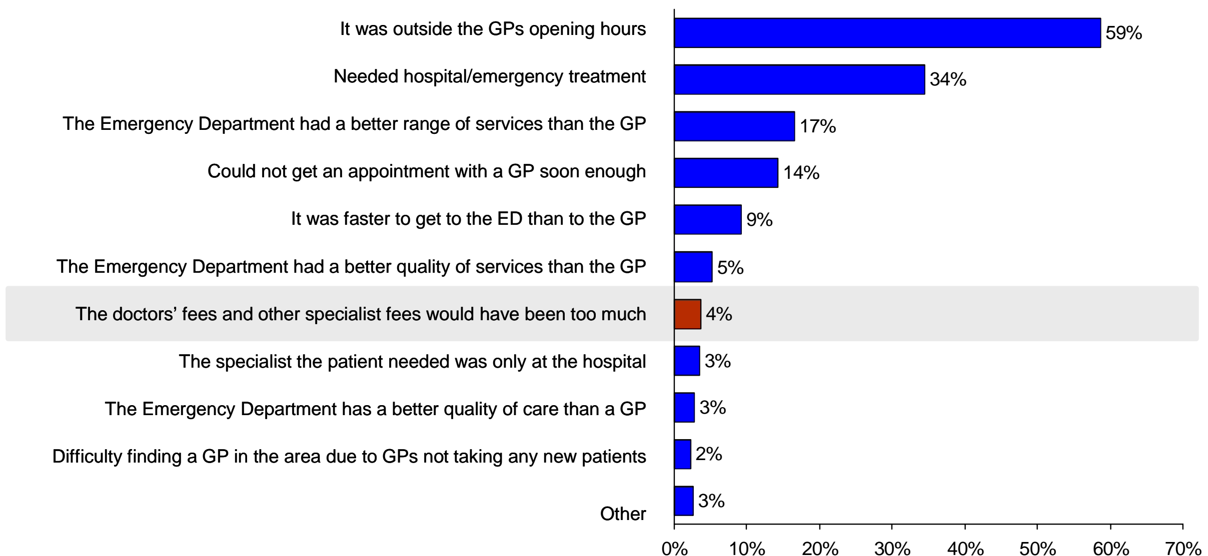
Figure 38: NSW GP Bulk Billing Rates for ALL Services 2000/01–2006/07



Source: Department of Health & Ageing, "Medicare statistics" – Percentage of Services Bulk-Billed table (C3). Includes only NSW GP services

There is no evidence to suggest that financial barriers of visiting a general practitioner is a contributing factor to demand in emergency departments. In the National Patient Survey only 4% of patients indicated that cost was one of the deciding factors in choosing to attend the emergency department.

Figure 39: Patient Stated Reasons for Attending ED rather than GP – Focus on Costs



Source: Booz Allen Hamilton National Patient Survey 2007

Note: n=349

Hypothesis: Decrease in bulk billing

Conclusion: Hypothesis not supported by data / FURTHER INVESTIGATION REQUIRED

In summary, bulk billing of GP services has increased over the past few years, and patients have not indicated that cost is a significant decision making factor.

6.5.2 *Increase in co-payments*

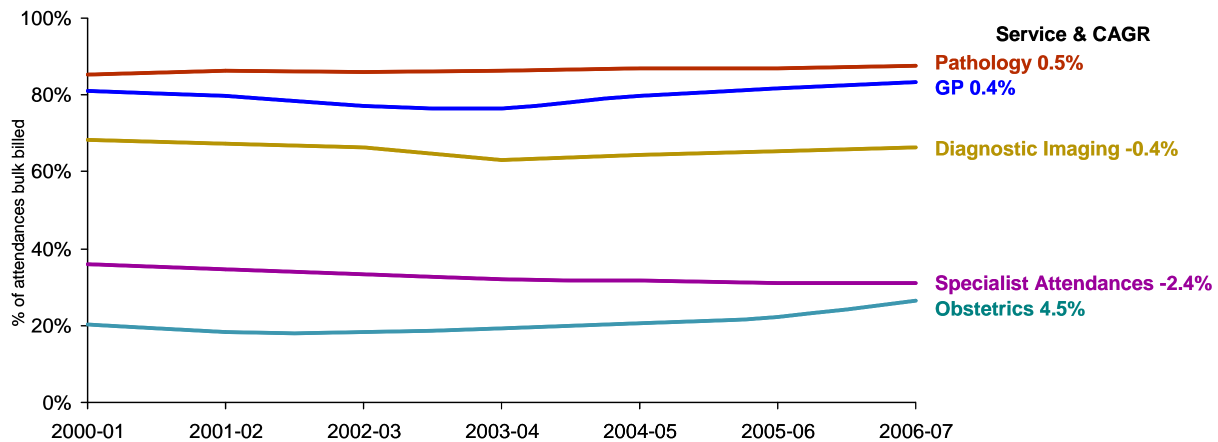
There is no evidence to suggest that the financial barrier of visiting a general practitioner is a contributing factor to demand in EDs.

Hypothesis: Increase in co-payments
Conclusion: Hypothesis not supported by data / FURTHER INVESTIGATION REQUIRED
In summary, no evidence to prove that this is a contributing factor to ED demand.

6.5.3 *Cost of downstream diagnostic services*

Over the past three years there has been no significant change in bulk billing of diagnostic services. Since 2000/01 bulk billing of diagnostic services has reduced by 0.4% compounded per annum and bulk billing of pathology services has increased by 0.5% compounded per annum.

Figure 40: NSW Bulk Billing Rates for Downstream Health Services 2000/01-2006/07



Source: Department of Health & Ageing, "Medicare statistics" – Percentage of Services Bulk-Billed table (C3)

Survey respondents were asked what tests were carried out in the emergency department and, based on Medicare costing of similar services if pursued outside of the hospital, each patient in the survey would have paid on average $12 for other services needed[22]. This figure is not high enough to have significantly dissuaded people from seeing their GP based on this cost.

Hypothesis: Cost of downstream diagnostic services
Conclusion: Hypothesis not supported by data / FURTHER INVESTIGATION IS REQUIRED
In summary, bulk billing rates show no significant change over the past three years that could have influenced demand

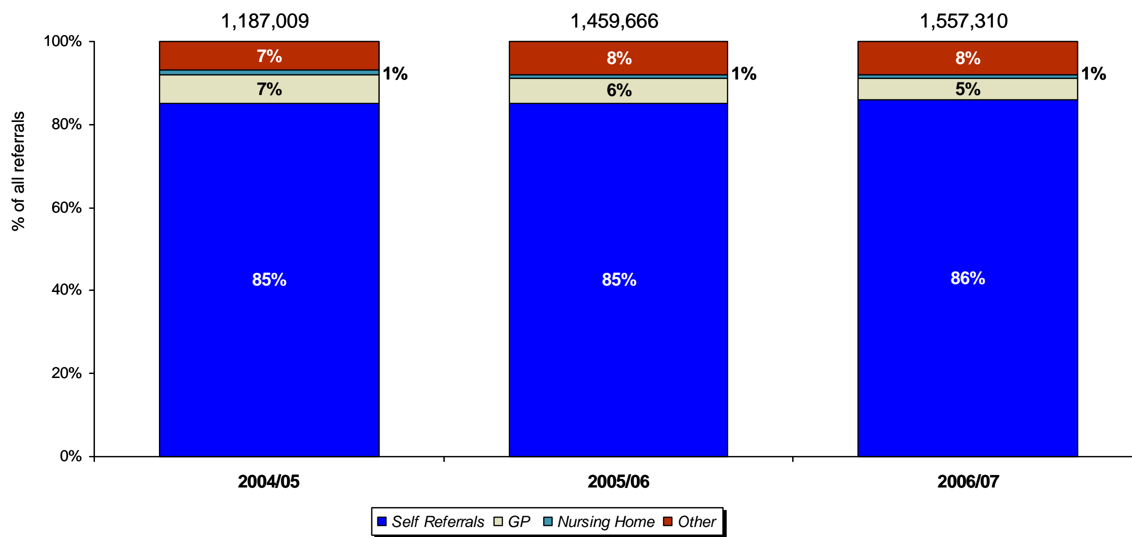
[22] *Note: n=349 Cost per patient calculated based on the tests they reported having done while in the ED, based on average costs from Medicare by type of procedure. Where patients stated their GP bulk bills no cost was allocated to that patient. Source: Booz Allen Hamilton National Patient Survey, Medicare*

6.6 Changing Referral Patterns

6.6.1 Increased Referral from Primary Care

The initial hypothesis was that GPs are referring more patients to the ED, however they are in fact growing at a slower rate than ED attendances. In 2004/05, 7% of all referrals were from GPs and by 2006/07 this had fallen to only 5% of all referrals. This indicates that more patients are bypassing their GP when they are choosing to attend emergency departments.

Figure 41: All Patients – Source of Referral 2004/05-2006/07 – Focus on GP Referrals



Source: NSW Health EDIS data

Note: The numbers are calculated as a percentage of all patients with this field filled in. The completion rates for this field in 2004/05, 2005/06 and 2006/07 were 77%, 88% and 89% respectively. A small margin of error should be taken into account when interpreting these figures. Analysis is indicative of trends and behaviour. Additional sources, such as interviews and the National Patient survey indicate that trends are in line.

GP referrals are the highest amongst the 55-74 age groups, demonstrating that it is the younger groups who are more likely to self refer and not take into account the advice of a GP.[23]

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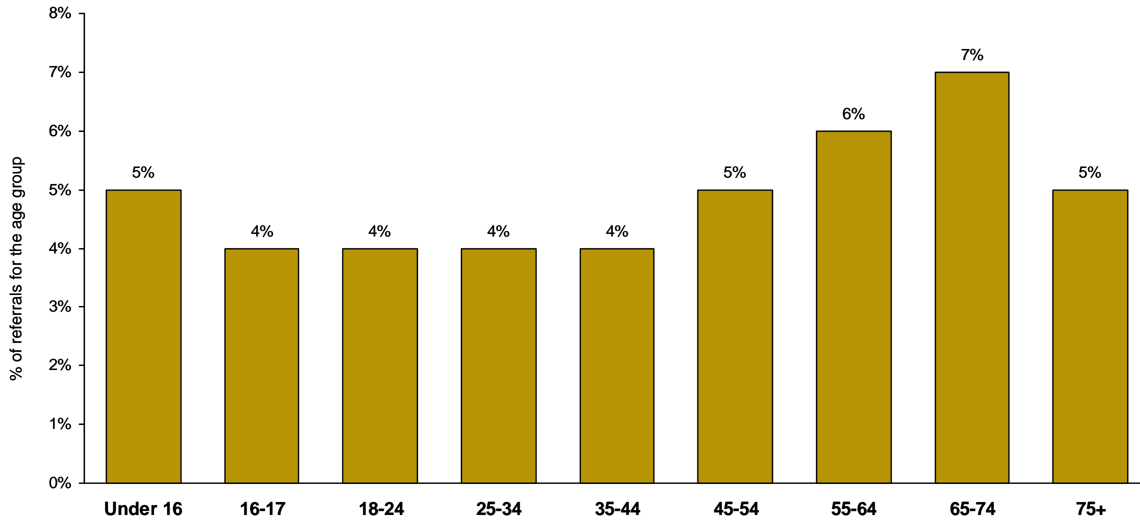
[23] *Please note that this field is not mandatory and therefore data should be interpreted with caution as per previous reference page 56*

Figure 42: All Patients – GP Referrals by Age Group 2006/07

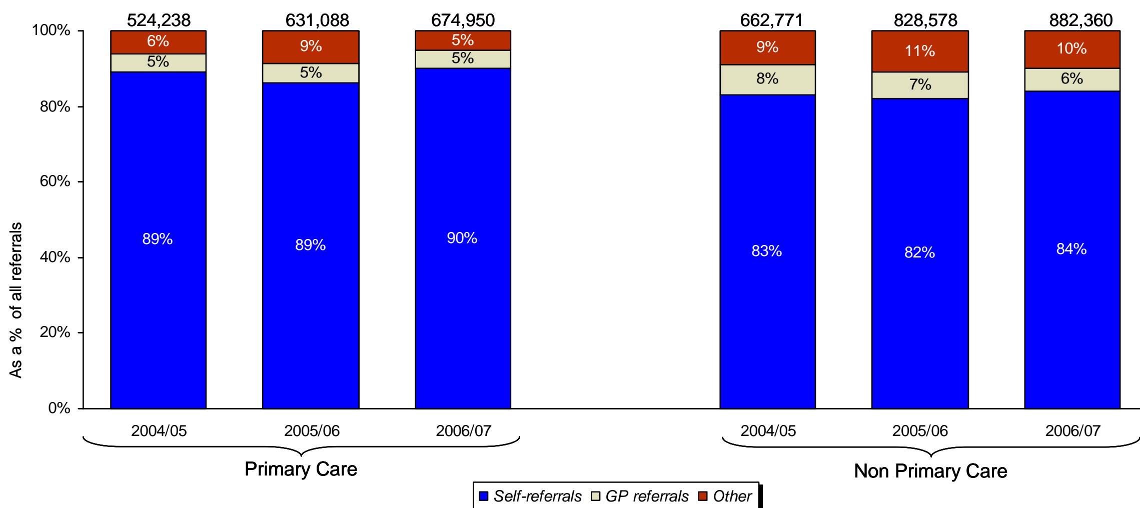


Source: NSW Health EDIS data

Note: The numbers are calculated as a percentage of all patients with this field filled in. The completion rates for this field in 2004/05, 2005/06 and 2006/07 were 77%, 88% and 89% respectively. A small margin of error should be taken into account when interpreting these figures. Analysis is indicative of trends and behaviour. Additional sources, such as interviews and the National Patient survey indicate that trends are in line.

When we look at referrals based on the kind of patient (that is primary care versus non-primary care), there are consistently 5% of primary care patients who are being referred by GPs. The decline in referrals from GPs has actually been in the non-primary care patient category with a reduction from 8% in 2004/05 to only 6% in 2006/07. This indicates that where GPs are referring patients they are more likely now to be real emergency cases. It also demonstrates that more patients are simply bypassing their GP.

Figure 43: Primary Care vs. Non-Primary Care Patient – Source of Referral 2004/05-2006/07



Source: NSW Health EDIS data

Note: The numbers are calculated as a percentage of all patients with this field filled in. The completion rates for this field in 2004/05, 2005/06 and 2006/07 were 77%, 88% and 89% respectively. A small margin of error should be taken into account when interpreting these figures. Analysis is indicative of trends and behaviour. Additional sources, such as interviews and the National Patient survey indicate that trends are in line.

The National Patient Survey shows that where patients are seeking advice from their GPs are typically obtaining this via a consultation[24].

Hypothesis: Increased Referral from Primary Care

Conclusion: Hypothesis not supported by the data

In summary, referrals from GPs as a proportion of all official referrals have reduced over the past three years.

6.6.2 Increased referrals from aged care facilities

EDIS data shows that when nursing homes refer a patient to the ED, they are almost always true emergency cases that are in a high triage category and require admission to a hospital ward. Aged care providers in the survey report sending on average 63% of their residents to the emergency department each year[25]. While aged care referrals have remained relatively stable aged care providers have the perception in 49% of cases that referral to EDs is increasing.

Figure 44: Aged Care Facility Self-Reported Proportion of Patients Referred to ED

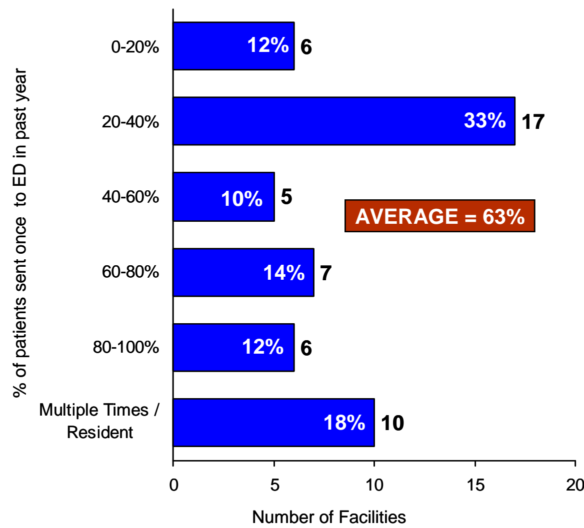
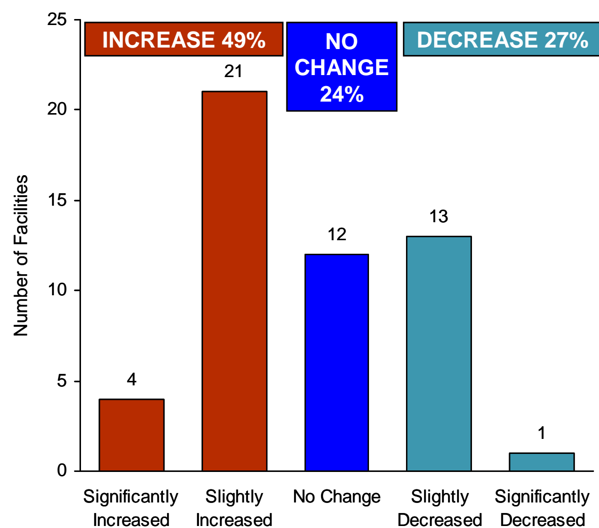


Figure 45: Aged Care Facility Self-Reported Changed in Referrals to ED



Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Note: LHS N=51, RHS N=51. LHS % of residents calculated as the number of residents sent annually to an ED divided by the total number of resident beds in the facility. Assumes the number of resident visits to the ED refers to individual patients. Where the number of visits is greater than the number of residents in the facility this was categorised as "Multiple times / resident"

Nevertheless, EDIS data indicates, whiles overall case numbers in this category are small, that nursing home referrals are typically non-primary care patient types. What this EDIS data is unable to fully show is that while these patients do need emergency care, EDs may not be the most suitable service provider for this group. Aged care referrals require full hospital care, which is shown by their high level of admission to a ward.

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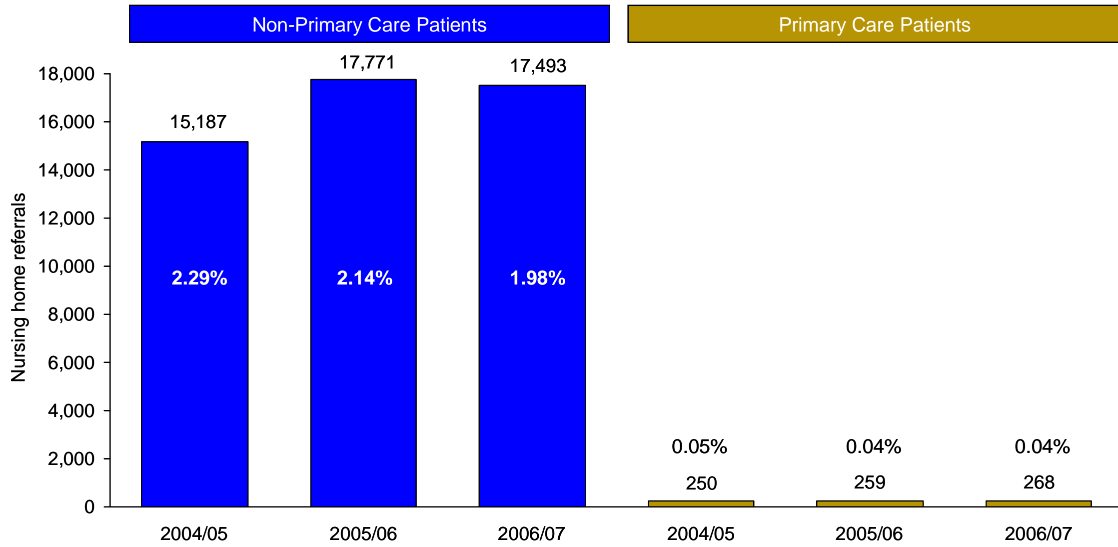
[24] *Source: Booz Allen Hamilton National Patient Survey*

[25] *Source: Booz Allen Hamilton Aged Care Facility Survey 2007*

Figure 46: Aged Care Referrals for Primary versus Non-Primary Care Patients 2004/05-2006/07

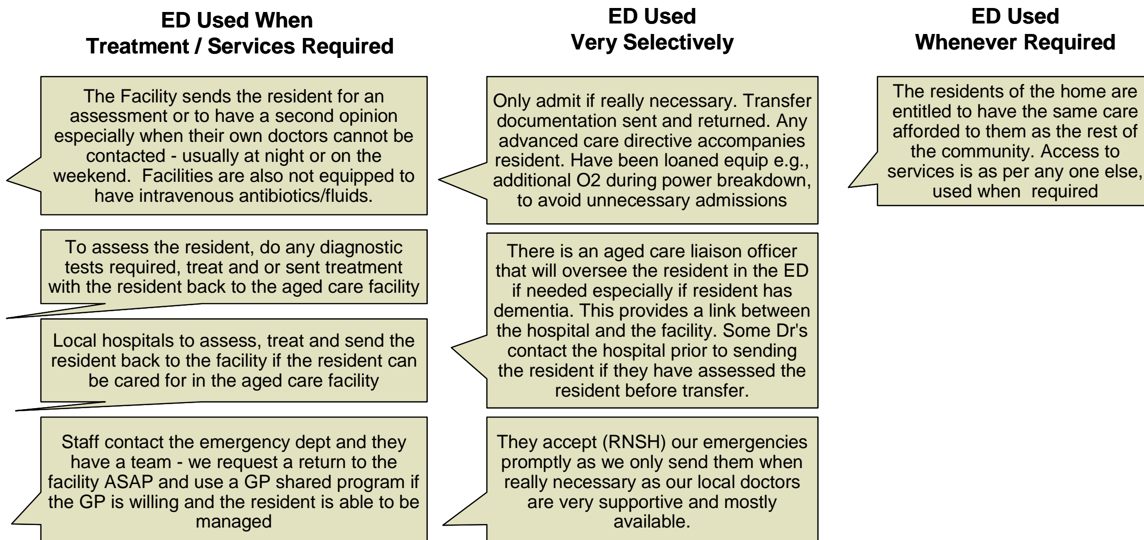


Source: NSW Health EDIS data. interviews

Note: The numbers are calculated as a percentage of all patients with this field filled in. The completion rates for this field in 2004/05, 2005/06 and 2006/07 were 77%, 88% and 89% respectively. A small margin of error should be taken into account when interpreting these figures. Analysis is indicative of trends and behaviour. Additional sources, such as interviews and the National Patient survey indicate that trends are in line.

The Aged Care Facility Survey in New South Wales shows that there are two polarised views of the role of an emergency department in aged care facilities. Some facilities view the emergency department as a provider of all services that facility is otherwise unable to provide to its residents, and are willing to send patients there for all testing and diagnostics, even if this requires admission, and then additional treatment and care is carried out within the facility. Other facilities see the emergency department as a last resort when the facility cannot treat the patient or has no access to a GP to provide medical care.

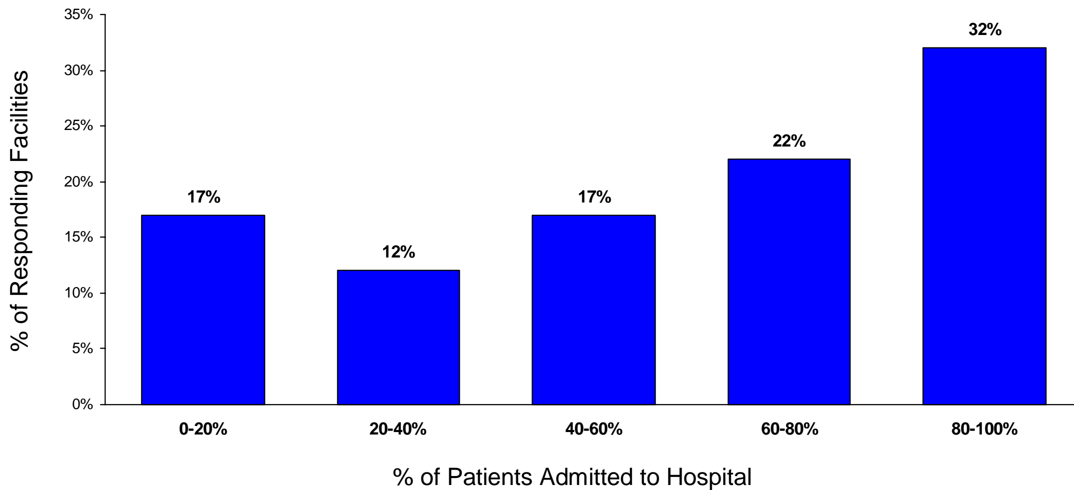
Figure 47: Aged Care Facility Comments on Role and Use of ED



Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Survey respondents had the perception that many patients were not actually admitted to the hospital. The survey responses indicate that aged care facilities are viewing EDs as mostly a provider of diagnostic/pathology and medical services where they cannot access or provide these services from within their facility.

Figure 48: Aged Care Facility Proportion of ED referrals admitted to hospital

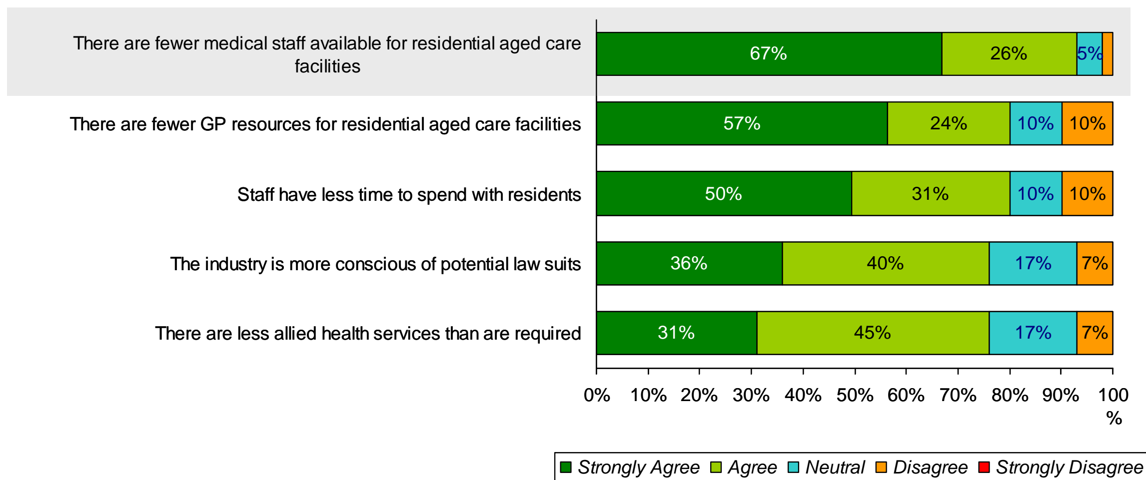


Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Notes: N=41.

Aged care facilities are reporting difficulty in having enough medical staff for the facility and for providing the services required by residents.

Figure 49: Aged Care Facility Perception of Aged Care Industry Changes

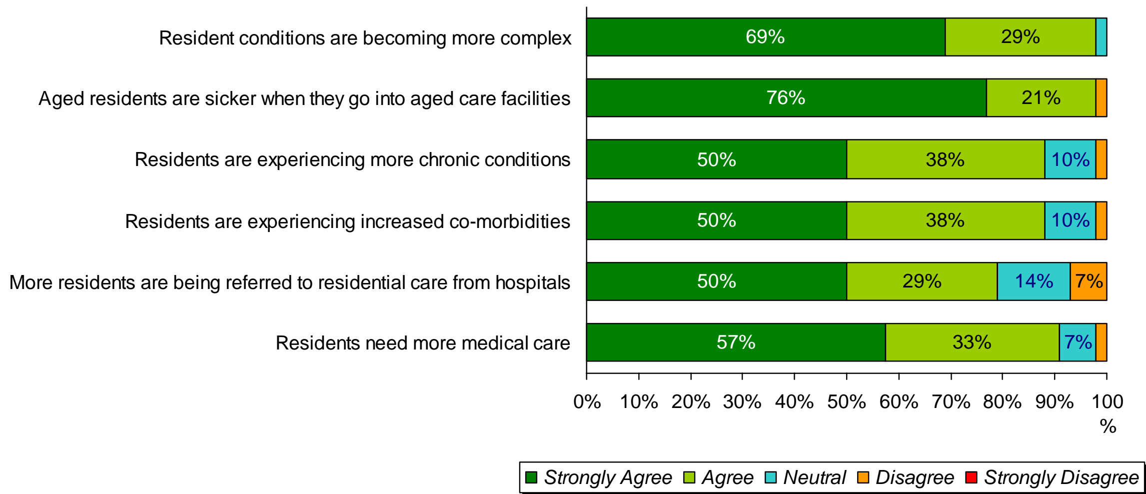


Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Notes: N=42.

At the same time aged care facilities' residents are becoming older and more complex to manage, which will place further strain on the EDs in the future as the population continues to age.

Figure 50: Aged Care Facility Perception of Resident Changes



Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Notes: N=42.

Hypothesis: Increased referrals from aged care facilities

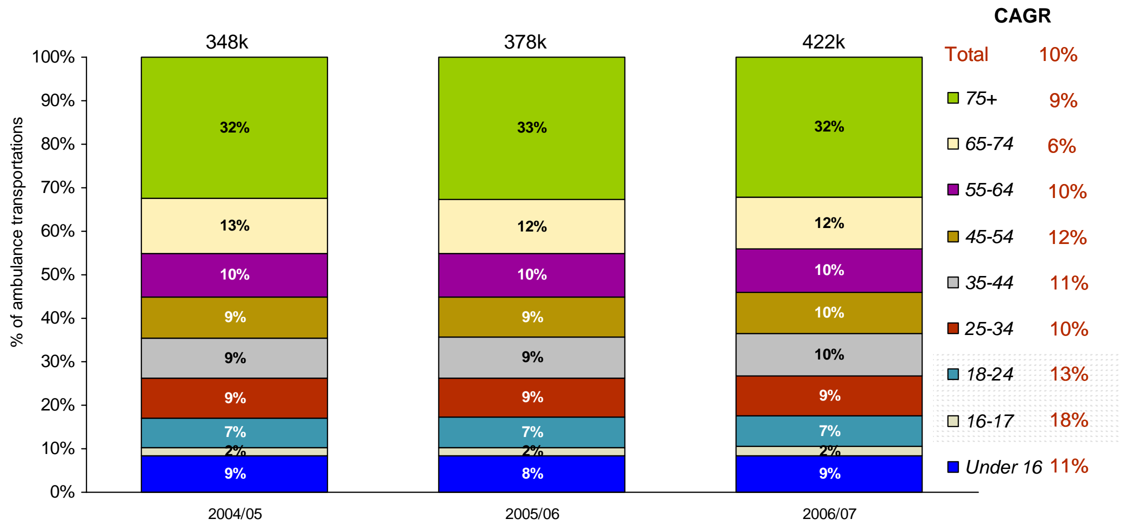
Conclusion: Hypothesis not supported by data / FURTHER INVESTIGATION REQUIRED

In summary, primary care transfers from Aged Care facilities are negligible, however given the difficulties the industry has expressed it is facing this is likely to grow and be a larger demand for transfers, and therefore requires more investigation in the future.

6.6.3 Higher ambulance transport rates

From 2004/05 to 2006/07 the number of arrivals by ambulance to emergency departments grew by 10% per annum. While the 65+ age groups have consistently been approximately 34% of the total annual transportation, the highest growth is in the 16-17 and 18-24 year old age groups, with growth rates of 18% and 13% respectively.

Figure 51: All Patients – Mode of Arrival – Ambulance- by Age Group 2004/05-2006/07

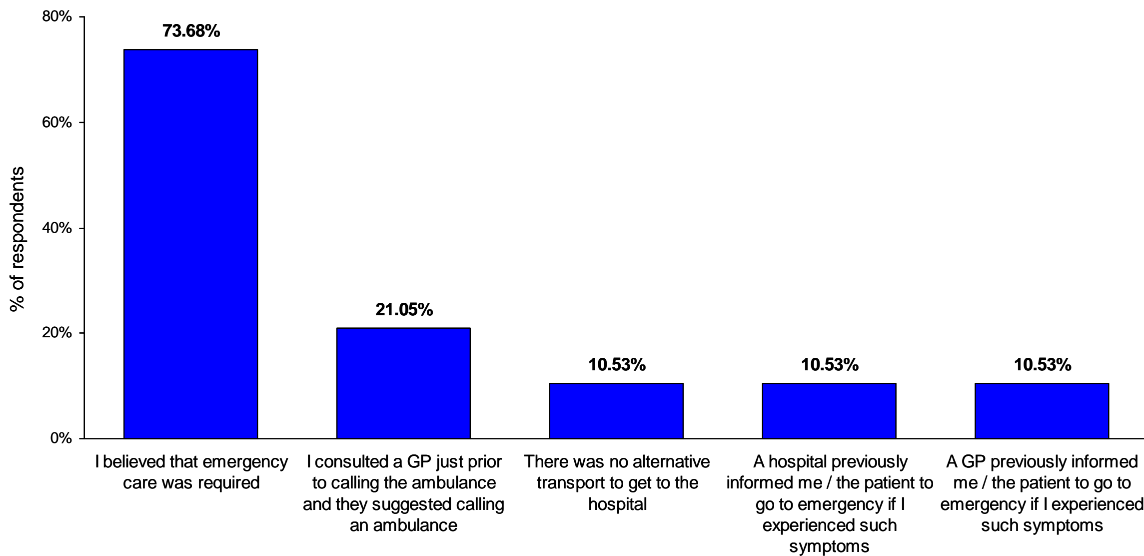


Source: NSW Health EDIS Data, Interviews

Interviews have shown that patients perceive that if they attend the ED by ambulance that they will receive faster service. It has also been noted that some patients use the ambulance service like a taxi service.

Nevertheless, the National Patient Survey showed that when patients are using an ambulance they typically believe that they required emergency care, and are less often using it for non-emergency motivations.

Figure 52: Patient Reported Reasons for Using an Ambulance



Source: Booz Allen Hamilton National Patient Survey August 2007

Notes: RHS n=19 (respondents who personally made the call to the ambulance)

Hypothesis: Higher ambulance transport rates

Conclusion: Hypothesis supported by the data

In summary, there is a significant growth in ambulance transportations, particularly for the younger age groups which are a growing part of the ED attendances.

6.6.4 Referrals from health help lines

The National Health Help Line is yet to be formally launched in New South Wales and as such is not a significant contributor to emergency department demand. There is a perception among some interviewees that other health hotlines may actually be contributing to ED demand[26].

Interview Quotes:

- *"Call centres are here to stay – unlikely to have reduced demand by much – may be directing people to ED, e.g. people who were told to see their GP in 24 hours but couldn't get an appointment in that time"*

Hypothesis: Referrals from health help lines

Conclusion: Hypothesis not supported by data / FURTHER INVESTIGATION REQUIRED

In summary, no evidence to prove that this is a contributing factor to ED demand either positively or negatively. The Health Help Line has not formally been introduced in NSW.

6.7 Improved Population Health Campaigns

6.7.1 Increased self referral from untapped demand

Anecdotal evidence suggests that when advertising is conducted on a particular issue it increases patient awareness and therefore attendances at the emergency department[27].

Interview Quotes:

- *"NSW meningococcal campaign influenced public behaviour and ambulance practice"*

The National Patient Survey shows that there is at least 85% (11 out of 13) awareness of advertising related to the condition for which patients attended the ED. We can infer from this that government health campaigns have had an impact on creating demand amongst primary care type patients.

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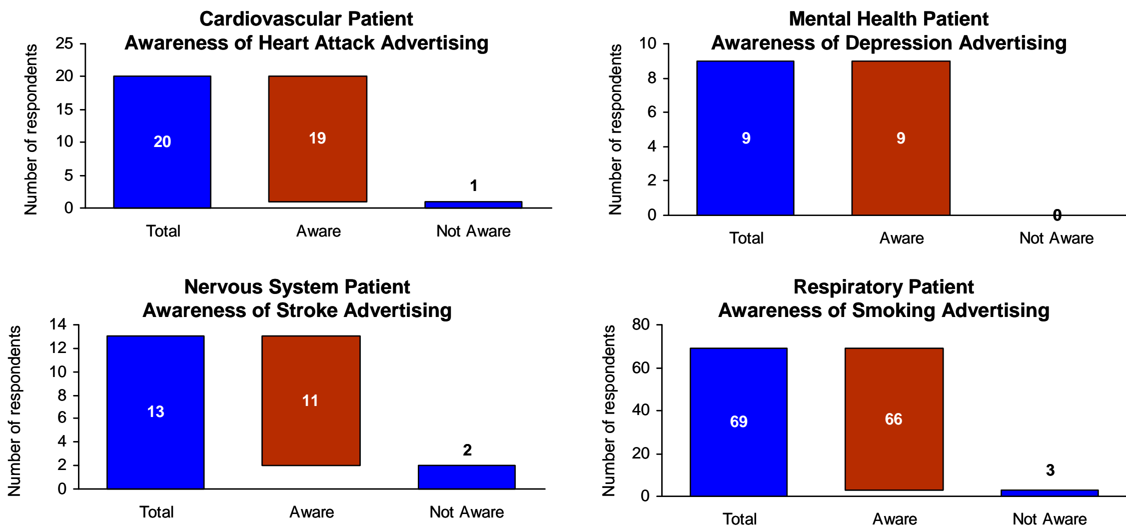
[26] *Source: Booz Allen Hamilton Interviews*

[27] *Source: Booz Allen Hamilton Interviews*

Figure 53: Patient Awareness of Condition for Which They Attended ED



Source: Booz Allen Hamilton National Patient Survey 2007

Note: Awareness of the advertising is based on the respondent, which includes patients and carers. In both cases responses are important as the respondent was typically the decision maker

Hypothesis: Increased self referral from untapped demand

Conclusion: Hypothesis supported by the data

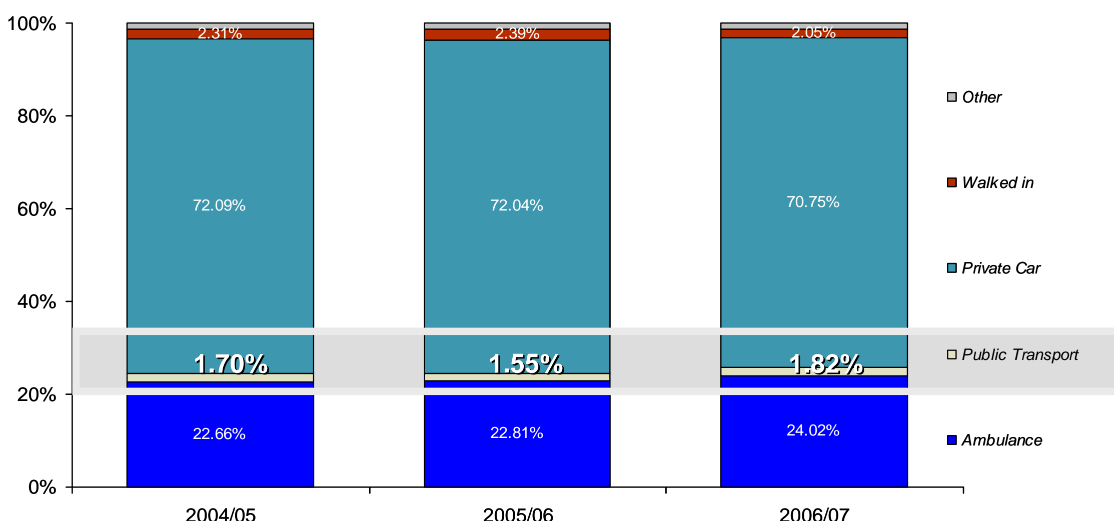
In summary, government health campaigns have been linked to increased demand in ambulance transportations for that particular condition, and patients in the National Patient Survey were aware of previous advertising related to the condition for which they attended ED.

6.8 Changing Infrastructure and Community Services

6.8.1 Reduced regular public transport services

While discussions with the Council of the Ageing and other interviewees suggested that reduced public transport services has led to increased attendance at emergency department. EDIS data actually shows that an increasing, but small proportion of patients are arriving by public transport, making of 1.82% of all arrivals in 2006/07 compared to 1.7% of arrivals in 2004/05.

Figure 54: All Attendances – Mode of Arrival – Focus on Public Transport 2004/05-2006/07



Source: NSW Health EDIS data, Interviews

Interview Quotes:

- *"The lack of access to public transport is a greater impediment to accessing GPs and EDs"*

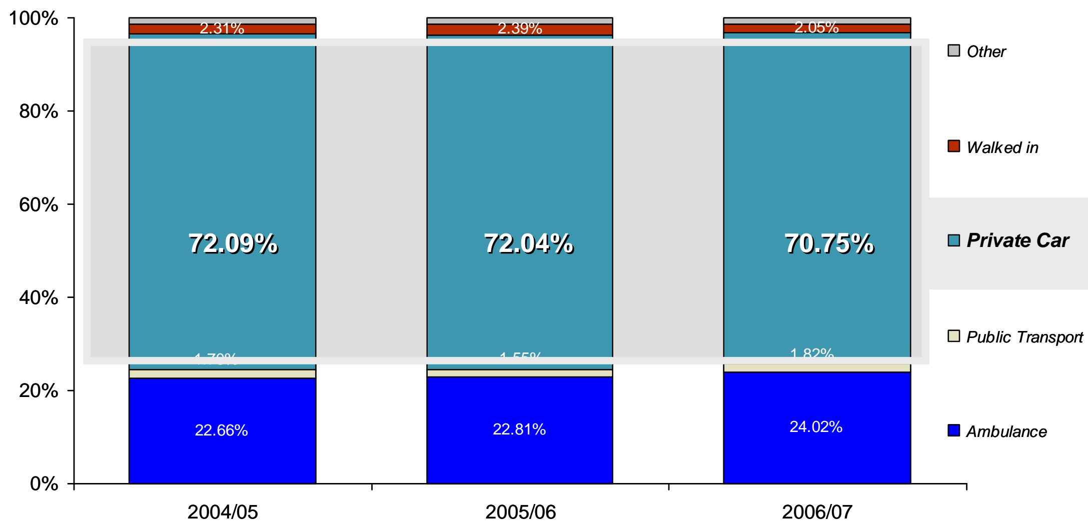
Hypothesis: Reduced regular public transport services
Conclusion: Hypothesis not supported by data
In summary, evidence shows that transportation is not significant factor in attending an ED.

6.8.2 Improved roads access to urban centres

While some areas of New South Wales had been improving their road access to urban centres, a decreasing proportion of patients are arriving by private car, making up 70.75% of all arrivals in 2006/07 down from 72.09% in 2004/05[28]. However, on absolute terms these numbers are still at a very high level.

[28] *Source: NSW Health EDIS Data*

Figure 55: All Attendances – Mode of Arrival – Focus on Private Care



Source: NSW Health EDIS data, Interviews

Hypothesis: Improved roads access to urban centres
Conclusion: Hypothesis not supported by data
In summary, no evidence to prove that this is a contributing factor to ED demand.

6.8.3 More fragmented community services

There is no qualitative or quantitative evidence to show that any changes in community services have affected patients' decision to attend an ED rather than a GP.

Hypothesis: More fragmented community services
Conclusion: Hypothesis not supported by data
In summary, no evidence to prove that this is a contributing factor to ED demand.

6.9 Demand Driver Summary

Analysis of the demand drivers reveals that there are four significant drivers of demand in EDs

Key Drivers

- *Changing Patient Expectations:* There is a strong trend towards patients bypassing their GP in the decision to attend an ED, with up to 86% of patients self-referring to the ED and relying on their family and friends for advice. Patients are willing to travel a significant distance in order to obtain all the required services in the one place. There are two different age cohorts impacting demand in different ways. The under 25 years age cohort is using the ED as a primary care substitute, seeking convenience and wanting to access services all in one place. The 65+ years cohort is more likely to be using the ED for true

emergency services and their growth is driven by the ageing population and more chronic problems

- *Changing Referral Patterns:* The strongest referral trend is that more patients are self referring, and that ambulance usage is increasing rapidly. While ambulance transportations tend to be for non-primary care patients they nonetheless contribute a high volume of attendances. Aged care facilities self report that their use of EDs is on the rise and while aged care referrals are currently low, they are likely to grow as the population ages and residential aged care facilities face additional difficulties and begin to refer more patients
- *Changing Population Health Campaigns:* Patients are being informed about a variety of health conditions via advertising and this is impacting their choice to attend the ED
- *Changing Patient Demographics:* A small proportion of the growth in ED demand can be explained by growth in the population. The ageing population is also reflected in the increased age patients in the ED. However, younger patients (under 25 years) are growing much faster than older patients (65+ years) and these groups have fundamentally different needs in the ED.

7 Field Research Supply Side Driver Analysis

7.1 Introduction

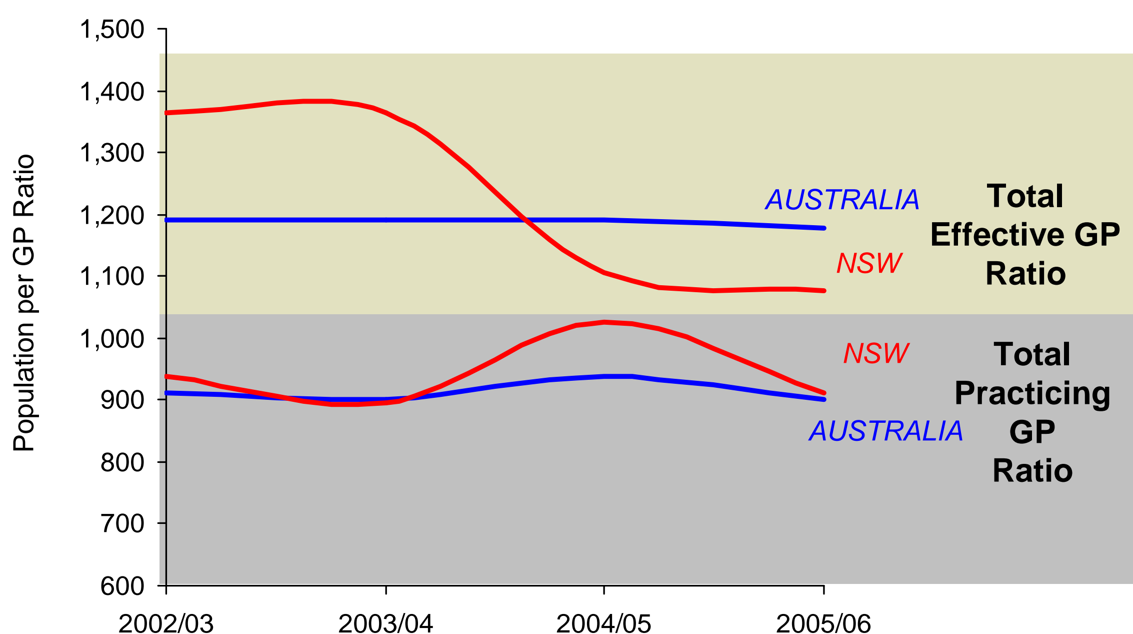
Supply side factors aim to understand how the supply of services via GPs and emergency departments is impacting demand transfer into EDs. In the past forecasting for demand has been based on demand factors (such as patient population) but given the complexity of ED demand, an understanding of the relationships between supply and demand factors is essential.

7.2 Changing Primary Practitioner Numbers

7.2.1 Smaller Effective GP Workforce

While there is a perception that the overall GP : Population ratio has worsened over the past few years in NSW, the fact is that from 2004/05 to 2005/06 the Effective GP: Population ratio improved from 1:1106 (i.e. 1 GP to 1106 people) to 1:1077. This is better than the national average of 1:1177 in 2005/06. This does not however reflect the accessibility of GPs to patients and what hours they work. The important measure of GP accessibility is the effective hours they are working.

Figure 56: NSW versus Australia Population per GP Ratios



Source: Primary Health Care Research & Information Service (PHC RIS) – 2002/03-2005/06

Note: The 'Total Effective GP Ratio' is calculated by dividing the population by the number of GP FWEs. The 'Total Practicing GP Ratio' is calculated by dividing the population by the number of Practicing GPs.

Hypothesis: Smaller Effective GP Workforce

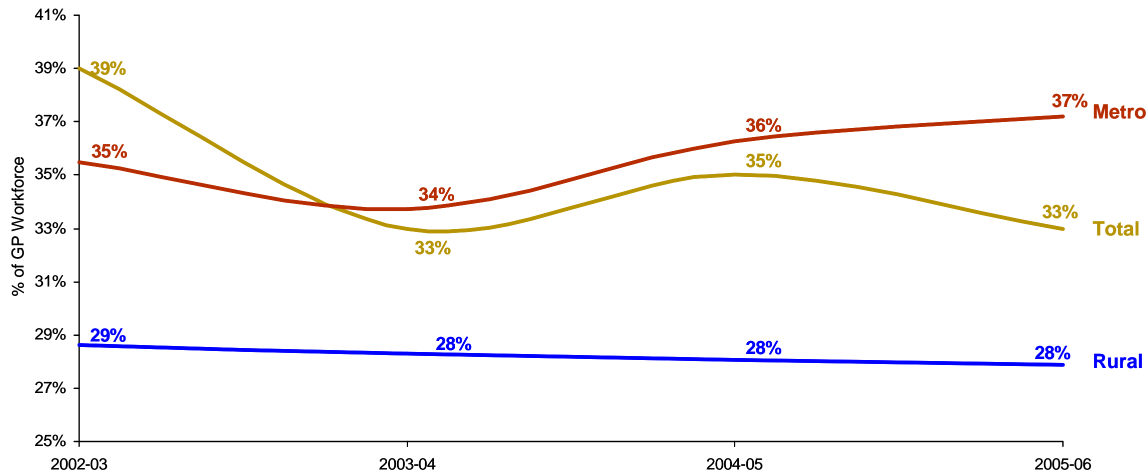
Conclusion: Hypothesis not supported by data

In summary, the number of GPs relative to the population has improved.

7.2.2 Fewer Male GPs

Anecdotal evidence suggests that the proportion of GPs that are female is increasing. Overall the GP female population as a proportion of the total GP population has reduced from 39% in 2002/03 to 33% in 2005/06.

Figure 57: Total and Metro versus Rural Female GP Population



Source: Primary Health Care Research & Information Service (PHC RIS) – 2002/03-2005/06. AIHW for female working hours – numbers based on 2003 data. Interviews

Note: Analysis excludes three divisions that did not provide data on female GPs

Interview Quotes:

- *"Female GPs predominate in medical centres"*

However, female GPs are more likely to be practicing in metropolitan areas rather than rural areas. The highest female populations are in Eastern Sydney (55%), Central Sydney (47%) and Sutherland (46%). The lowest female populations are in NSW Outback (12%), Macarthur (20%) and Fairfield (20%).

Female GPs work on average 13.6 hours less than their male counterparts, and this is limiting GP access in metropolitan areas where female GPs are more prominent[29].

Hypothesis: Fewer Male GPs

Conclusion: Hypothesis not supported by data

In summary, even though male GPs are increasing as a proportion of the population overall, the female GP population is high in metropolitan areas and females are working on average 13.6 hours less than males placing a strain on GP accessibility.

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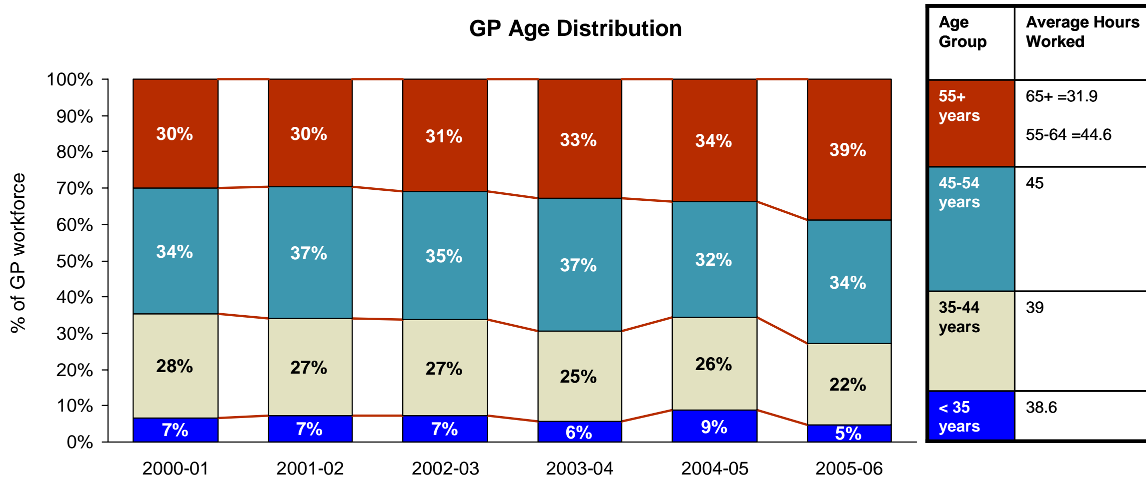
[29] *Source: AIHW data on female working hours – numbers based on 2003 data*

7.2.3 Ageing GP Population

The GP workforce has aged over the past six years. In 2000/01 GPs over 55 years of age comprised only 30% of the GP population in NSW, and by 2005/06 this had increased to 39%.

Older GPs are also working fewer hours on average and this limits patients' access to their services. GPs over 65 years of age work on average 31.9 hours per week, whereas GPs 45-54 years work on average 45 hours per week.

Figure 58: Age Breakdown of GP Workforce and Hours Worked by Age



Age Group	Average Hours Worked
55+ years	65+ =31.9 55-64 =44.6
45-54 years	45
35-44 years	39
< 35 years	38.6

Source: LHS General Practice Activity in Australia, 2004/05 and 2005-06. RHS Based on 2002 data from AIHW 2004

Hypothesis: Ageing GP Population

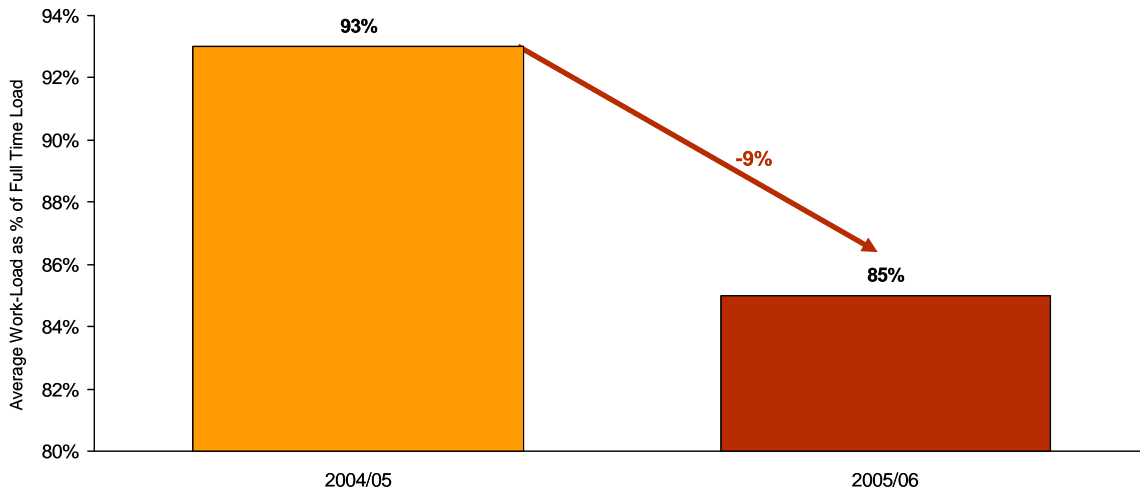
Conclusion: Hypothesis supported by the data

In summary, the GP population is ageing and working fewer hours, reducing patient access to services. This will worsen as the GP population continues to age.

7.2.4 More Part–Time / Casual GPs

The biggest impact on patient access to primary care through their GP is from the effective hours being worked by GPs. The average workload of GPs has reduced by 9% from 2004/05 to 2005/06. The average GP workload as a proportion of a full-time load reduced from 93% in 2004/05 to only 85% in 2006/07. This indicates that there are less full-time and more part-time GPs available.

Figure 59: Average Workload of NSW GPs

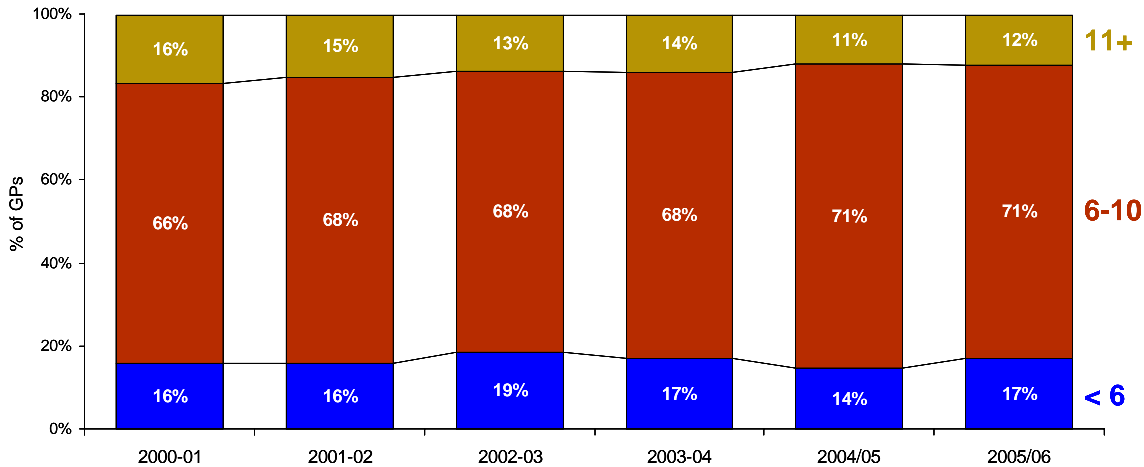


Source: Primary Health Care Research & Information Service (PHC RIS) – 2002/03-2005/06. Interviews

Note: Data for earlier years was not used as the Full-Time load was calculated differently

This is reflected in less GPs working 11+ sessions per week, (reduced from 16% in 2000/01 to 12% of GPs in 2005/06), and more GPs are working either less than 6 or between 6 and 10 hours.

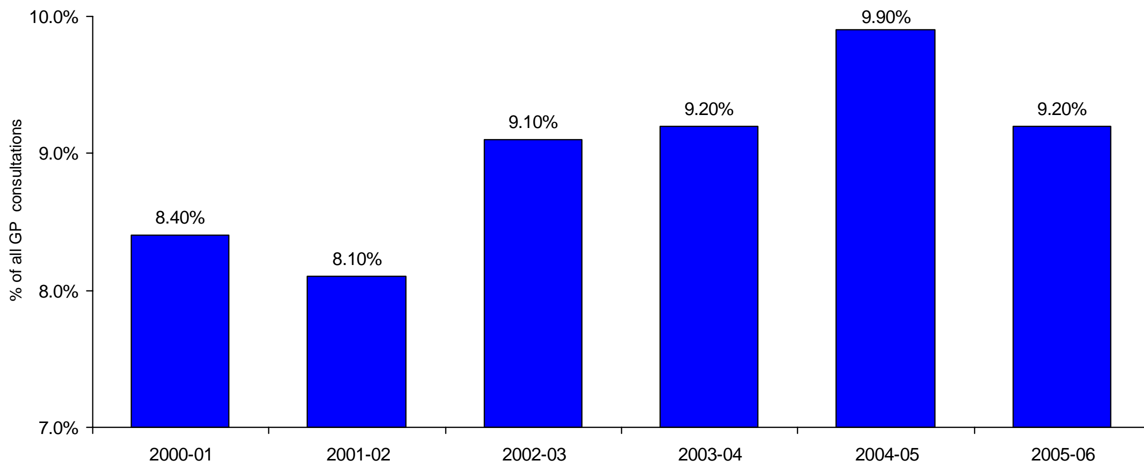
Figure 60: Number of Sessions Worked by GPs – Australia – 2000/01-2005/06



Source: General Practice Activity in Australia, 2004/05 and 2005-06

At the same time, there has been an increase in the proportion of consultations that are long consultations from 8.4% of consultations in 2000/01 to 9.2% in 2005/06.

Figure 61: Long Consultations at GP – Proportion of All Consultations



Source: LHS General Practice Activity in Australia, 2004/05 and 2005-06.

Note: Confidence interval 95%.

Interview Quotes:

- *"Reduced effective workforce is the problem, not the number of GPs"*[30]
- *"GPs are working fewer hours per week because they are taking more control over their own lives. This will allow a GP to have a longer career without getting burnt out - resulting in more hours over a lifetime. GPs are also adopting more portfolio careers - I am a Medical Educator for 5 sessions a week teaching doctors training to become GPs. This sort of career is often put down to feminisation of the workforce. Although this is part of the reason, male doctors are increasingly working in this way too"*[31]
- *"GPs want a better work/life balance. There are other things in a GP's life which are equally/more important than being a GP. To avoid burn out and stress. To maintain longevity in working. To maintain happiness with working as a GP"*[32]
- *"I think this reflects the arrival of younger graduates in increasing numbers who are perhaps placing their family and social life in perspective with their career - something that GPs of previous times did not, being immersed in their work"*[33]

Hypothesis: More Part-Time / Casual GPs

Conclusion: Hypothesis supported by the data

In summary, the reduced effective working hours of GPs is having a strong impact on GP availability and therefore patient presentation to the ED. GPs are working on average 83% of a full-time load, working fewer sessions and doing longer consultations.

[30] *Source: Interviews*

[31] *Booz Allen Hamilton GP Survey*

[32] *Booz Allen Hamilton GP Survey*

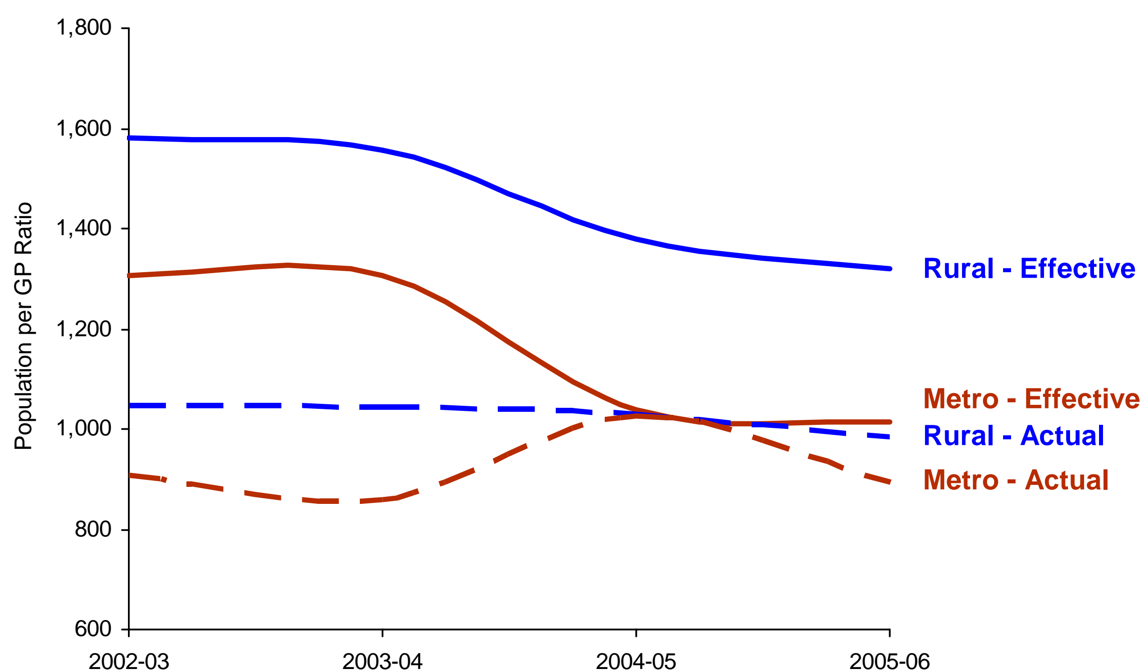
[33] *Booz Allen Hamilton GP Survey*

7.3 Changing Primary Practitioner Distribution

7.3.1 Fewer Rural / Regional GPs

Rural divisions have a significantly worse GP:Population ratio compared to metropolitan areas[34]. The effective GP:Population ratio on rural divisions is 1:1014 and in metro areas is 1:890.

Figure 62: Population per GP: Rural vs. Metropolitan



Source: Primary Health Care Research & Information Service (PHC RIS) – 2002/03-2005/06

This poorer GP:Population ratio is reflected in the higher presentation of primary care patients in rural AHSs. On average the percentage of ED attendances that are primary care patients is 44%. This figure for the rural AHSs is 58% in Greater Western, 56% in Greater Southern, 50% in Hunter New England and 44% in North Coast[35]. This indicates that GP supply has a strong effect on primary care patient demand in EDs.

Hypothesis: Fewer Rural / Regional GPs

Conclusion: Hypothesis supported by the data

In summary, GP supply has a strong impact on primary care patient demand in emergency departments, evidenced by significantly worse Population per GP ratios in the rural areas coupled with the highest primary care patient presentations in EDs.

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[34] *Note: Rural GP Divisions are those classified as Rural by Divisions of General Practice. Rural Divisions are More Allied Health Service (MAHS) eligible as 5% or more of their total population is located within the Rural, Remote, Metropolitan Areas (RRMAS) categories 4-7.*

[35] *Source: NSW Health EDIS Data*

7.3.2 More GPs Living Away from Practice Site

Qualitative interviews suggest that GPs are living further from their practice, and this could limit the hours they are willing to work, given the extended travel time.

Interview Quotes:

- *"More and more GPs are living further away from where they practice"*

There is no quantitative evidence of GPs living further from their practice, however this could be impacting access and might require further evaluation.

Hypothesis: More GPs Living Away from Practice Site

Conclusion: Hypothesis not supported the data/ FURTHER INVESTIGATION REQUIRED

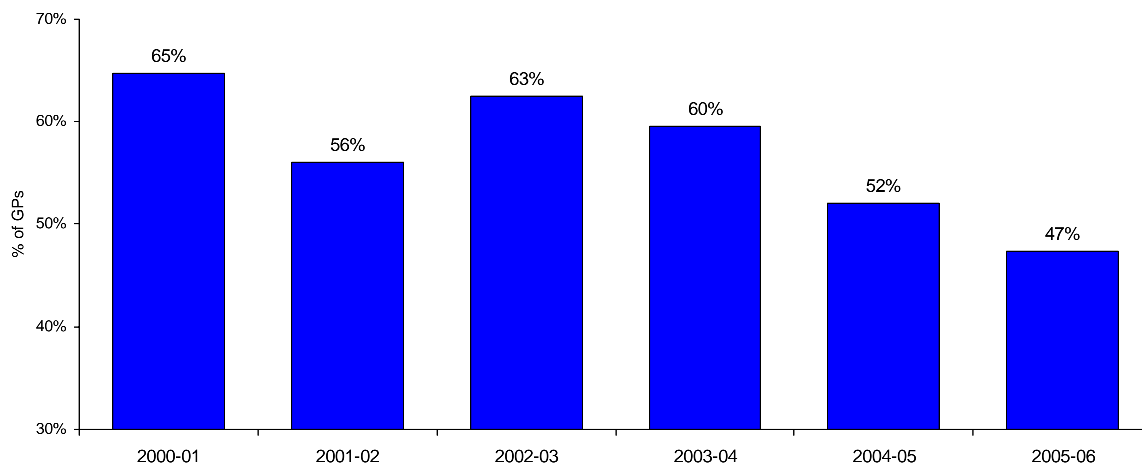
In summary, while this may have an impact there was no strong qualitative indication that this has been a factor that is impacting demand in EDs.

7.4 Changing Primary Care Practice

7.4.1 Reduced After-Hours Services

Over the past six years GPs have been working fewer hours and are much less likely to be providing their own after hours services. In 2000/01, 65% of GPs provided their own or cooperative after hours services, but in 2005/06 this dropped to only 47%. This means that patients now have much more difficulty accessing GP services outside normal hours, and are more likely to seek medical services from an ED.

Figure 63: GPs providing own after-hours services

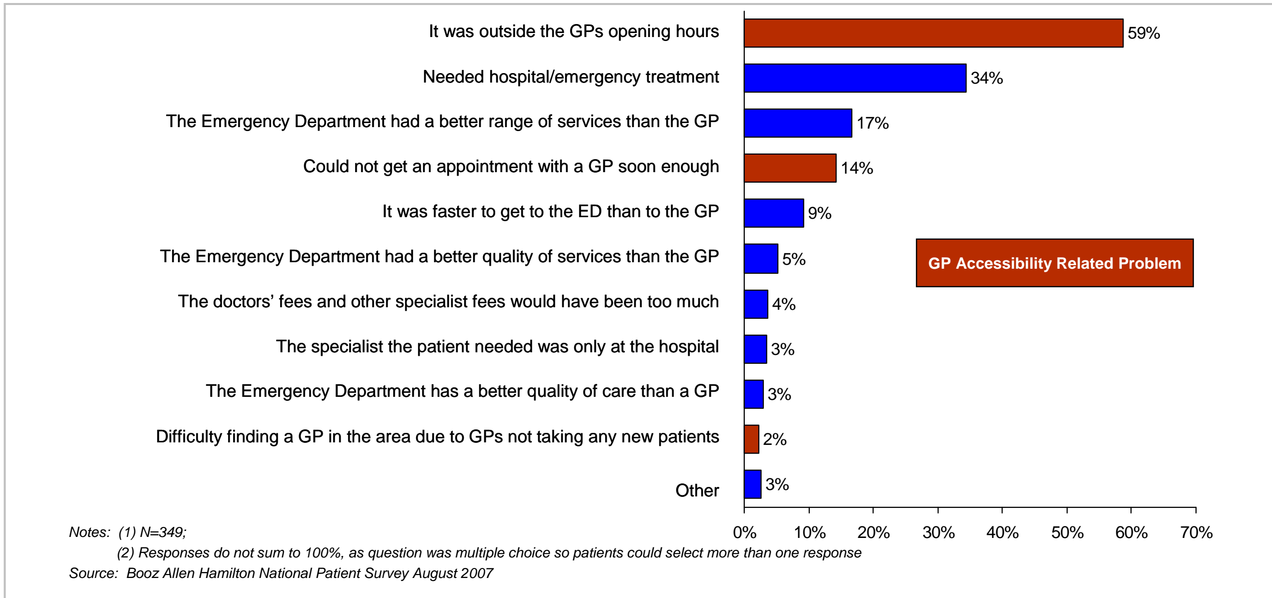


Source: General Practice Activity in Australia, 2004/05 and 2005-06

In the National Patient Survey a significant proportion of respondents reported GP accessibility problems as the reason they attended the ED, and the largest group, 59%, attended the ED because it was outside of their GP's opening hours.

Furthermore, spikes in ED attendance during the holiday period confirm the problem around GP access during reduced after-hours services.

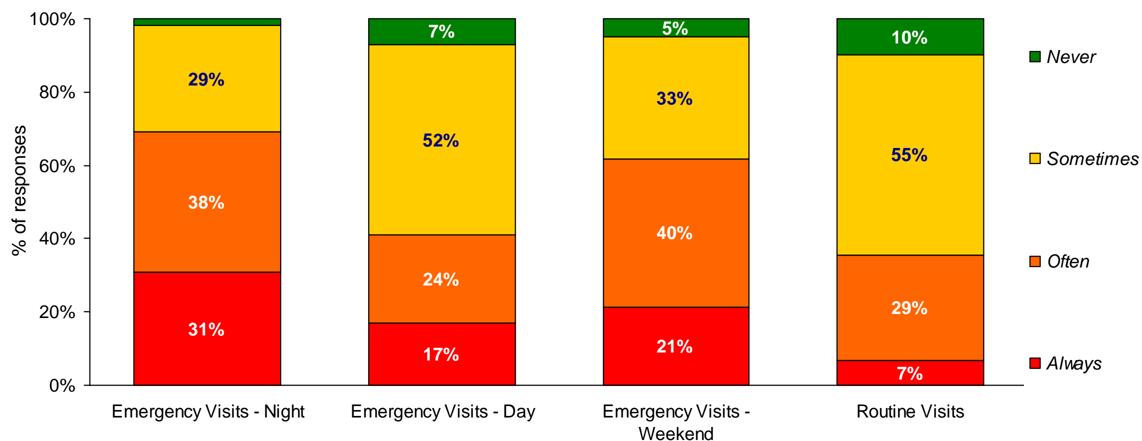
Figure 64[1]: GP Accessibility Problems for Patients



Notes: (1) N=349;
(2) Responses do not sum to 100%, as question was multiple choice so patients could select more than one response
Source: Booz Allen Hamilton National Patient Survey August 2007

Over 90% of facilities in the aged care survey reported having difficulty accessing emergency services from a GP, especially at night and on weekends. This means that where medical support is required an ED will be the only available option for treatment.

Figure 65: GP Accessibility Problems for Aged Care Facilities

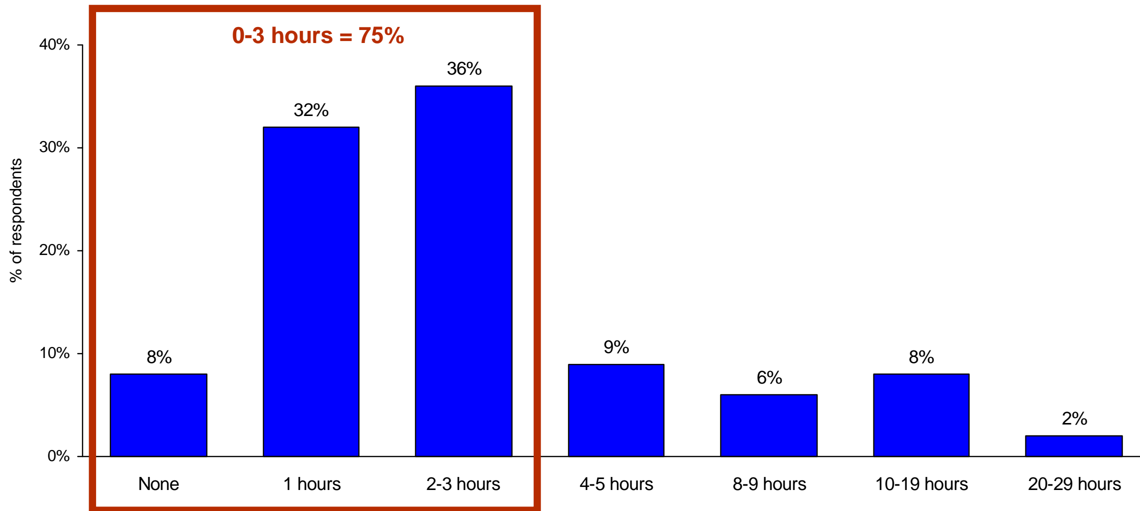


Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Note: N=42.

Aged care facilities also have reported that GPs typically (in 75% of cases) spend less than three hours a week at the facility on patient care.

Figure 66: Hours GPs Spend at Aged Care Facilities per week



Source: Booz Allen Hamilton Aged Care Facility Survey 2007

Note: N=53. LHS Numbers add to more than 100% as respondents were able to select more than one option

Interview Quotes:

- *"No financial incentive to do home visits, aged care facility visits or after hours at all! GPs are more focused on lifestyle. Generation X and Y doctors are very definite on this also, as the average age of GPs in Oz is 52, the mass of GPs are at a life stage where slowing down makes sense and is financially possible"*[36]

Hypothesis: GPs Access

Conclusion: Hypothesis supported by the data

In summary, GP accessibility is the biggest factor affecting patients' attendance at the ED. GPs are providing less after hours services which is reflected by patients stating they visit the ED as they can't access a GP. Residential aged care facilities are also struggling to access a GP for routine and emergency appointments.

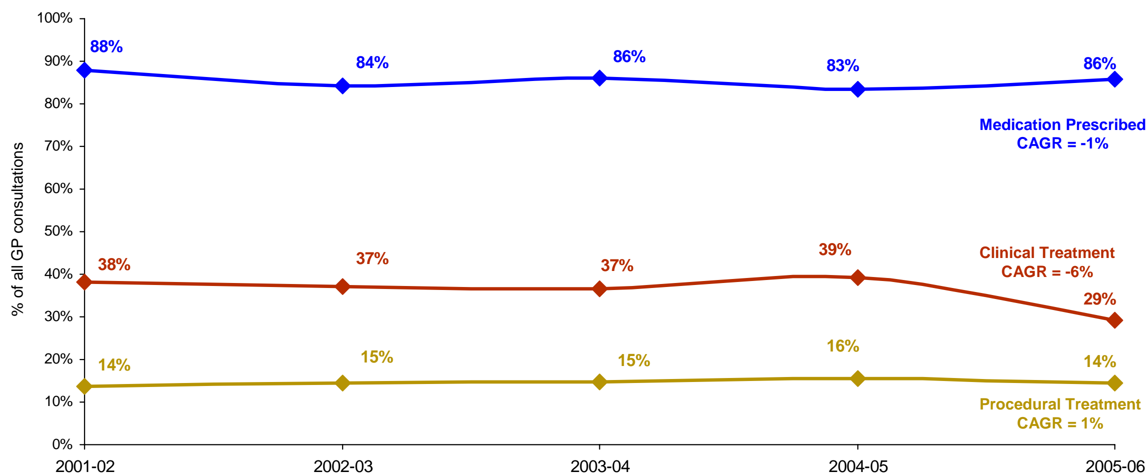
7.4.2 Greater 'Specialisation' of General Practice

The variety of services provided by GPs affects what conditions they are able to treat within their facility without needing to refer patients for additional or specialist testing. The referral of patients to other services provides an opportunity for them to select attending an ED to obtain all the services in one place.

In 86% of consultations GPs are performing general services such as prescribing medications. However since 2001/02 GPs have annually provided 6% less clinical treatments. This is in part due to deskilling of the workforce.

[36] *Booz Allen Hamilton GP Survey*

Figure 67: Treatments GPs are Providing in their Practice – 2000/01-2005/06



Source: LHS General Practice Activity in Australia, 2004/05 and 2005-06.

Interview Quotes:

- *"We are being deskilled, medical care is becoming more specialised, complicated"*[37]
- *"Deskilling of GPs – newer GPs are less skilful as diagnosticians as well as treatment coordinators. Too much bureaucracy involved in procedures - infection control, etc."*[38]
- *"Less time available, expense of maintaining necessary equipment, 'freezing out' from hospital outpatient and support environ (unless you are practicing in the country with access to a country hospital - or belong to a polyclinic- which then 'depersonalises' the service"*[39]
- *"The 'system' has shifted more administrative duties to the doctor, especially the GP"*[40]
- *"There is a deskilling of some sections of the GP workforce caused by the ability to do poor medicine and get paid more for the same as doing comprehensive quality medicine. Just meeting patient demand is poor medicine without taking the opportunity to assess, examine and promote health and treat other issues. Also in some areas specialists may be taking this over"*[41]

During the period of 2001/02 to 2005/06 GPs have also referred annually 6% more to pathology services, 3% more annually to specialists and 3% more to imaging. This, as GPs explain, is due to increasing specialisation of medicine, increasing demands from patients and increased risk of litigation.

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[37] *Booz Allen Hamilton GP Survey*

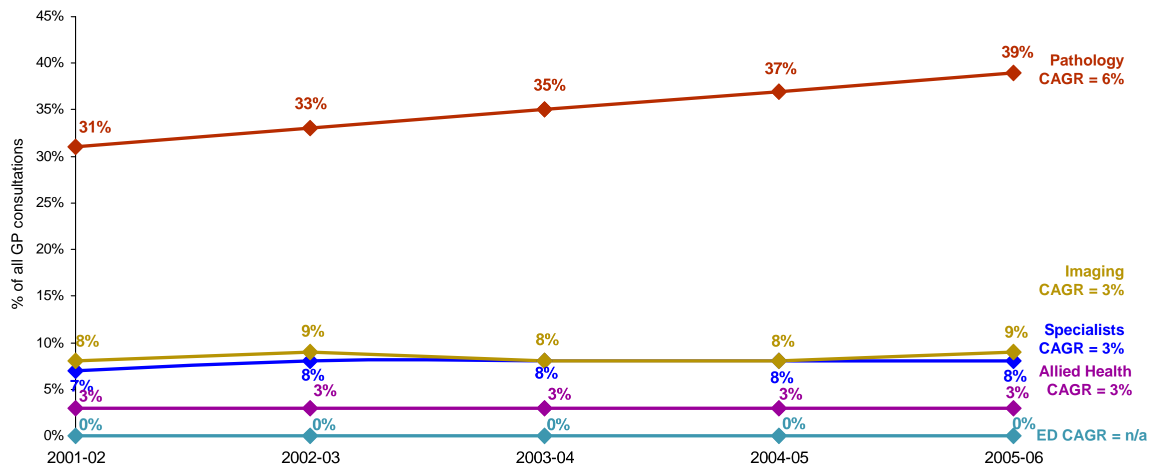
[38] *Booz Allen Hamilton GP Survey*

[39] *Booz Allen Hamilton GP Survey*

[40] *Booz Allen Hamilton GP Survey*

[41] *Booz Allen Hamilton GP Survey*

Figure 68: Referrals Generated by GPs 2000/01-2005/06



Source: LHS General Practice Activity in Australia, 2004/05 and 2005-06.

Interview Quotes:

- ***Increased Specialisation of Medicine:*** *"Proliferation of specialty & sub-specialty services that a GP can refer onto. Also, given the complexity and changes in medicine, a GP cannot know in detail about every specialty area. Time pressures may also be a factor"*[42]
- ***Increased Litigation Risk:*** *"Increased litigation risk dissuades procedural work, e.g. 1 mole excision means 3 less patients seen. Refer for u/s guided joint injection of cortisone is less risky than DIY and appears more professional to the patient"*[43]
- ***Increased Litigation Risk:*** *"Litigation risk! As the patient base is much better informed by the internet about disease and possible risk of cancer in many settings and demands cancer exclusion when being assessed, e.g. "can you say to me doctor after your tests here that I have not got cancer!" this happens daily!"*[44]
- ***Patient Expectations:*** *"Fear of Litigation. Patient driven because of information from the internet, etc. Patients are developing more complex conditions and are increasingly unwilling to make changes to their life style to improve their health"*

Hypothesis: Greater 'Specialisation' of General Practice

Conclusion: Hypothesis supported by the data

In summary, due to perceived de-skilling of the GP workforce and increased risk of litigation GPs are providing fewer services within their practice and referring more for specialist testing. This means that patients are more likely to need additional services outside the GP and would provide for them an opportunity to decide to attend the ED where all the services are available.

[42] *Booz Allen Hamilton GP Survey*

[43] *Booz Allen Hamilton GP Survey*

[44] *Booz Allen Hamilton GP Survey*

7.4.3 Less Inclined To Manage Complex Patients

GPs have not reported a change in complexity of cases treated over the past six years[45]. However the increased referrals to specialist services show that GPs are less likely to manage their own patients with more complex problems.

Hypothesis: Less Inclined to Manage Complex Patients

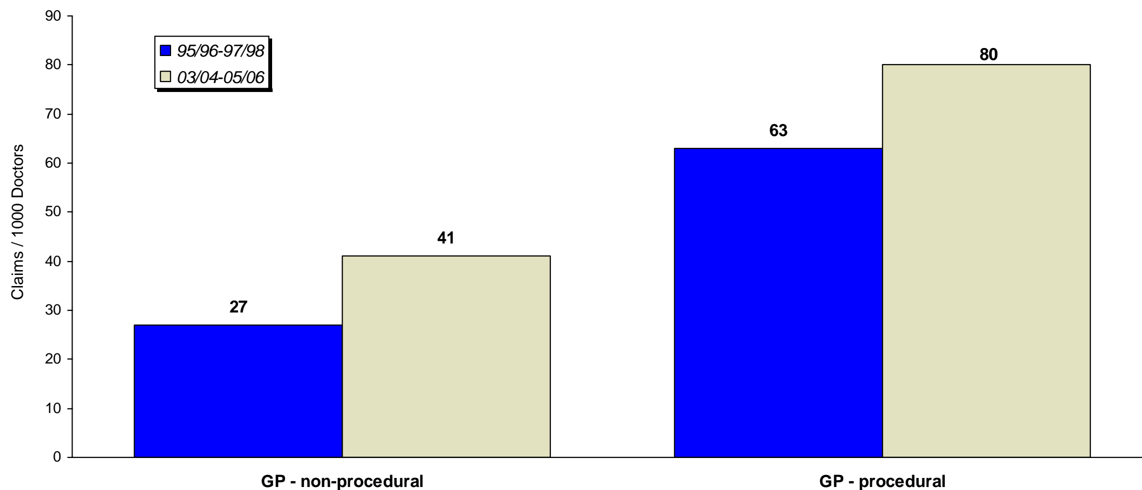
Conclusion: Hypothesis supported by the data

In summary, the previous evidence that GPs are referring more patients rather than treating them in their practice is evidence that they are less inclined to manage complex patients.

7.4.4 GPs Increasingly Risk Averse / Litigation Risk

Compared to 10 years ago, GPs are 34% more likely to be receiving a legal claim, which explains why GPs are less inclined to handle complex cases on their own[46].

Figure 69: Change in GP Claims Claim Frequency 1995/96-1997/98 versus 2003/4-2005/06



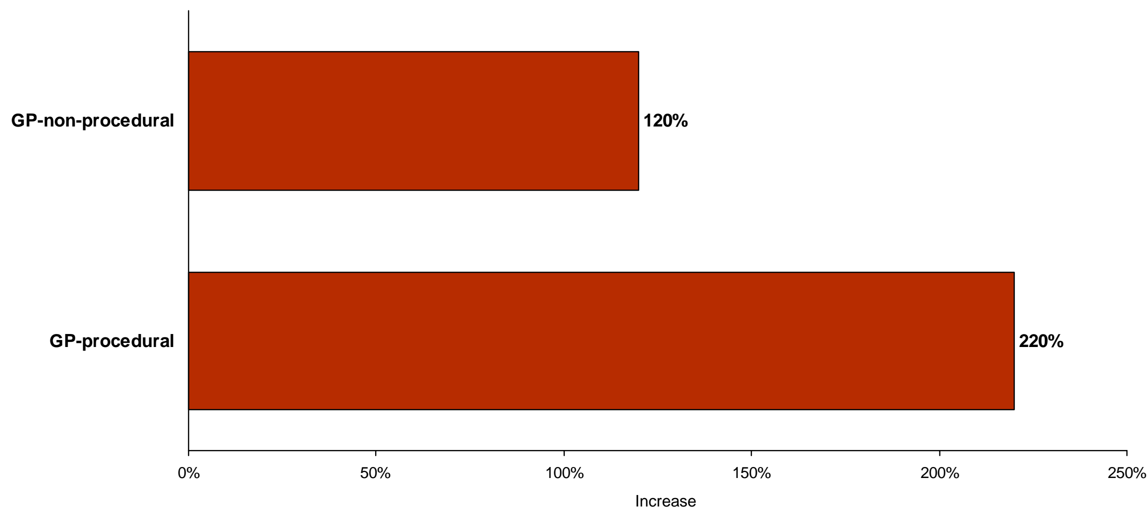
Source: Insurance Statistics Australia, using data prepared by members of the Medical Indemnity Industry Association of Australia. Interviews

During the same period insurance premiums have increased between 120% and 220%, adding a large cost to the GP's business.

[45] *Source: General Practice Activity in Australia, 2004/05 and 2005-06*

[46] *Note: This was calculated based on growth of total claims of 90 (27+63) per 1000 in 1995/96 to 121 (41+80) per 1000 GPs in 2005/06. Claims frequency is measured as claims per 1000 doctors*

Figure 70: Claims Against GPs and Premium Increases 1995/96-1997/98 versus 2003/4-2005/06



Source: Insurance Statistics Australia, using data prepared by members of the Medical Indemnity Industry Association of Australia. Interviews

Interview Quotes:

- *"Litigation risk! As the patient base is much better informed by the internet about disease and possible risk of cancer in many settings and demands cancer exclusion when being assessed, e.g. "can you say to me doctor after your tests here that I have not got cancer!"...this happens daily!"*[47]
- *"It is the medico-legal environment, where most GPs feel safer when a specialist colleague is involved in the care of a patient with complex condition(s)"*[48]
- *"Litigious atmosphere and specialist control of patients. Also patient demand"*[49]
- *"Increased risk of litigation. Harder to keep abreast of all the developments in each specialty"*[50]
- *"Fear of Litigation. Patient driven because of information from the internet, etc"*[51]

Hypothesis: GPs Increasingly Risk Averse/ Litigation Risk

Conclusion: Hypothesis supported by the data

In summary, GPs are significantly more likely to receive a claim now than ten years ago and this is limiting the services they are willing to provide in their practice. This provides patients the opportunity to select to attend the ED to receive all the services they need.

[47] *Booz Allen Hamilton GP Survey*

[48] *Booz Allen Hamilton GP Survey*

[49] *Booz Allen Hamilton GP Survey*

[50] *Booz Allen Hamilton GP Survey*

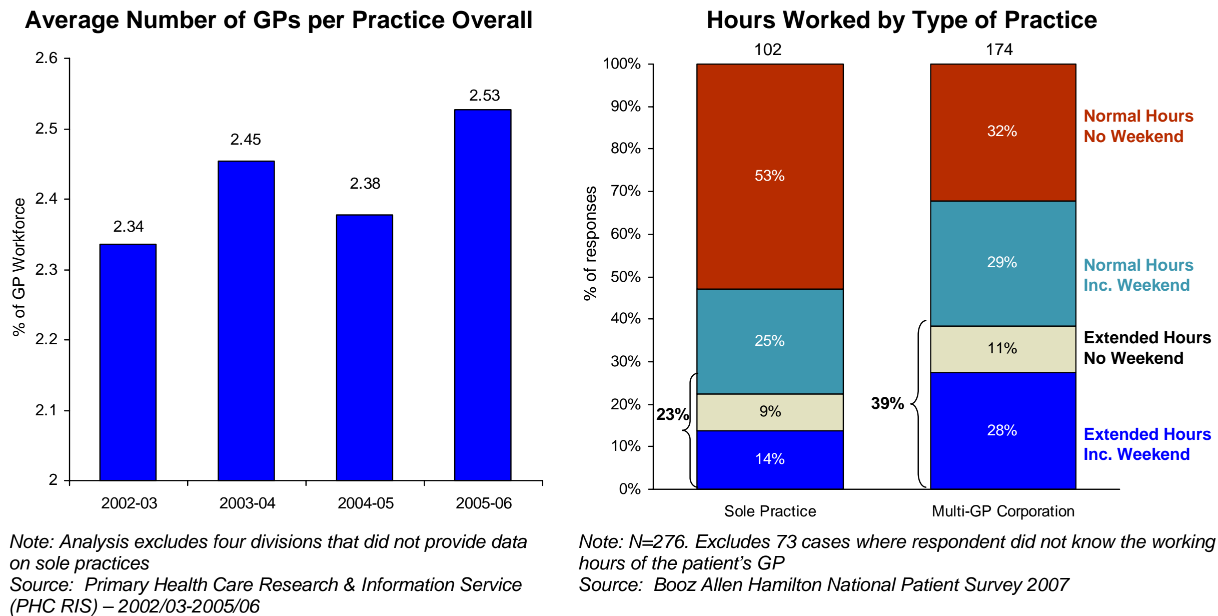
[51] *Booz Allen Hamilton GP Survey*

7.5 Changing Primary Care Industry Structure

7.5.1 Corporatisation of Primary Care

The past four years have seen a growth in corporatisation of GPs, with there now being on average 2.53 GPs per practice, compared to 2.34 GPs per practice in 2002/03. While corporate medical clinics are still not dominant, they are providing more extended hours than sole practices and therefore can have the effect of reducing demand in the EDs. If patients are willing to attend corporatised practices for their ongoing medical care the increased prevalence of these medical centres can reduce ED demand.

Figure 71: Corporatised Practices



Note: Analysis excludes four divisions that did not provide data on sole practices
Source: Primary Health Care Research & Information Service (PHC RIS) – 2002/03-2005/06

Note: N=276. Excludes 73 cases where respondent did not know the working hours of the patient's GP
Source: Booz Allen Hamilton National Patient Survey 2007

Interviews have identified that corporatised practices begin with extended opening hours and eventually reduce them due to commercial pressures.

Interview Quotes:

- *"Emergence of corporate medical centres has changed after hours services – when they start they staff well in 7.00pm to 10.00pm time zone, then they cut back"*[52]
- *"Corporatised medical centres focus on 5 minute appointments – focus on turnover and volume"*[53]
- *"Corporatisation of general practice should allow more after hours care"*[54]

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[52] *Source: Interviews*

[53] *Source: Project Interviews*

[54] *Source: Project Interviews*

Hypothesis: Corporatisation of Primary Care

Conclusion: Hypothesis supported by the data/ FURTHER INVESTIGATION REQUIRED

In summary, there has been increased corporatisation and data shows that GPs are offering, at least initially, longer opening hours. This would have the effect of reducing demand in EDs. Further investigation is required to understand whether patients are willing to use corporatised practices.

7.5.2 Vertical Integration of Diagnostic Services

Qualitative interviews revealed that vertical integration of medical services has been occurring over the past years, and while there was the perception that GPs co-located with diagnostic services were more likely to refer patients to the co-located services, this wasn't seen having a significant effect on demand.

Interview Quotes:

- *"GPs are encouraged to refer to diagnostic services in their own practice"*[55]

Hypothesis: Vertical Integration of Diagnostic Services

Conclusion: Hypothesis not supported by data/ FURTHER INVESTIGATION REQUIRED

In summary, there is no strong evidence to show that vertical integration is a strong trend or the effect it might have on patient demand in ED. Further investigation is required for this.

7.6 Changing Diagnostic Services

7.6.1 Increased Capability Through Technology

Interviews revealed that the improved diagnostic capability is leading patients to believe that this is required and to seek testing. Television programs were also reported to influence patients' expectation that tests need to be conducted.

Interview Quotes:

- *"More and more patients are expecting tests to be done"*[56]
- *"Community expectations of services are rising exponentially – particularly diagnostic services"*[57]
- *"Patients are being influenced by hospital TV shows – see what happens when a patient comes to ED – whole lot of tests ordered"*[58]

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[55] *Source: Project Interviews*

[56] *Source: Project Interviews*

[57] *Source: Project Interviews*

[58] *Source: Interviews*

Hypothesis: Increased Capability Through Technology

Conclusion: Hypothesis not supported by data/ FURTHER INVESTIGATION REQUIRED

In summary, while further investigation is required, qualitative evidence suggests that patients are becoming aware of improved diagnostic technology and expect this testing to be conducted. There is as yet no evidence as to whether this is driving demand into the ED.

7.6.2 Higher Standards of Diagnostic Services

The Commonwealth Government's MedicarePlus program is intended to encourage bulk billing of GP services and to promote diagnostic testing that is referred through a GP, rather than in-hospital[59]. Interviews suggest that patients are aware of this improvement. However it is unknown to what extent this is a factor contributing to their decision to attend the ED, as this information was not obtained from patients themselves.

Interview Quotes:

- *"Patients increasingly aware of range of diagnostic services in EDs"*[60]

Hypothesis: Higher Standards of Diagnostic Services

Conclusion: Hypothesis not supported by data/ FURTHER INVESTIGATION REQUIRED

In summary, qualitative evidence suggests that patients are aware of improvements in these services, but this wasn't related directly by interviewees to patient's attendance to ED. Further investigation on patient's perception is required to fully test this.

7.7 Changing Public Hospital ED Services

7.7.1 Increase in ED Capacity

There was a 4% increase in the number of ED beds available in public EDs from 2005/06 to 2006/07[61]. There is no qualitative or quantitative evidence to show that this is encouraging patients to attend the ED rather than their GP.

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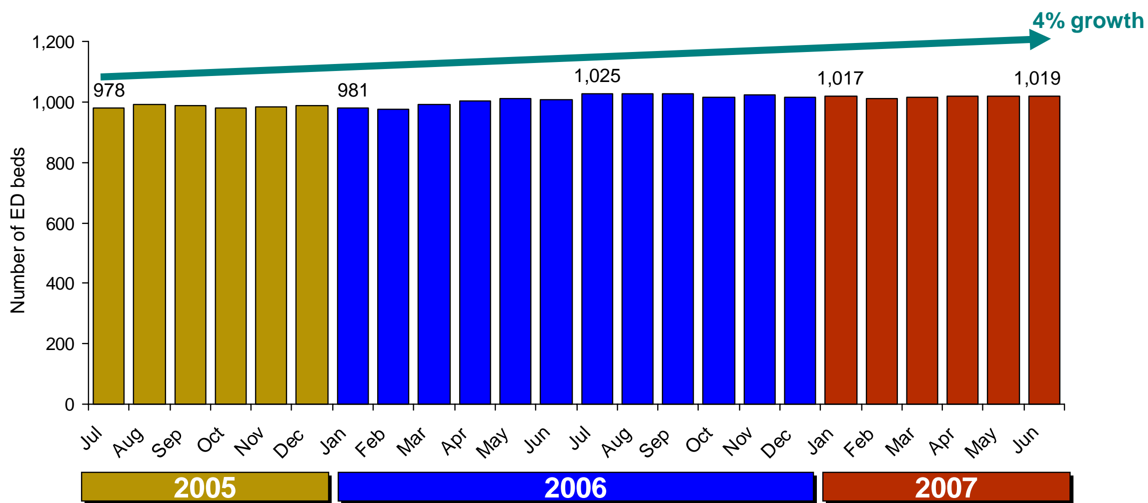
[59] *Source: IBIS World – Diagnostic and Pathology Services in Australia 2007*

[60] *Source: Interviews*

[61] *Source: NSW Health Sustainable Access Plan Reporting 2007*

Figure 72: NSW Emergency Department Beds July 2005-Jun 2007



Source: NSW Health Sustainable Access Plan Reporting 2007

Note: Royal North Shore Hospital did not report number of beds for the period

Hypothesis: Increases in ED Capacity

Conclusion: Hypothesis not supported by data

In summary, while ED capacity has increased, there is no qualitative or quantitative evidence to show that this is a reason patients are choosing to attend the ED.

7.7.2 Improved ED Services

Despite the significant improvements in ED services through initiatives, such as the Fast Track, in some EDs feed-back from key staff in Emergency departments indicated that these may lead to increasing demand.

Interview Quotes from project interviews with key staff from AHS:

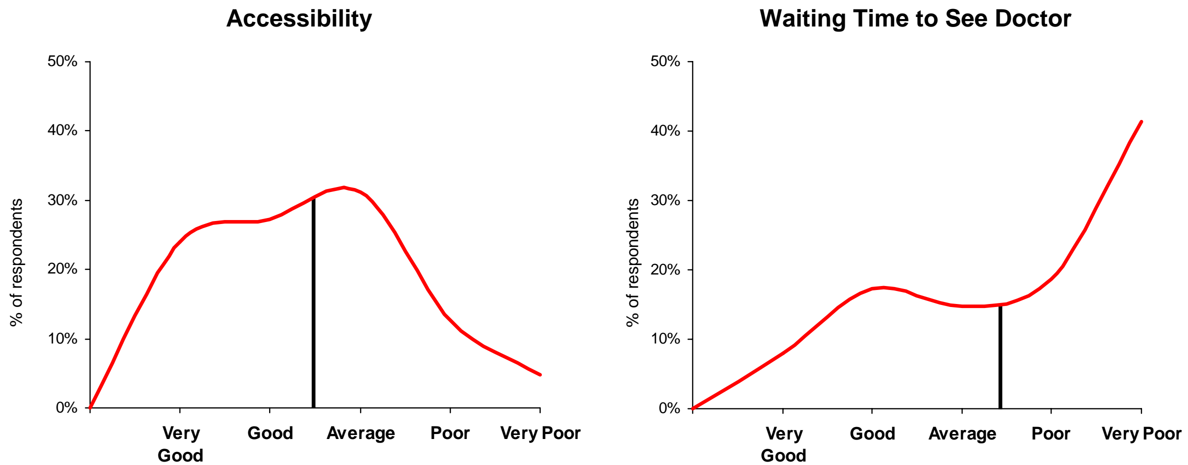
- *"EDs are a victim of their own success – the better they become, the more people want to go there"*[62]
- *"In the UK, where ED services have improved, demand has increased"*[63]

Patients in the National Patient Survey perceived that accessibility of EDs is *Average* and that waiting times to see a doctor were *Poor.*

[62] *Source: Project Interviews*

[63] *Source: Project Interviews*

Figure 73: Patient Perception of ED Services



Source: Booz Allen Hamilton National Patient Survey 2007

Note: LHS: N=308, RHS: N=317

Hypothesis: Improved ED Services

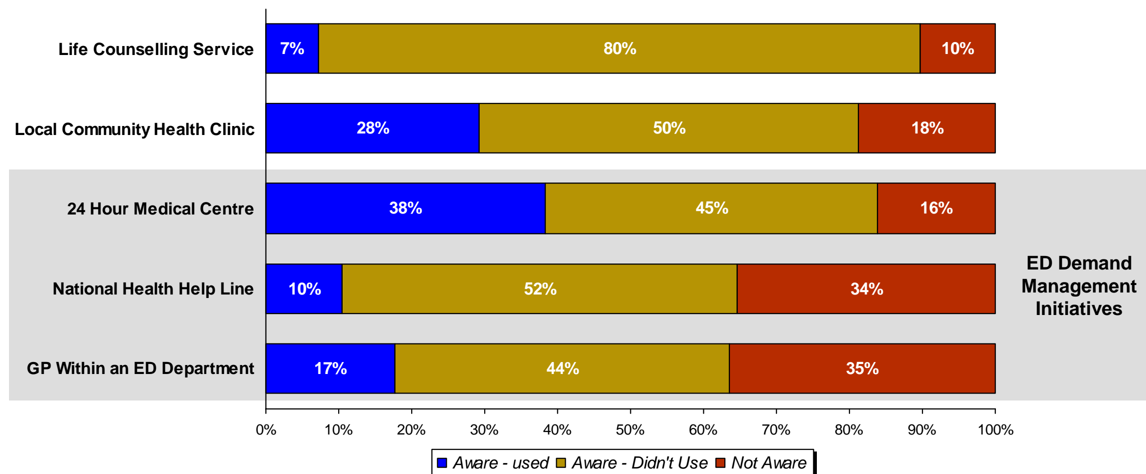
Conclusion: supported by the data

In summary, despite patients viewing waiting times as poor and accessibility as average, patients however perceived an improvement in service. This suggests that the improvement in ED services is encouraging patients to attend the ED rather than their GP.

7.7.3 Demand Management Initiatives

There are a variety of government initiatives aimed at reducing demand in EDs including 24 hour medical centres, the National Health Help Line and GP clinics within EDs. The National Patient Survey shows that while there is a good awareness of these initiatives their impact in terms of behaviour is low, with very few people having actually used the service.

Figure 74: Patient Awareness and Usage of Primary Care Related Services



Source: Booz Allen Hamilton National Patient Survey 2007

Note: Percentages may not add to 100 as in some cases patients did not answer the question. This did not exceed 4% of the sample. ED Demand Management Initiatives identified through qualitative interviews

Interviews suggest that some demand management initiatives are actually encouraging more demand into the ED.

Interview Quotes:

- *"Fast track means that T4s and T5s are seen quicker, and therefore no incentive to go to GP"*[64]
- *"Improvements to services to lower acuity patients has led to increased demand"*[65]
- *"Finding that demand management initiatives are creating a new workload – tapping an unmet need"*[66]

One GP response identified a program running in one hospital that has been effective in treating primary care patients through a separate mode

- *"Models for medical care such as the Balmain Primary Care Unit, with their facilities and (hopefully) more experienced general practice staff and more senior trainees, are able to take the overflow from general practice, and efficiently treat non-urgent patients without clogging up casualty departments with non-emergency or urgent patients — such dedicated areas should be a part of every casualty unit – and triage should be clearly explained to patients when they register, as well as informing them what 'red flags' or dangers to watch for as they wait, and giving them a protocol for being 're-triaged' if necessary"*[67]

Hypothesis: Demand Management Initiatives

Conclusion: Hypothesis supported by the data/ FURTHER INVESTIGATION REQUIRED

In summary, qualitative evidence shows that demand management initiatives are in some cases increasing demand to the ED.

7.8 Changing Private Hospital ED Services

7.8.1 Decrease in ED Capacity

Private hospitals have consistently been closing their emergency wards over the past three years. In 2003/04 in total in Australia there were 48 private hospitals that provided emergency services, and by 2005/06 this had fallen by 50% to only 24 hospitals. Over the same period there was the same reduction in services in NSW from six to three hospitals. This transfers demand for these services from the private to the public hospital system.

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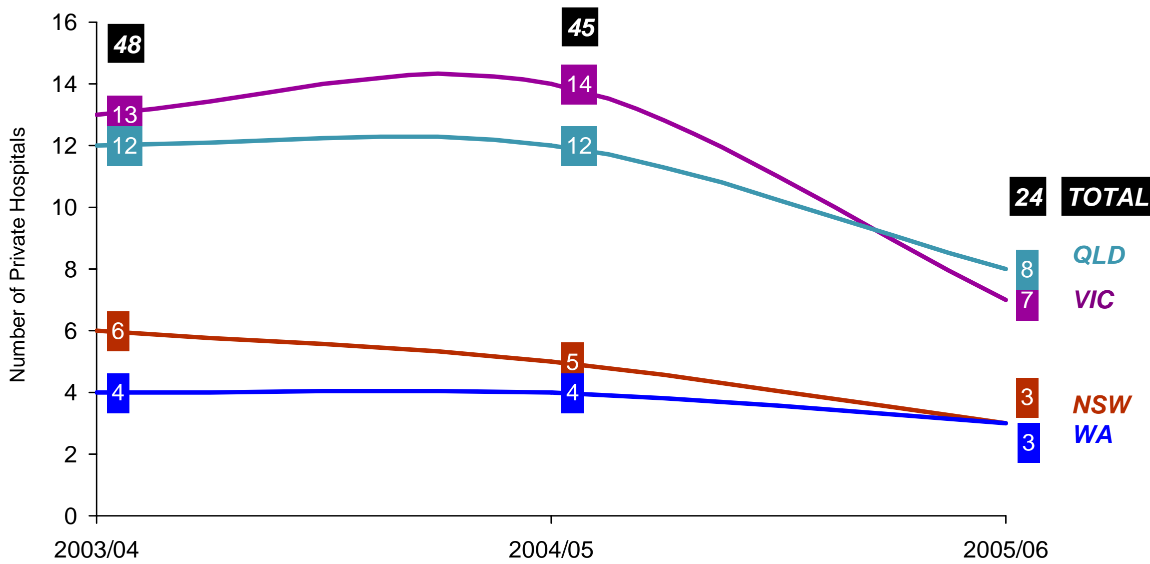
[64] *Source: GP Interviews*

[65] *Source: Project Interviews*

[66] *Source: Project Interviews*

[67] *Source: Booz Allen Hamilton GP Survey*

Figure 75: Private Hospitals providing Emergency Services – By State- 2003/04-2005/06



Source: ABS Cat. 4390 Private Hospitals 2003/04 – 2005/06

Note: Sum of individual states does not add to total as some states provided data to ABS but requested that they only be used in aggregated numbers.

Hypothesis: Decrease in ED Capacity

Conclusion: Hypothesis supported by data/ FURTHER INVESTIGATION REQUIRED

In summary, over the past three years the number of hospitals providing emergency services has fallen by 50%, meaning all of their volume will now **potentially** flow into the public ED system.

7.9 Supply Driver Summary

Primary care supply constraints are the biggest driver of demand transfer to the ED, due to four General Practice industry drivers

- ***Primary Care Practitioner Numbers:*** While the number of GPs relative to the population is growing, they are increasingly difficult to access as they have been reducing their average workload overall and providing more long consultations, meaning fewer patients can be seen per GP. GPs are also ageing and older GPs tend to work fewer hours. In addition, in some of the larger metropolitan Division of GPs the workforce is becoming increasingly feminised, and with female GPs working on average 13.6 hours fewer than their male counterparts this severely limits access to GPs in those areas
- ***Primary Care Practice:*** Driven by a reduction in effective working hours of GPs, primary care patients are reporting that GP accessibility is by far the strongest factor in the decision to attend the ED rather than a GP. GPs are continuously providing less of their own after hours services meaning that after hours their patients have few choices other than attending an ED. GPs – due to de-skilling and the increased threat of litigation – are now providing fewer services within their practice, electing to refer patients for specialist and testing services. Patients

are then confronted with the choice of being referred to multiple medical services by their GP or attending the ED where all the services are available in one place

- ***Primary Practitioner Distribution**:* Analysis of demand by rural versus metropolitan Area Health Services provides compelling evidence that GP supply is a major determinant of demand transfer from primary care into EDs. Rural divisions of GPs have a significantly worse GP:Population ratio compared to the metropolitan divisions, and the Rural AHS also has the highest presentation of primary care patients within its EDs (in one rural AHS, 56% of attendances were primary care patients)
- ***Changing Public / Private Hospital Services**:* While public hospital EDs are increasing their bed capacity annually at 4%, the number of private hospitals providing ED services over the past two years has fallen by half. The volume that was previously in the private system has now been diverted into public EDs.