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PROJECTING THE
IMPACT OF
DEMOGRAPHIC
CHANGE ON THE
DEMAND FOR AND
DELIVERY OF
HEALTH CARE IN
IRELAND

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3. GENERAL PRACTITIONER CARE

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3.1 Introduction

Primary care is often the first point of contact with the health care system for people requiring care. Primary care is often thought synonymous with general practitioners, but actually encompasses a large range of different professionals and services including nurses/midwives; physiotherapists; occupational therapists; dentists; opticians; chiroprodists; psychologists and pharmacists. The list is not exhaustive, but still gives an indication of the wide range of services that can be grouped under the general heading of primary care. Nonetheless, GPs do have a core part to play in primary care as well as performing the role of ‘gate keeper’ to other health services such as accident and emergency or outpatient care in hospitals. The balance of treatment and referral between general practice and secondary care is, therefore, a very important issue and it has been argued that the under development of primary care services in Ireland in recent decades has contributed, and indeed, may be the most important reason, for the overcrowding of accident and emergency services and long waiting lists for elective procedures in Irish health care (Layte *et al.*, 2007b; Tussing and Wren, 2006).

This chapter has three main objectives. In the first part of the chapter we examine the current structure of primary care and possible future developments as these have major implications for the development of primary care to 2021. The first section also examines the impact of policies that control the pricing of primary care in Ireland on the take-up of GP care. Ireland is fairly unique in Europe in its mix of private and public financing and this has a considerable impact on the pattern of utilisation found at present. In the second part of the chapter we bring together the demographic projections outlined in the first chapter of this report with current utilisation patterns to project the absolute number and distribution of GP consultations across age and sex groups to 2021 for the state as a whole and within HSE regions. Ideally, this chapter would project demand for and delivery of other forms of primary care such as dentistry, chiropody etc., but this would mean less detail on trends in the core element of primary care which is general practitioners. Given this we choose in this chapter to focus exclusively on GP care. In the third and final part of the chapter we examine the current supply of GPs in Ireland and how this is likely to change in the period to 2021. This is then contrasted with the increases in population that are projected to occur over the same period.

3.2 The Policy Context: The Primary Care Strategy

The needs and demands of the population may well be a significant determinant of change in the provision of primary care in Ireland over the next decade or so, but present government policy may also have a profound impact if implemented. The Primary Care Strategy, *Primary Care: A New Direction* makes it clear that the current system of primary care in Ireland is inadequate. Primary care has the potential to supply 90 to 95 per cent of all health and personal social care services (Department of Health and Children, 2001), yet at present primary care falls significantly short of this target because the current system has a number of structural problems. First and foremost, primary care infrastructure has developed in a fragmented and unsystematic fashion so services are delivered by different disciplines and agencies in an uncoordinated fashion.

O'Dowd *et al.* (O'Dowd, O'Kelly and O'Kelly, 2006) found that although only 35 per cent of GPs now work in single-handed GP practices, over 60 per cent work either alone or with just another GP. Less than 20 per cent of GPs work with more than four GP colleagues in the same practice. Users often find it difficult to access GP services out of office hours and this means that they are more likely to attend already busy accident and emergency departments.

Use of information technology has increased over the last decade and a half from 27 per cent of practices to 89 per cent in 2005 (O'Dowd *et al.*, 2006), but there is no centralised and harmonised record system and it is still rare for GP practice computer systems to be connected to hospital databases, although this is now beginning to occur.

Although over 70 per cent of practices now employ a nurse either full-time or part-time, it is still rare for GPs to work alongside other health professionals to provide an integrated primary care system.

The Primary care strategy proposes that primary care be delivered through 'primary care teams' which are to include:

- GPs
- Nurse/midwives
- Health care assistants
- Home helps
- Physiotherapists
- Occupational therapists
- Social Workers
- Receptionists
- Clerical officers
- Administrators

These inter-disciplinary teams will come together, preferably in a single location, to serve a population of 3,000 to 7,000 people and will be integrated into a wider 'primary care network' made up of chiropodists, pharmacists, dieticians, psychologists and other health professionals. These integrated care teams will have access to effective information and communications technology which will provide a single patient record that

can be accessed in a controlled fashion by eligible health professionals across the care system.

Although the strategy envisages 600 to 1,000 primary care teams nationally under the life of the current health strategy, in fact development has been very slow and only a fraction of that number have come into existence. Ten teams were established in the Eastern part of Ireland during an initial pilot phase and these have been joined by another 87 teams as of April 2008. However, few of these teams actually practice from the same premises and given constraints in the availability of health professionals and infrastructure across the country it is likely that many are actually aspirational rather than a reality. If this rate of development continues then the degree of change in the delivery of primary care by 2021 will be modest and the present fragmented system will largely remain. If, however, the proposed system were to be developed it would have a major impact on the delivery of care. Bringing services together within a 'network of care' could theoretically increase the demand for care across the population because access would be improved. As we will go on to discuss however, the impact of greater access to a range of medical services in these structures may be negated by the pricing of services for those without a medical card.

The greater efficiency and coordination provided by care teams and better information technology could also significantly improve the health and well-being of the population. This may reduce the demand for primary health care over the long term. A reformed primary care would also have profound implications for the hospital sector. Improved health promotion and a better integration of health professionals may improve health overall and reduce the need for secondary care by treating illness before it becomes serious enough to warrant hospital care. The availability of sophisticated diagnostic services in primary care would mean that patients do not need to attend hospitals for these services.

3.3 The Influence of Pricing Structure on the Use of Primary Care

Another factor that impacts on the present utilisation patterns of primary health care is the pricing structure. GP, dental, optician and aural services are only free for the 30 per cent of the population who qualify for a medical card under an income means test (known as medical card patients). While the majority of those who are granted a medical card qualify on the basis of an income means test, individuals may also qualify on the basis of age, particular health needs and participation in approved Government training and employment schemes. After July 1 2001 all over 70s in Ireland were eligible for a medical card regardless of income although an income means test was subsequently implemented in 2009. This made those over 70s with a weekly income over €700 ineligible for a medical card.

The income thresholds for a medical card are set nationally and updated annually by the Health Service Executive (HSE). Currently (as at January 2009), the (gross) weekly income thresholds are €184.00 for a single person under 66 years living alone, €266.50 for a married couple and €342.50 for a married couple with two children. The thresholds are higher for individuals aged between 66 years and 69 years, and there are additional allowances available for rent/mortgage, childcare and commuting costs (see www.medicalcard.ie/guide/). A GP consultation fee of €40-45 (without adding any associated prescription costs), which would not be unusual

(although there are no national figures on visiting costs at present), would constitute 20-22.5 per cent of the weekly disposable income of a single individual earning €200 per week (i.e., above the threshold for a medical card). To put the thresholds in context, the average gross weekly industrial wage in Ireland in 2006 was about €600 (CSO, 2006). Since 2005, individuals whose means are above the standard medical card threshold can avail of a doctor only medical card which gives free access to GPs, but does not cover prescriptions. The means test for this card is 50 per cent higher than for the standard medical card.

The remaining 70 per cent are entitled to public hospital services at a nominal charge (€60 per night up to an annual maximum of €600) and prescription medicines over a monthly limit, but must pay in full for GP services, although they are eligible for subsidised dental and optical treatment under the Treatment Benefit Scheme administered by the Department of Social and Family Affairs (provided they have the necessary PRSI (social insurance) contributions). Private patients are also entitled to tax relief on certain medical expenses at their marginal rate of tax (they must however pay the first €125 per annum) and in addition, the three main private insurers (VHI, BUPA (now Quinn Health Care) and VIVAS) have recently introduced new plans that provide limited cover for primary care expenses. Providers are free to set the level of charges levied on private patients. However, the majority of private patients pay the full cost of their GP services (as they do not visit frequently enough to avail of tax relief and/or partial reimbursement under private health insurance), while the majority of those visiting their dentist or optician will receive some assistance from the state, although not to the same extent as that afforded to medical card patients. Table 3.1 sets out the current entitlements to free or subsidised GP, dentist and optician services for medical card and private patients in Ireland.

While the income thresholds for a medical card increase annually in line with inflation, rising employment and average incomes in recent years have meant that the proportion of the population eligible for a medical card fell steadily, from 35.8 per cent of the population in 1993 to 28.1 per cent in 2005 (General Medical Services Payments Board, various issues). Coverage subsequently increased to 29.4 per cent in July 2007. It is in this context that recent discussion has focused on the affordability of GP services, and in particular the situation of those just above the income threshold for a medical card.

In part in response to such concerns, a GP visit card was introduced in October 2005, with income guidelines initially 25 per cent higher, and now 50 per cent higher, than for the standard medical card, but which only covers the cost of a GP visit, and not the associated prescription costs, or other ancillary services, such as physiotherapy or dentistry. GP visit cardholders must also pay public overnight charges and Accident and Emergency charges in hospital which are not levied on medical card holders. Currently, the income thresholds for a GP visit card are €276.00 per week for a single individual aged up to 65 years, €400 for a married couple with no dependents and €557 for a married couple with two children under 16 years. Again, the thresholds are higher for those aged over 66 years, and the same allowances as for the standard medical card are available (see www.medicalcard.ie/guide/). By July 2007 about 70,500 GP visit cards had been issued (compared with the figure of 200,000

mentioned when the scheme was being introduced). Unlike those covered by the standard medical card, those who hold a GP visit card have to pay not only charges for hospital care, but at primary level also have to pay the cost of prescribed medicines (up to a monthly ceiling of €100).

Table 3.1: Eligibility for Free Primary Care Health Services in Ireland

	GP Services	Dentist Services	Optician Services
Medical Card Patients	Free	Free	Free
Private Patients	<p>Full cost, but may also be eligible for:</p> <p>(1) Tax relief on medical expenses over €125 per annum</p> <p>(2) partial reimbursement if privately insured and GP fees exceed a large annual deductible*</p> <p>(3) partial reimbursement if privately insured under a dedicated primary care health insurance plans**</p>	<p>Full cost, but may also be eligible for:</p> <p>(1) Tax relief on medical expenses over €125 per annum</p> <p>(2) partial reimbursement of cost if privately insured and dental fees exceed a large annual deductible*</p> <p>(3) partial reimbursement if privately insured under a dedicated primary care health insurance plan</p> <p>(4) free or subsidised routine dental treatment under the Treatment Benefit Scheme</p>	<p>Full cost, but may also be eligible for:</p> <p>(1) Tax relief on medical expenses over €125 per annum</p> <p>(2) partial reimbursement of cost if privately insured and optician fees exceed a large annual deductible*</p> <p>(3) partial reimbursement if privately insured under a dedicated primary care health insurance plan</p> <p>(4) free or subsidised routine optician services (e.g. eye examination, glasses) under the Treatment Benefit Scheme</p>

*For example, under the Essential BUPA plan, GP expenses in excess of €250 per annum are reimbursed at €20 per subsequent visit.

** For example, under the Health Manager BUPA plan, half the cost of GP expenses are reimbursed, up to a maximum of €7,650 per annum

In part in response to such concerns, a GP visit card was introduced in October 2005, with income guidelines initially 25 per cent higher, and now 50 per cent higher, than for the standard medical card, but which only covers the cost of a GP visit, and not the associated prescription costs, or other ancillary services, such as physiotherapy or dentistry. GP visit cardholders must also pay public overnight charges and Accident and Emergency charges in hospital which are not levied on medical card holders. Currently, the income thresholds for a GP visit card are €276.00 per week for a single individual aged up to 65 years, €400 for a married couple with no dependents and €557 for a married couple with two children under 16 years. Again, the thresholds are higher for those aged

over 66 years, and the same allowances as for the standard medical card are available (see www.medicalcard.ie/guide/). By July 2007 about 70,500 GP visit cards had been issued (compared with the figure of 200,000 mentioned when the scheme was being introduced). Unlike those covered by the standard medical card, those who hold a GP visit card have to pay not only charges for hospital care, but at primary level also have to pay the cost of prescribed medicines (up to a monthly ceiling of €100).

This mix of universal provision for specific groups and a fee-based system for the majority may well contribute to the quite unique pattern of GP utilisation found across the income distribution in the Republic of Ireland compared to other European countries. Research (Layte and Nolan, 2004) has shown that lower income groups in Ireland are far more likely than those higher up the income range to use GP services. This is similar to other European countries and is the result of the greater need for health care among those with lower income. However, in Ireland the difference in the frequency of GP visiting between the lowest income groups (i.e. those who qualify for a medical card) and all others is far larger than in other countries (Nolan and Nolan, 2004). Even controlling for the fact that those lower down the income distribution are more likely to be older, analyses show that there is a large difference between the GP utilisation patterns of those with and without a medical card. The higher utilisation of those with a medical card may reflect the absence of financial disincentives but may also reflect the fact that these groups are less likely to have medical insurance and thus tend to wait longer for secondary care. Frequent GP visits may, therefore, be required to maintain chronic health conditions in the absence of more specialist interventions.

However, the pricing structure of primary care in Ireland does not influence all forms of care in the same way. Layte and Nolan (2004) found that dental services are far more likely to be used by those with higher levels of income and the lowest visit rate is among those in the medical card group, even though the same basic structure of charges applies.¹ This suggests that other factors may be important other than income alone. It may be for instance that higher income groups put a greater value on dental health, perhaps as a result of their higher levels of education. This could have significant implications for the future provision of dental services as levels of education are increasing substantially year on year.

The impact of pricing on the use of health care may limit the gains achieved through a reform of the primary care system. It is not possible to say whether medical card recipients 'over use' GP services or whether non-medical card patients 'under-utilise' services, but it is reasonably clear that the structure of pricing does artificially increase visiting among one group and lower for the other. This suggests that the reform of the pricing structure of care in the future may have a significant impact on the patterns of utilisation.

¹ The number of HSE dentists has been falling over time and this may mean that access to dental services for medical card patients may be more problematic than access to GPs.

3.4 Data and Methodology

Projections of the impact of demographic change on GP utilisation to 2021 not only require a through analysis of the changing population patterns that are likely to occur in the intervening period, they must also take changing trends in GP utilisation into account. Analysis of these trends is made somewhat difficult by the relative lack of evidence on GP use available upon which to measure trends. The Living in Ireland Panel Survey (LII) carried out by the ESRI included measures of GP use from 1995 to 2001. In 2003 the European Union Survey of Income and Living Conditions (EU-SILC) began but this only measured GP visits among those with a medical card, around one-third of the population. This makes it impossible to examine trends in GP utilisation across the entire population over the last five years. The absence of information on health care use among those aged under 16 years in LII also means that there is no available information on trends in children's use of health care for any period. This means that all analyses in this chapter refer to the population aged 16+ years.

Using the LII data we will first examine the current distribution of GP visits across age and sex groups. Demographic projections by age and sex by year will then be used to project future GP utilisation at both a national and sub-national level (county and HSE area). We discuss below whether trends in GP utilisation over the recent past should be factored into future use projections. Epidemiological projections are integrated by inflating the future utilisation projections to take account of changes in morbidity across a number of conditions as described in the opening chapter of this report.

3.5 Current Patterns and Past Trends in GP Utilisation

Descriptive analysis of the LII survey using data from 1995 to 2001 shows that the overall rate of GP visiting did not change over the period with the average person having 3.5 visits in 1994 and 3.3 visits in 2001. However, a more sophisticated multivariate analysis using 'count' models of GP use controlling for the age distribution of the population does show an increase in the frequency of consultation. This difference in findings stems from the fact that the proportion of the population having one or more visits in the previous year did increase between 1995 and 2001 from just over 70 per cent to 74 per cent. This increase is an important development as it could suggest that any projection of GP use into the future should factor in an overall increase in utilisation. However, before doing this it is necessary to identify the source of the increase and the extent to which this source will continue into the future or represents a specific 'period effect' that will not continue.

Further analysis of the LII data shows that the trend can be explained by the addition of variables representing the extent of chronic illness in the population and the individual's level of income. The period from 1995 to 2001 covers the years when the Irish economy was growing very quickly with annual increases in national income in double figures and it seems likely that this increase in affluence led to an increase in the propensity to visit the GP, even though the average health status of the population remained roughly the same. Although average health status did not change, analysis shows that there were counter-veiling developments across age groups. At the same time as there was an increase in the proportion of younger respondents with a chronic illness, the proportion of older respondents reporting an illness actually fell (see Layte, Nolan and Nolan,

2007a). Thus, only once we control for the distribution of health and income do we account for the trend in GP utilisation.

If change in levels of income 1995 to 2001 largely account for the changing propensity to visit the GP it is arguable that this trend should not be included in the projection since income trends could be very different in the period from 2006 to 2021, the projection horizon. It certainly seems likely that the intense income growth, both nationally and at the household level that was experienced between 1995 and 2001 will not return in the near future. Given this the projection models used in this section do not include a factor for growth in utilisation.

PROJECTING GP UTILISATION ON CURRENT UTILISATION PATTERNS

Table 3.2 shows the average number of GP visits per year by age and sex measured over the period from 1995 to 2001 in the Living in Ireland Panel Survey.

Table 3.2: Average Number of GP Visits Per Year 1995 to 2001

Age Group	Men	Women
16-20 years	1.4	2.2
21-30 years	1.6	3.3
31-40 years	2.1	4.0
41-50 years	2.4	3.5
51-60 years	3.1	4.0
61-70 years	4.8	5.1
71-80 years	5.9	6.9
81+ years	7.2	7.8

Source: Authors calculations, Living In Ireland Panel Survey 1995-2001.

Table 3.2 shows that the average number of GP visits among women is higher than among men in each age group, a pattern which has been repeatedly observed across a number of countries and contexts. The table also shows a steep increase by age, particularly for men. Men in the oldest age group, those aged 81+ years, have almost six times the number of GP consultations as men in the youngest age group. The increase is not so steep among women, but even here, the oldest age group have almost twice the number of visits as the youngest age group. The first chapter of this report showed that all counties in the Irish Republic will experience significant population growth over the period to 2021 and this overall increase is shown in Table 3.3.

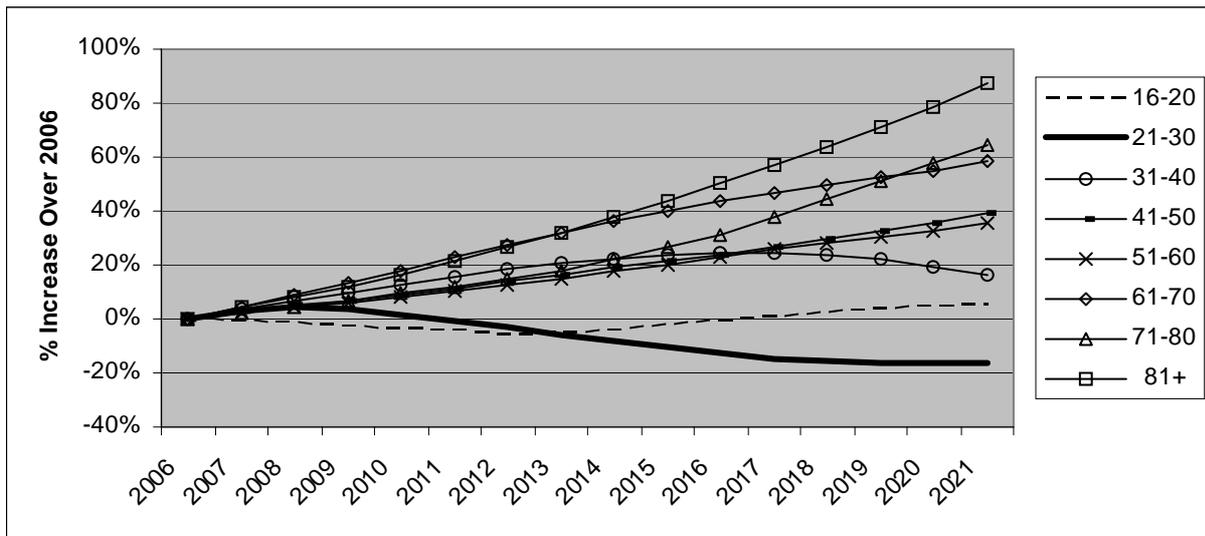
Table 3.3: Projected Increase in Overall Population Aged 16+ Years by Sex 2006-2021

	2006	2010	2015	2021
Men	1,648,015	1,789,636	1,919,833	2,067,239
% Change on 2006	-	8.6%	16.5%	25.4%
Women	1,669,066	1,791,833	1,904,644	2,035,159
% Change on 2006	-	7.4%	14.1%	21.9%
Total	3,317,081	3,581,469	3,824,477	4,102,397
% Change on 2006	-	8.0%	15.3%	23.7%

The proportion of men is expected to rise by 25 per cent, women by 22 per cent and the overall population by 24 per cent over the projection period. But, apart from a substantially increasing population, the primary demographic change to occur is an increase in the number and proportion of older people in Irish society with a concomitant decrease in the younger age groups. The implication is that the very age groups who are the heaviest users of health care will be exactly the age groups that increase substantially in size.

This is shown well in Figure 3.1 which shows the proportionate population change by age group using the same age ranges as used in Table 3.2. This shows a proportionate decline in those aged 21 to 30 years (after a peak in 2009) with the number in this age group reaching 83 per cent of its 2006 size by 2021. Among the youngest age group (16 to 20) the number initially falls to a 94 per cent of its 2006 level by 2012 before recovering to 105 per cent of this level by 2021, largely as a result of the increase in the number of births over recent years. Above age forty all age groups increase significantly in size between 2006 and 2021 with the oldest age groups increasing the most. Among those aged 61 to 70 we see a 58 per cent increase, among those aged 71 to 80 a 65 per cent increase and among the oldest age group (81+), an 87 per cent increase.

Figure 3.1: Proportionate Change in Size of Population Age Groups 2006-2021



3.6 The Impact of Population Change on Overall GP Consultations

By combining Table 3.2 and the projected population numbers 2007-2021 we can assess the impact of demographic change on GP utilisation patterns on the basis of current utilisation.² As the average number of visits to GPs does not change over time (see above), the proportionate increase in number of visits to GPs per year for each age group is essentially the same as the proportionate population change (except for minor changes in the balance between the sexes). However, as the older age groups are heavier users of GP services the change in population composition will

² The introduction of the over 70s medical card in July 2001 may have increased the propensity to visit the GP among this age group although analyses by Layte *et al.* (2009b) did not detect an independent effect for the change in eligibility.

influence both the total number of consultations and the age composition of these consultations. Based on the 2001 consultation rates by age and sex groups in Table 3.2, there were 11.2 million consultations for the population aged 16 years or more in 2006. Table 3.4 shows how this total number of consultations is projected to increase between 2006 and 2021.

Table 3.4: Projected Increase in GP Consultations Aged 16+ Years 2006-2021

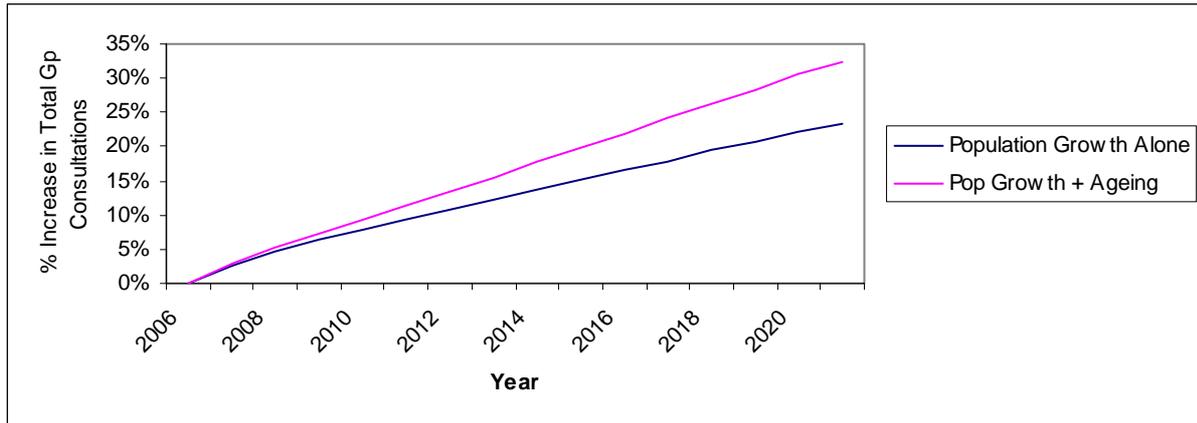
	2006	2010	2015	2021
Men	4,393,483	4,871,608	5,433,740	6,139,622
% Change on 2006	-	10.9%	23.7%	39.7%
Women	6,752,777	7,325,845	7,919,734	8,632,071
% Change on 2006	-	8.5%	17.3%	27.8%
Total	11,146,260	12,197,453	13,353,474	14,771,693
% Change on 2006	-	9.4%	19.8%	32.5%

With the overall increase in population we project the 2006 figure to increase to 12.2 million by 2010, 13.4 million by 2015 and 14.8 million by 2021. This represents a 20 per cent increase by 2015 and a 33 per cent increase by 2021. Table 3.4 also shows a very pronounced difference in the rate of growth in consultations between men and women over the projection horizon with the former increasing by 40 per cent compared to 28 per cent among the latter. This stems from the larger increase in the numbers of men over the period³ and the steeper increase in consultation rates among men with age as shown in Table 3.2.

It is useful to try to separate the impact that the ageing of the population over the period from 2006 to 2021 is having on the growth in consultations compared to the overall growth in population size. Even without the average age increasing, the increasing size of the population would still lead to an increase in consultations even if the age composition of the population remained unchanged. We can perform this thought experiment by simply summing the overall population growth by the average number of consultations in the population for men and women (rather than summing by the average in each age and sex group). Doing so will essentially yield the figure for population growth over the projection period, that is, an increase of 25 per cent among men and 22 per cent among women, with an overall growth rate of 23 per cent. This shows that the projected ageing of the population will produce a 14 per cent increase in the number of consultations among men and 6 per cent among women (9 per cent overall) on top of the 25 and 22 per cent increases that would be expected with the overall growth in population size as shown in Figure 3.2.

³ The number of men in the population is projected to increase by 25.4 per cent compared to 21.9 per cent among women. This will lead to the proportion of men in the population increasing from 49.7 per cent to 50.4 per cent.

Figure 3.2: The Impact of Population Ageing on Total GP Consultations



3.7 The Changing Distribution of GP Consultations Across the Population

The pronounced gradient in number of GP consultations a year across age groups and the higher level of increase in the number of older people in the population will lead to a redistribution of the pattern of consultations across the age groups as shown in Table 3.5. Among the three youngest age groups we see decreases in the proportion of total consultations whereas the proportion increases among older age groups. The drop in proportion is particularly pronounced among those aged 21 to 30 years where the proportion is projected to fall from 16 per cent to 10 per cent over the projection period. The proportion of consultations projected for those aged 31 to 40 years actually increases initially from 17.8 to 18.3 per cent before falling precipitously to 15.5 per cent.

Table 3.5: The Projected Distribution of GP Consultations Across Age Groups 2006-2021

Age Group	2006 %	2010 %	2015 %	2021 %
16-20 years	4.6	4.1	3.8	3.7
21-30 years	15.9	14.7	11.8	9.9
31-40 years	17.8	18.3	18.3	15.5
41-50 years	14.9	14.8	15.1	15.6
51-60 years	14.7	14.5	14.7	15.0
61-70 years	13.8	14.9	16.1	16.5
71-80 years	11.7	11.7	12.3	14.5
81+ years	6.6	7.1	7.9	9.3
Total	100	100	100	100

The proportion of consultations which those aged 71 years or more constitute is projected to increase from 18.3 per cent to 23.8 per cent, an increase of 5.5 per cent.

3.8 County Level Change in GP Consultations

As set out in the first chapter of this report, all counties except Dublin are projected to experience an increase in total population between 2006 and 2021. The rates of growth vary significantly across counties with Meath, Laois, Cavan and Wexford projected to have particularly strong rates of growth whereas Limerick, Sligo and Kerry sit at the other end of the table with lower, albeit positive growth rates. These differences clearly have implications for the projection of the volume of GP consultations. It is important to remember that we do not have disaggregated figures on

consultation rates for each county so differences in growth rates in total numbers of consultations in each county are driven solely by the changing composition of county populations between 2006 and 2021. Table 3.6 shows the overall growth in consultations projected to occur between 2006 and 2021 disaggregated by county. As we would expect, the patterning of the counties largely reflects the population growth discussed in the first chapter with Meath and Laois experiencing the largest projected growth in consultations at 73 and 58 per cent respectively. In the earlier analysis of county change in population size, the next highest growth rates were in Cavan and Wexford, but in Figure 3.5 County Kildare now emerges as experiencing the third highest growth rate in consultations. The change in the position of Kildare relative to other counties can be explained by the very large increase in the size of the older cohorts in Kildare that are projected to occur by 2021. The national projection for those aged 71 to 80 years and 81+ is for increases of 65 per cent and 87 per cent respectively, in Kildare these figures are 151 per cent and 93 per cent. The relatively lower total population growth projected for Kildare stems from the small increases in younger age groups. For example, those aged 21-30 years in Kildare are projected to increase by just 0.3 per cent during the projection period.

Table 3.6: Projected Percentage Increase in GP Consultations Over 2006 to 2021 by County – Ranked by Growth in 2021

	2007	2010	2015	2021
Meath	5.2	19.0	42.4	73.3
Laois	3.5	13.9	32.8	58.3
Kildare	4.0	13.7	30.3	52.6
Cavan	3.7	12.9	29.1	50.3
Wexford	3.7	13.4	29.7	50.0
Offaly	3.6	12.3	26.9	45.3
Leitrim	3.7	12.4	26.3	44.1
Wicklow	3.2	11.1	24.5	41.9
Kilkenny	3.0	10.9	24.4	41.6
Longford	3.3	10.9	24.1	40.4
Louth	2.9	10.2	22.6	39.2
Westmeath	3.3	10.9	23.2	39.0
Roscommon	2.9	9.9	22.0	37.6
Galway	3.5	11.1	22.6	36.8
Carlow	3.0	10.0	21.3	35.6
Clare	2.4	8.6	19.4	33.6
Donegal	2.7	9.0	19.5	32.7
Cork	2.7	9.0	19.0	31.2
Tipperary N.	2.4	7.9	17.8	30.0
Monaghan	2.7	8.8	18.4	30.0
Tipperary S.	2.0	7.4	16.6	28.3
Waterford	2.3	7.8	16.3	27.0
Limerick	2.4	7.8	16.1	26.1
Mayo	2.2	7.2	15.5	25.9
Kerry	2.2	7.3	15.6	25.4
Sligo	1.9	6.9	14.5	23.9
Dublin	2.5	7.2	13.3	19.6

At the other end of the spectrum, Dublin, Sligo and Kerry are projected to experience the lowest increases in total consultations by 2021, but even here, the projection is for their levels to increase by 19.6, 23.9 and 25.4 per cent respectively. The lower level of total consultations in these counties stems partly from lower levels of increase among the older age groups (although even here rates of increase are between 50 and 100 per cent), but mostly because of lower levels of increase among younger age groups.

3.9 Change in GP Consultations by HSE Region

As well as looking at the patterns for all counties it is also useful to group the patterns of population change into the HSE regions under which health care is organised.

Table 3.7: Population Change Over 2006 to 2021 by HSE Region

	2007	2010	2015	2021
Dublin North-East	3.1	9.3	17.9	28.1
Dublin Mid-Leinster	2.5	6.8	12.4	18.8
Southern	2.6	8.1	16.0	25.1
Western	2.7	8.0	15.6	24.0

Table 3.7 shows that the populations of the four HSE regions are all projected to increase substantially between 2006 and 2021 but as we would expect from the first chapter, the rate of increase varies substantially. Dublin Mid-Leinster is predicted to experience the lowest rate of population growth over the period at 19 per cent followed by the Western region (24 per cent) and Southern (25 per cent). Interestingly, Dublin North-East is predicted to experience the highest rate of population growth at 28 per cent even though Dublin itself will be experiencing the lowest rate of growth of any county. The reason for this high level of growth can be found in the changes predicted to occur in Meath and Cavan over the same period.

Table 3.8: Percentage Change in Number of GP Consultations Over 2006 to 2021 by HSE Region

	2007	2010	2015	2021
Dublin North-East	3.3	11.0	23.1	37.9
Dublin Mid-Leinster	2.8	8.7	17.7	28.6
Southern	2.7	9.2	19.9	33.1
Western	2.7	8.9	19.0	31.6

When we turn to the impact that population growth and ageing will have on GP consultations across HSE regions in Table 3.8 we see that it is substantial, although the same ordering of HSE regions persists with Dublin North-East experiencing the highest increase at 38 per cent followed by the Western region at 32 per cent, Southern at 33 per cent and Dublin Mid-Leinster at 29 per cent.

3.10 The Impact of Changing Morbidity and Demand on GP Consultations

The projections of GP consultation growth presented so far in this section have been based solely on the changing composition of the population between 2006 and 2021. It is possible, however, that the changing health of the population will also impact on utilisation of GP services. Such 'epidemiological projections' are extremely problematic as they require the selection of current indicators which are predictive of health care utilisation and then establishing the processes that may impact on these indicators over the projection horizon. Our solution to this problem was to adopt the methodology (described in more detail in the first chapter) of a recent PA Consulting Group report (PA Consulting Group, 2007a; PA Consulting Group, 2007b) which combined projections from two main sources on three different indicators of morbidity (essentially the incidence figures of three groups of diseases). This method produces a projection of morbidity change that is expressed as a

proportionate change in the incidence of the conditions included, but which could also be used as a general indicator of improvement or disimprovement in overall morbidity. This method involves two very large assumptions:

- that the diseases included are acceptable indicators of the much larger group of possible diseases and
- that the proportionate change in the incidence of these diseases can be translated directly into proportionate change in GP consultations.

These are rather heroic assumptions but given limitations on the information available they will provide a rough indication of the direction and scale of change in health status across the projection period.

Between 2006 and 2021 the combined incidence of the diseases within the morbidity measure are projected to increase by 12 per cent overall with the proportion increasing by 14.4 per cent among men and 10 per cent among women. These significant positive changes in the level of morbidity can be applied to the projections for growth in GP consultations over the same period. Doing so produces the figures shown in Table 3.9.

Table 3.9: Percentage Change in Number of GP Consultations Over 2006 to 2021 by Sex (Including Epidemiological Change)

	2007	2010	2015	2021
Men	4.6	15.3	34.0	59.8
Women	3.6	11.6	24.0	40.6
All	4.0	13.1	27.9	48.2

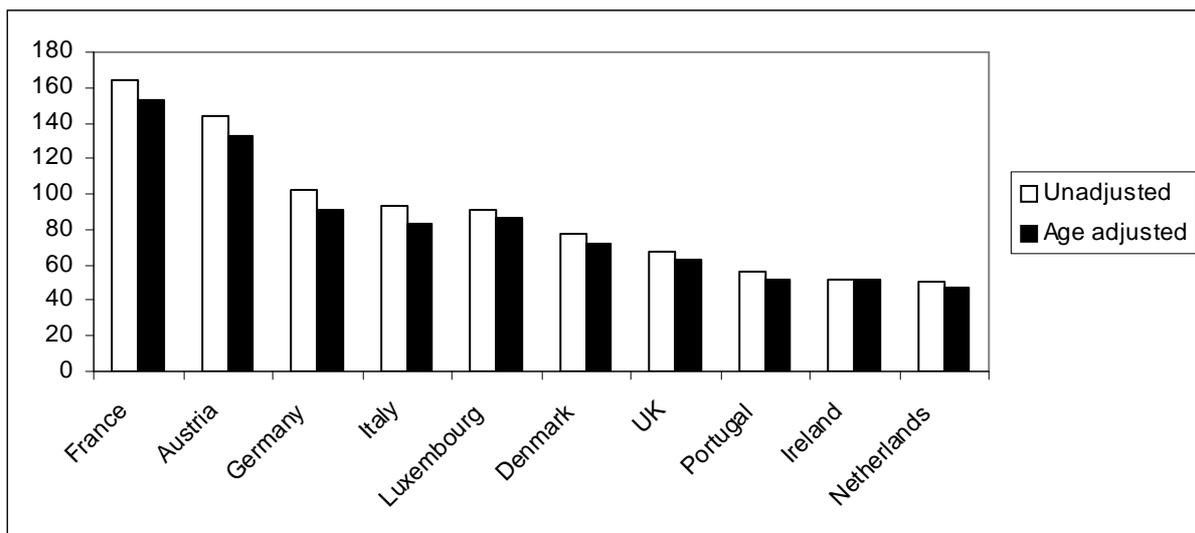
When compared to Table 3.4 above, this shows very significant additional increases in GP consultations in each year up to 2021. For example, demographic change alone is projected to lead to the number of consultations increasing by 9.4 per cent by 2010, but Table 3.8 shows that this is increased by 3.7 per cent by worsening epidemiological trends over the same period. By 2021 epidemiological trends are projected to increase consultations by a further 15.7 per cent overall, a figure that rises to 20.1 per cent among men (12.8 per cent among women). In the PA Consulting report to the HSE (PA Consulting Group, 2007a) a further inflation factor of 1 per cent a year representing change in the demand for health care as a result of changing levels of access, technology and expectations was also applied. It is debatable whether this factor should be applied in the context of GP consultations given the reduction in access that is likely to occur with the projections described in this section. Nonetheless, if such an increase in demand were to occur it would worsen an already difficult trend. An increase of almost 50 per cent in GP consultations by 2021 is a major cause for concern given current trends in the training and availability of GPs.

3.11 The Supply of GPs in the Republic of Ireland from 2008 to 2021

The limited supply of GPs has been highlighted as a major capacity constraint in the current health care system (Thomas, Normand *et al.*, 2008). According to recent OECD data, Ireland had only 52 GPs per 100,000 population in 2004, an extremely low ratio for a high income country (see Figure 3.3). ICGP membership data implies a slightly higher figure of 61 GPs per 100,000 population in 2004, falling to 56 for 2008. Yet, even using these slightly higher figures, the GP to population rate in Ireland is very low in comparison to other EU 15 countries,⁴ for which data are available (Nkhoma and Thomas, 2008). Indeed, only the Netherlands has a marginally lower ratio, with several countries having over 100 GPs per 100,000 (namely France, Austria and Germany). Ireland may thus appear to be chronically undersupplied with GPs in comparison to EU states at similar per capita income levels.

It may be countered that Ireland has a younger population than many other Western European countries and, therefore, that such an international comparison is unfair as ageing populations require more GPs. To take account of this the authors also include data in Figure 3.3 which compares GPs per equivalent population in each country. While this makes a slight difference to the ranking, Ireland is still third lowest in its availability of GPs.

Figure 3.3: Availability of GPs Within the EU, 2004



Source: Nkhoma and Thomas (2008), Eurostat (2009).

In the light of this apparent current shortage it is vital to review the future demand and supply balance for GP services. To do this the authors in this chapter draw on current trends in GP supply and the project's population projections to estimate future patterns of, and gaps in, service provision as a whole and across counties. Finally, the authors explore potential government interventions to resolve supply-side deficiencies.

⁴ Definitional problems (proportion practicing) and differing sources of information (surveys, professional registers) within the OECD database make comparisons problematic.

FORECASTING AGGREGATE SUPPLY AND DEMAND

To investigate how the primary health care system will evolve it is important to review existing information on the characteristics of GP supply. As well as the Layte *et al.* (2009a) report on existing services and the Morgenroth (2009) analysis of future population dynamics, this chapter draws on available data, and related analyses, on GP supply, retirement, training and gender balances from Thomas, Normand and Smith (2008) and O'Dowd, O'Kelly and O'Kelly (2006). Thomas, Normand and Smith (2008) explored capacity constraints within the market for GP services and supply deficiencies in the face of current demand and future policy options. O'Dowd, O'Kelly and O'Kelly (2006) outlined GP supply trends, behaviour and preferences from the results of their survey of 545 GPs.

The bases for projecting future aggregate supply and demand are:

- Population projections by county.
- Fixed GP to population requirements.
- Current GP training places (121).
- Increases in general medical education in line with government policy.
- Continuation of current trends in workforce gender balance and retirement.
- Lags in new supply of GPs caused by the length of GP training.
- No change in the current trade of GPs between Ireland and other countries.
- Future distribution of *new* GPs will occur according to the *historical* distribution patterns of GPs.

FORECASTING DISTRIBUTION

The data on the distribution of actual numbers of GPs across the counties in the Republic of Ireland is drawn from various sources. The data were extracted from Irish College of General Practitioners website, their membership list and the Irish Medical Directory for the years 2004 to 2008 (with 2008 data being preliminary data). Not all GPs are members of the ICGP and also not all members of the ICGP agree to their names being advertised on the ICGP website. Hence, it was necessary to check such data against membership records of the ICGP by Faculty (geographic area) and by the listing of GPs by county in the appropriate years of the Irish Medical Directory. Using these sources a total of 2,495 GPs were captured and located by county for 2005 respectively, up from 2,030 listed on the ICGP website. As a further check, a study by Teljeur *et al.* (2008) estimated the number of GPs in 2005 (compiled from lists for the GMS and the 'mother-to-be and infants' schemes) to be 2,477 in 2005. This independent assessment is within 1 per cent of the authors' estimate.

Estimating the future distribution of GPs is made more complex because there is, at least in theory, a market mechanism in operation. Nevertheless, the market for GPs is complex. While a higher supply of GPs might theoretically improve competition and bring prices down (Indecon

2003), literature shows that in such a high supply setting GPs may induce demand through repeat visits in order to boost income (Tussing and Wojtowycz, 1986).

The current undersupply of doctors is consolidated by the lagged nature of new supply as it takes at least six years to train a GP. Further, it is unclear how easy it is for GPs to shift locations in response to new demand, given the high costs of setting up new practices and the costs and difficulties associated with moving. All this may place, and indeed has placed, limits on the ability of the market to correct imbalances between supply and demand without government intervention.

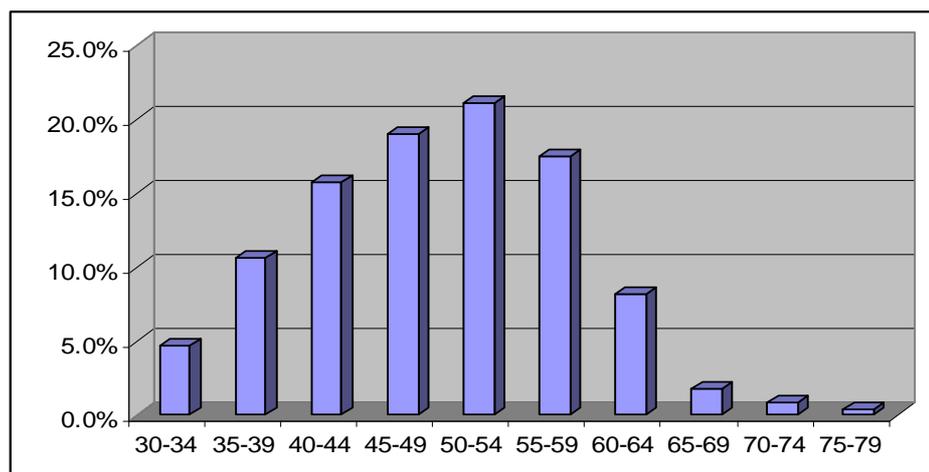
The last assumption deserves some exploration as it appears quite conservative. It allocates the balance of GPs coming into the system across the counties based on where GPs are already present. This reflects the reality that most GPs aim to join an existing practice (Nkhoma and Thomas, 2008). This is not only because of the high start-up costs and the risks of developing a new practice. By joining an existing GP practice new GPs are more liable to inherit a medical card list, which can be extremely profitable (as discussed later). As will be seen, the importance of “inheritance” creates inertia in the current market for GP services.

3.12 Current GP Supply Trends

Data over time on numbers of GPs in Ireland is difficult to obtain. However, data from the Department of Health and Children (Department of Health and Children, 2007) shows that in 2005 there were estimated to be around 2,500 GPs in Ireland (as per our estimate) up from approximately 1,900 in 1992 and 1,800 in 1982. This translates to an annual average increase of 54 GPs each year from 1992 to 2005. There are indications, however, that this growth has flattened off in recent years, with only a 1 per cent growth between 2004 and 2008, according to the ICGP data for 2008. This has resulted in a steady decline in the number of GPs per capita in Ireland, from 61 in 2004 to an estimated 56 in 2008.

According to O’Dowd, O’Kelly and O’Kelly (2006) the average age of GPs was approximately 51 in 2005, with rural areas having an older cohort. Given that in a few years many of these GPs will retire, this may create a problem in supply with knock-on effects for patient access as noted by the Buttimer report (Department of Health and Children, 2006). The 2005 GP age distribution is highlighted in Figure 3.4.

Another key trend highlighted in the O’Dowd *et al.* (2006) survey is the increasing feminisation of the GP workforce. The survey estimated that in 2005, 30 per cent of GPs were women, up from 15 per cent in 1992 and 12 per cent in 1982. According to more recent ICGP data on their members (which account for around 90 per cent of all practising GPs in Ireland) on average, between 2004 and 2008, 40 per cent of GPs were women (Irish College of General Practitioners 2008). Their data show an increase in female GPs of 31 between 2004 and 2008 at the same time that the number of male GPs decreased by 16.

Figure 3.4: Proportion of GPs by Age Range, 2005

Source: O'Dowd, O'Kelly and O'Kelly (2006).

The impact of these two key features, ageing and feminisation of the workforce, are important to explore as they signify changes in supply. O'Dowd, O'Kelly and O'Kelly (2006) suggest that fewer female GPs consider themselves in full-time practice (80 per cent as opposed to 96 per cent for male GPs); implying that increasing feminisation of the workforce may impact on the number of GP Full-Time-Equivalents (FTEs). Further, increasing feminisation may decrease the average retirement age of the workforce, as female GPs have a preference for earlier retirement. The survey also suggests that female GPs wish to retire on average 3 years earlier than their male counterparts.

Given current age profiles this means that, between 2006 and 2010, over 350 GPs will retire. The number retiring is projected to grow to 450 between 2011 and 2015 and to over 500 between 2016 and 2020 (authors' calculations).

3.13 Projected Aggregate Need for GPs

Apart from factors relating to feminisation and ageing, population growth will also require an increase in the number of GPs just to maintain the existing GP to population ratio, let alone improve that ratio. Indeed, given the importance of strengthening community services noted in the PA Consulting Group (PA Consulting Group, 2007a) review of the acute hospital sector, it is essential that the GP to population ratio is improved significantly. For that reason, the authors also include an estimate of scaling up of GP supply to reach the 87 GPs per 100,000 population by 2021. (This represents an EU average for GPs per 100,000 adjusted by Ireland's relatively younger population.) While this number is not linked with the PA Consulting Group acute hospital review it does provide an idea of the scale of investment needed to rapidly boost supply up to levels comparable with other high income European countries.

Table 3.10 and Figure 3.5 outline the number of additional GPs required in order to keep pace with retirement and population growth from 2006-2021. It is estimated that approximately 119 additional GPs will be needed each year between 2006 and 2010, increasing to just 121 per annum between 2011 and 2015 and reaching 126 per year between 2016 and 2021. Further Table 9 and Figure 3 also highlight that to reach a GP to population ratio comparable to the EU average would require a further 113

GPs trained each year. Consequently, to reach an EU average GP population ratio would require an additional 3,530 FTEs by 2021. Population growth accounts for only one-seventh of this need for expansion.

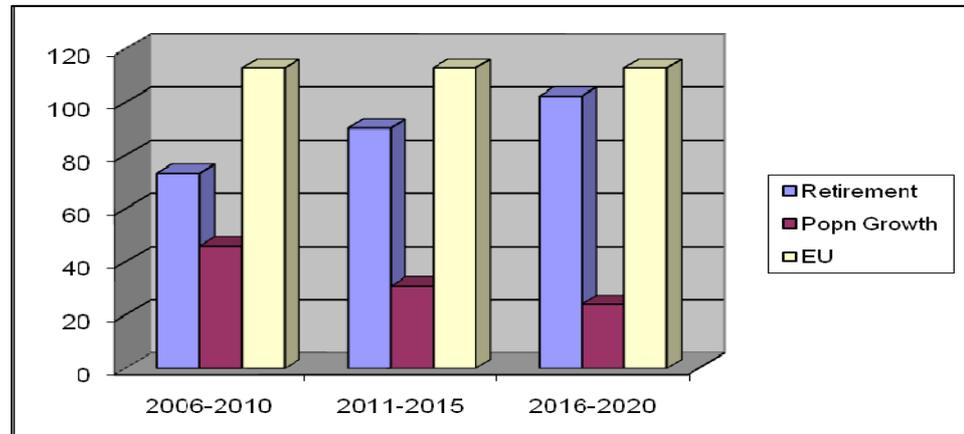
Table 3.10: Additional FTE GPs Required Per Year to Meet Retirement, Population Increases and EU Average, 2006 to 2021

	Retirement	Population Growth	Sub-Total	EU Average	Total
Per annum (2006-2010)	73	46	119	113	194
Per annum (2011-2015)	90	31	121	113	196
Per annum (2016-2021)	102	24	126	113	201
Grand Total (2006-2021)	1,433	529	1,962	1,695	3,530

Key Assumptions:

1. Population growth in line with project projections.
2. Retirement of female GPs is on average three years earlier than male GPs.
3. EU average GP: 1000,000 population is 102. Nevertheless, Ireland has a younger population and adjusting for this gives Ireland a target of 87 GPs per 100,000.

Figure 3.5: Additional GPs Required Per Year To Cope With GP Retirement, Population Growth and Increasing Supply to the EU Average, 2006-2021



3.14 Supply Dynamics

It is important to investigate how realistic it would be to achieve such increases in GP supply in the Irish context. The Fottrell report highlights the constrained supply of doctors into the Irish health system (Department of Health and Children, 2006). The annual intake of doctors into medical training in 2003/04 was around 760, approximately 60 per cent of which were non-EU. This left only 305 candidates from EU countries that were potentially more easily employable within the Irish health system. To meet the additional GP supply requirements, in the absence of additional places for medical education this would have required between 30 per cent – 60 per cent of all EU newly trained doctors becoming GPs per annum.

The Fottrell Report estimates that the Irish system requires the employment of 725 doctors per year (Department of Health and Children, 2006) and the Buttimer report (Department of Health and Children, 2006)

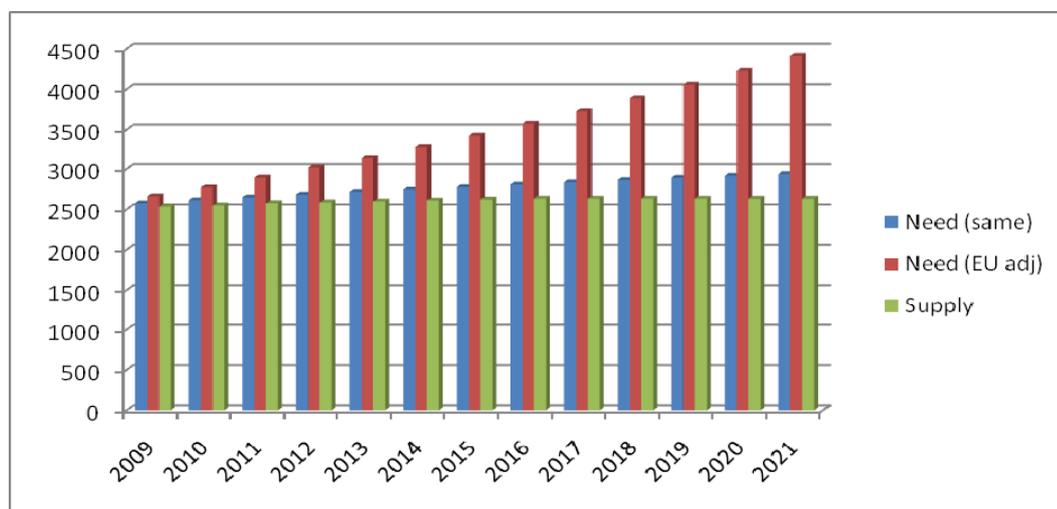
that the number of places for GP training needs to increase to 150 per year. Current government policy endorses this expansion of medical education with a move to 60 per cent of all medical students being from EU countries in four years, which will create a throughput of 456.⁵ Nevertheless, it is clear that there are competing needs and claims on these extra doctors. GP training places have increased recently to 121, but they have not climbed to the 150 mark as endorsed by government (ICGP, 2008).

It is important to reflect on the implications of this current supply pattern. Even if all the new trainee GPs take-up Irish posts immediately, the extra 121 GPs per year would not be able to cope with the projected population increases and retirement patterns. Further the move toward an integrated system, with improved community services, would require even more GPs.

Such shortfalls are highlighted in Figure 3.6 and Table 3.11, where the supply of Irish GPs based on current training capacity is plotted against two need scenarios:

- Need (Same) – which preserves the same GP to patient ratio as in 2008.
- Need (EU adjusted) – which increases the GP to patient ratio up to an EU average level (adjusted for the relatively younger population in Ireland).

Figure 3.6: Projected Need Versus Supply, 2009-2021 in FTEs



⁵ Simple substitution of Irish candidates for non-EU students will not, by itself, help as the medical schools rely on non-EU students as an important source of income. Substitution of just one year's intake of non-EU students with EU students would result in a loss of €13 million in revenue from student fees in a single year, amounting to approximately €70 million over the duration of the medical training programme. Department of Health and Children (2006). *Medical Education in Ireland: A New Direction*. Report of the Working Group on Undergraduate Medical Education and Training. Dublin.

Scenarios for the expansion of GP training are modelled in Table 3.11. This estimates what difference expanding training would have on the GP to population ratios. As can be seen the move to 150 GP training places will still fail to hold constant the GP to population ratio and this is even assuming lower migration of Irish trained GPs. An expansion to 250 GP places would certainly compensate for retirement and population growth and start to make real progress in improving the supply of GPs toward an adjusted EU average.

Table 3.11: Projected Need Versus Supply

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Need (Maintain Same Ratio)	2,575	2,611	2,646	2,681	2,714	2,747	2,778	2,808	2,837	2,865	2,891	2,917	2,937
Need (Improve Ratio to EU)	2,660	2,775	2,894	3,019	3,149	3,285	3,427	3,574	3,728	3,889	4,057	4,232	4,414
Supply (No Change)	2,535	2,548	2,576	2,586	2,597	2,609	2,621	2,632	2,632	2,632	2,631	2,631	2,631

Table 3.12: GP Training Scenarios and the Impact on GP to Population Ratios (GPs Per 100,000)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
GP supply (No Change)	56.6	56.5	55.9	55.5	55.0	54.6	54.2	53.6	53.1	52.6	52.1	51.6	51.2
GP Supply (150 Places)	58.3	58.5	58.4	58.3	58.3	58.2	58.2	58.0	57.8	57.6	57.5	57.4	57.4
GP Supply (250 Places)	62.5	64.8	66.7	68.5	70.4	72.2	74.0	75.6	77.1	78.7	80.2	81.8	83.5

Note: The '150' and '250' scenarios assume current rates of Irish GP migration to other countries will halve.

If there is no expansion of the existing GP supply there is likely to be a shortfall of approximately 1,800 GPs by 2021 if the EU target is to be reached and over 300 GPs if only population and retirement are to be compensated for. If there is an immediate increase to 150 GPs being trained annually, it is estimated that the shortfall will decrease to 1,500 GPs by 2020 for the EU target and the population and retirement target will be met. An immediate expansion of GP training places to 250 would allow supply to move Ireland significantly toward the EU GP to population ratio.

Even with expanded training, there is a significant loss of trained GPs to other countries. For example, the Career Tracking Study (McEntee, Daly *et al.*, 2005) noted that of all 1994 and 1999 medical graduates working as GPs 29 per cent and 43 per cent respectively were now practising in other countries. Such high attrition undermines GP supply and it is important to review how to limit this.

A failure to expand GP supply would have knock-on effects which could include price increases, longer waiting lists and an increased burden on Emergency Departments in hospitals as patients seek alternative modes of care. There are tentative indications that individuals who hold neither private health insurance nor a medical card (i.e. low-mid socio-economic status) are more likely to use ED services than they are to use primary care

services (Smith, 2007). There is also some evidence that the limited availability of primary care is linked with higher levels of emergency department utilisation, particularly non-urgent utilisation (Smith, 2007).

DISTRIBUTION OF GPs

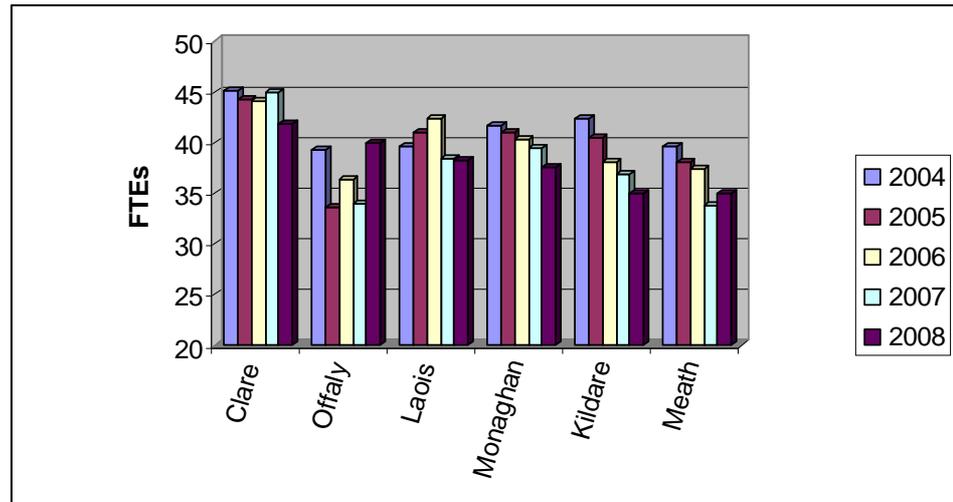
It is important to explore whether the overall shortage of GPs is and will be universal across counties and to identify which counties fare better and worse. Table 3.13 highlights the concentration of GPs across each county (using data for GP FTEs by county relative to the local population). Cork, Galway and Waterford appear to be the better supplied with an estimated average of more than 65 GP FTEs per 100,000 for 2008 while Clare, Offaly, Monaghan, Laois, Meath and Kildare have the worst ratios at less than 45 GPs per 100,000 in the same year. Indeed the GP/population ratio in Kildare is estimated to be almost half what it is in Cork.

Recent trends in the worst supplied counties are highlighted in Figure 3.7. In Monaghan and Kildare rising populations have been met with declining numbers of GPs over the 2004 to 2008 period, meaning that each county requires at least 30 more GPs to match the national average GP to population ratio. In Laois and Meath there have been increased numbers of GPs but bigger proportionate increases in population. The supply of GPs has improved in Offaly from a low level outstripping population increases, while the supply of GPs in Clare has not responded to the population increases in that county.

Table 3.13: GP FTEs Per 100,000 Population Across Counties, 2004-2008

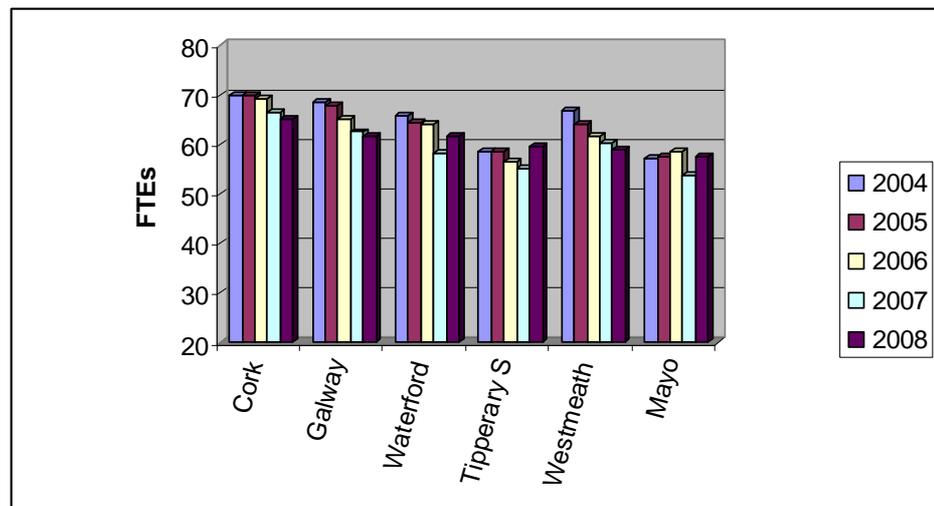
	2004	2005	2006	2007	2008	% Change
Cork	70	70	69	67	65	-7
Waterford	66	64	64	58	62	-6
Tipperary South	59	59	56	55	60	2
Mayo	57	58	59	54	58	1
Galway	69	68	65	63	62	-10
Dublin	56	55	56	53	54	-4
Limerick	59	61	59	53	56	-5
Sligo and Leitrim	56	54	59	54	57	1
Westmeath	67	64	62	60	59	-12
Kerry	59	59	58	56	53	-10
Tipperary North	50	48	49	51	54	10
<i>Average</i>	56	55	55	52	52	-7
Wicklow	61	57	56	53	54	-12
Donegal	53	55	52	49	48	-10
Carlow	59	56	52	49	50	-16
Louth	52	49	50	49	45	-13
Wexford	55	51	50	46	48	-13
Clare	45	44	44	45	42	-8
Kilkenny	44	46	47	40	43	-3
Longford and Roscommon	46	46	46	42	43	-6
Monaghan	42	41	40	40	38	-10
Cavan	48	46	44	42	43	-9
Offaly	39	34	36	34	40	1
Laois	40	41	42	38	38	-3
Kildare	42	41	38	37	35	-17
Meath	40	38	37	34	35	-12

Figure 3.7: FTE GPs per 100,000 in the Worst Supplied Counties, 2004-2008



Even in the better off counties only Tipperary South and Mayo have seen an overall increase in their GP to population ratio, with large increases in actual GP supply. In Cork, Galway, Waterford and Westmeath, the concentrations of GPs have been falling because of large population increases with very little response in GP supply (except in Westmeath where the actual number of GPs has also gone down), see Figure 3.8.

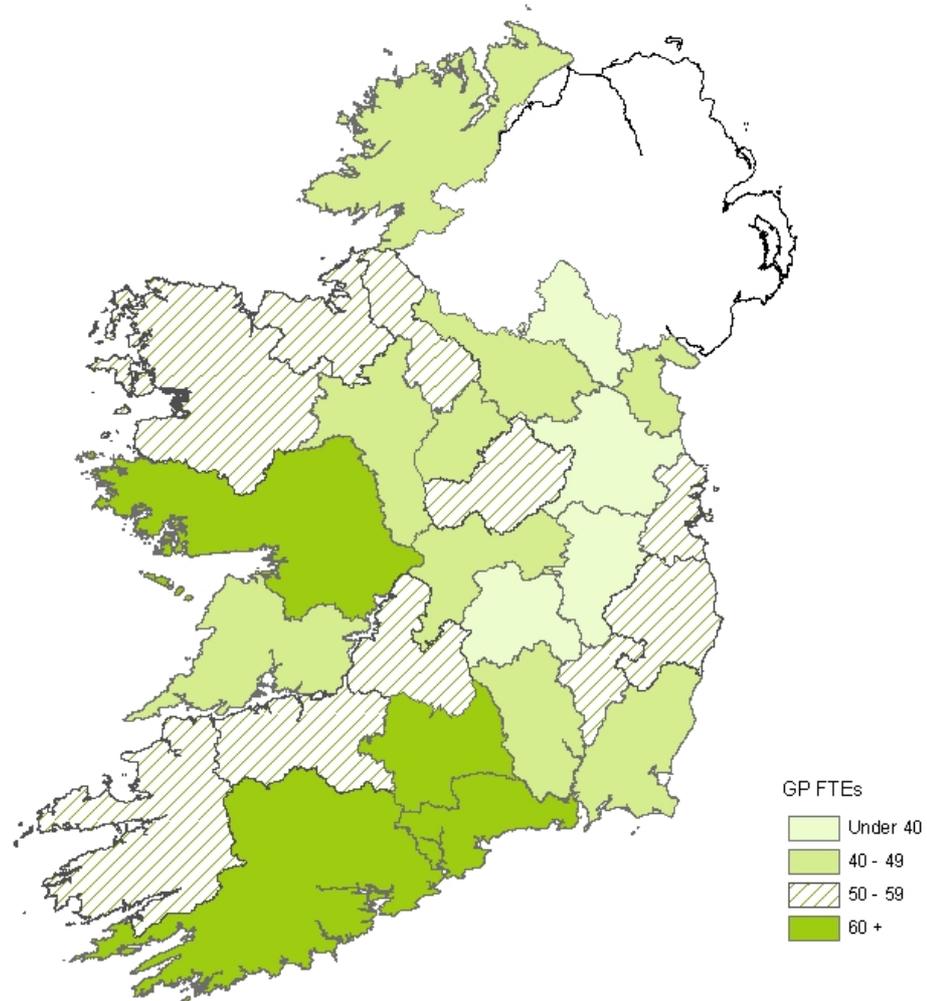
Figure 3.8: FTE GPs Per 100,000 in the Best Supplied Counties, 2004-2008



The feminisation of GPs effectively reduces GP supply by almost 200 FTEs. Hardest hit are Dublin, Tipperary North, Westmeath and Galway with around a 9-10 per cent reduction in actual supply of FTEs. These counties are however relatively better off in their original supply. Underserved counties typically have a lower proportion of female GPs and so are less badly affected. The exceptions to this are Meath and Monaghan, where female GPs account for 46 per cent of all GPs, well above the national average. Accounting for FTEs, Meath’s already low GP to population ratio, of 39 GPs per 100,000 in 2008, worsens to 35 GP FTEs per 100,000.

The concentration of GP FTEs per 100,000 population in 2008 across the country is shown in Figure 3.9. This colour-codes by county the ratio of GP FTEs to the local population, with blue being better and red worse.

Figure 3.9: GP Concentration of GPs by County, 2008



PROJECTIONS OF DISTRIBUTION

Those counties faring better between the 2008 and 2021 period are Dublin, Limerick, Tipperary South and Monaghan. The biggest losers over the same period are Meath, Laois, Cavan and Wexford. By 2021, it is projected that Meath will have only 27 GP FTEs per 100,000 population compared to 63 in Cork. Kildare and Laois will also have worse ratios than in 2008 with little over 30 GP FTEs. Without intervention there would seem to be a profound and worsening problem of distribution of GPs across the country.

The projected national picture for 2021 is shown in Figure 3.10. A key theme that emerges is a furthering of the East/West dichotomy highlighted in Figure 3.9. In particular in-land commuter counties in Leinster seem to be particularly hard hit.

- investigate ways to make practice in underserved areas more attractive.

While it is essential to increase the number of GPs trained in Ireland, it is also important to realise that there is a general shortage of doctors in the Irish health system. Medical schools have traditionally faced capped numbers of EU students with incentive structures that favour the training of non-EU higher-fee paying students. Such capping and incentives have meant a limited supply of Irish doctors which has in turn generated fierce competition for doctors from across the system. Recent initiatives to expand doctor training must be continued so that any increase in GP numbers is not a loss to other parts of the system.

Nevertheless, it is also important to realise that other professionals, such as nurses and pharmacists, have the ability to do some of the jobs currently conducted by GPs. Careful use of the right skill mix might lower the need for training as many additional GPs. Such an initiative would have to be handled carefully, given stakeholder interests and the private nature of the GP market, but given the scale of need in the coming years it is an appropriate time to evaluate this option.

Relatedly, the Primary Care Strategy proposes that primary care be delivered through 'primary care teams' which are to include:

- GPs
- Nurse/midwives
- Health care assistants
- Home helps
- Physiotherapists
- Occupational therapists
- Social Workers
- Receptionists
- Clerical officers
- Administrators

These inter-disciplinary teams will come together, preferably in a single location, to serve a population of 3,000 to 7,000 people and will be integrated into a wider 'primary care network' made up of chiropodists, pharmacists, dieticians, psychologist and other health professionals. Although the strategy envisages 600 to 1,000 primary care teams nationally under the life of the current health strategy, in fact development has been very slow and only a fraction of that number have come into existence.⁶ If this rate of development continues then the degree of change in the delivery of primary care by 2020 will be modest and the present fragmented system will largely remain. If, however, the proposed system were to be

⁶ A response by the HSE to parliamentary question PQ11777/08 in April 2008 stated that there were 97 primary care teams operating in Ireland at that point. No information is available on the structure or functioning of these teams but very few were likely to be based in one location or have the full complement of professions available, a point made in the response.

developed it would have a major impact on the delivery of care and could be used as a basis for thinking through how other professionals could substitute for GPs, to alleviate current and expected shortages.

While it may also be expedient to attract foreign-trained GPs into Ireland, this strategy may be the most questionable. Currently, there is a world-wide shortage of doctors. Poaching doctors from already under-served low and middle income countries runs counter to Irish Aid's focus of improving the retention of health professionals in aid-recipient countries. According to Tussing and Wren (2006) almost 20 per cent of all physicians in Ireland were trained overseas. Hence, the dependency on foreign GPs to make up the numbers is not going to change for some time.

Research into GP motivation is essential to understand what sort of package of incentives might be effective in increasing the supply of GPs and also ensuring that rural areas are more adequately covered. Currently, not enough is known about this important topic, though recent studies including Nkhoma and Thomas (2008), and Teljeur, Thomas *et al.* (2008) have started to explore issues around GP motivation and location.

A key element in improving the motivation of GPs is boosting their income. All GPs are self-employed private practitioners, government funding through medical card payments makes up the majority, approximately 60 per cent, of their funding (Thomas, Normand *et al.*, 2008). In the current system the majority of GPs hold a contract with the government to treat medical card patients and are reimbursed on a capitation basis for these patients. The fees represent the sum of two elements:

- A demographic factor designed to reflect differences in demands by various groups (age and gender).
- A geographic factor designed to reflect the expenses incurred in visiting patients in various age/distance categories.

Apart from capitation rates GPs also are eligible for out-of-hours fees, allowances for special leave and other supplementary allowances (such as equipment maintenance, out of hours arrangements, study leave, practice manager, medical indemnity). Further, there is a specific rural practice allowance for those who live and have their main centre of practice in a population centre of less than 500 and there is a remote area payment for those who live and work in remote areas. Such payment mechanisms represent tools by which government can work to structure better incentives for GPs.

Nevertheless, recent OECD data reveal that Irish GPs are well paid in comparison to their colleagues in other EU 15 countries. In Ireland GPs are paid four times the GDP per capita value, which is a higher multiple than in the UK, Germany and the Netherlands and much higher than in France and Sweden. Thus, it will be important to identify which factors, in addition to expected income, are important in choosing general practice as a career and in choosing a location of practice.

3.15 Discussion and Conclusions

This chapter has examined the number and distribution of general practitioners, the pattern of GP utilisation in the population and the impact which demographic change may have on the demand for GP care. The first part of this chapter showed that demographic change will have a significant impact on the demand for GP care in the period to 2021 and beyond. Overall population increase will be significant between 2006 and 2021 with Ireland experiencing a 21 per cent increase, but this overall increase will interact with population ageing to increase the level of demand. Analysis of the pattern of GP utilisation in this chapter shows that older individuals, and particularly those over the age of 80 years, are significantly more likely to visit their GP. Although the oldest old (80+) are a comparatively small part of the population their numbers will almost double by 2021. Together with the overall population growth projected this will lead to a 33 per cent increase in GP consultations by 2021 at a time when the density and number of GPs available is falling quickly.

The projected increase in GP consultations will be particularly pronounced in the counties surrounding Dublin where overall population growth and ageing will have a dual impact in increasing the level of need. This will mean that these counties will probably experience severe shortages in the availability of GP care by 2021 with implications for health and welfare as well as the cost of GP care. It will also seriously impact on the ability of government to deliver health care reform.

The analysis in the second part of the chapter shows that compared to other countries Ireland has a low number of GPs per capita and that this impacts on the availability of GP care, particularly in some deprived urban areas. However, given current GP training capacity alongside projections of GP retirement and population growth, the availability of GPs per 100,000 population will worsen from 2008 to 2021. The decreasing density of GPs in the population may significantly impact on the availability of GP care over the next decade and beyond at a time when professed government policy is the expansion of care in the community and movement away from acute care in the hospital sector. It now seems unlikely that a decrease in the density of GPs can be avoided but GP training capacity must increase immediately if the medium term outlook is to be improved. The government approved target of 150 GP training places will not deal with the projected impact of retirement, population growth and feminisation. If government is to implement the recommendations of the acute hospital bed review (PA Consulting Group, 2007a) to boost community services, GP training capacity must increase immediately to 250 per year. Such an expansion will be extremely important as the government looks to enhance primary care in general and reduce the need for extra acute hospital beds, in line with the key scenario of the PA Consulting report to the HSE (PA Consulting Group, 2007a). Without a significant expansion in GP numbers it is difficult to see how primary care can be sufficiently boosted.

Furthermore, there appears to be a growing East/West divide in the availability of GPs for the population and this trend will become more pronounced. In particular, in-land commuter counties will be the hardest hit in terms of reduced GP availability. Meath, Kildare and Laois are chronically short of GPs for their populations. It is imperative that government acts to redress these imbalances and find ways to get GPs into these under-supplied areas.

This chapter with its new data on GP supply and distribution has opened up a rich seam for new and important research. Particular themes that need further analysis are:

- International comparability of age-related need for primary care and how Ireland compares with other EU countries
- Human resource planning around GPs including issues of
 - training
 - costs
 - skill-mix and the delegation of tasks to other professionals
 - incentives to choose general practice as a career
 - incentives to choose the location of general practice
- Regulation of the GP market by government and its use of GMS lists.

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