

The Shape of Primary Care in NHS Greater Glasgow and Clyde

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Table of Contents

<i>Introduction</i>	4
<i>Executive Summary</i>	6
1 What is primary care?	9
1.1 <i>A typical practice</i>	9
1.2 <i>The population of NHS Greater Glasgow & Clyde</i>	10
1.3 <i>Socio-economic variation between CH(C)P populations</i>	13
1.4 <i>Age structure of CH(C)P practice populations</i>	15
1.5 <i>Asylum seekers and refugees</i>	17
1.6 <i>Primary care services</i>	18
1.7 <i>Partnership organisations</i>	19
1.8 <i>Out of hours care</i>	23
1.9 <i>The primary care workforce</i>	25
1.10 <i>Understanding general practices</i>	33
1.11 <i>General practitioner workforce</i>	36
1.12 <i>Discussion</i>	38
2 What does primary care do?	40
2.1 <i>Activity in general practices across Scotland</i>	40
2.2 <i>General practices in Greater Glasgow & Clyde</i>	46
2.3 <i>Face to face contacts in general practice</i>	48
2.4 <i>Patients' problems in selected practices</i>	49
2.5 <i>Prescribing for different populations</i>	51
2.6 <i>Interface with secondary care</i>	52
2.7 <i>Emergency medical admission rates</i>	53
2.8 <i>New referrals to out-patient departments</i>	56
2.9 <i>Discussion</i>	57
3 Capacity of Primary Care Services	59
3.1 <i>Background</i>	59
3.2 <i>General practice lists</i>	62
3.3 <i>Epidemiology of socio-economic deprivation in CHCPs</i>	63
3.4 <i>Epidemiology of socio-economic deprivation in general practices</i>	65
3.5 <i>"Hidden" deprivation</i>	68
3.6 <i>CHD in general practice populations</i>	68
3.7 <i>Treatment with statins</i>	71
3.8 <i>Impact of ASSIGN</i>	74
3.9 <i>Volunteering by general practices</i>	75

3.10	Discussion.....	78
4	What future challenges face primary care?	81
4.1	Demographic changes	81
4.2	Dependency ratios	83
4.3	Households	84
4.4	Migration	86
4.5	Asylum seekers.....	87
4.6	Life expectancy	87
4.7	Employment	89
4.8	Service delivery.....	91
4.9	Sustainability	92
4.10	Chronic diseases.....	92
4.11	Population health	93
4.12	What characteristics will future primary care services need?.....	103
4.13	Discussion.....	104
4.14	Conclusion	104
	Appendix 1: CH(C)P practice based populations broken down by age group.....	109
	Appendix 2: WTE CH(C)P staffing groups.....	112
	Appendix 3: Number of GPs by age group and sex.....	114
	Appendix 4: Emergency admission rates by GP surgery and CH(C)P	120
	Appendix 5: New out-patient referral rates by general practice and CH(C)P	122
	Appendix 7: Summary of recent research.....	133
	Appendix 8: Figures and Tables	138

Introduction

Why focus on primary care?

Primary care is the heart of the NHS. Most clinical encounters take place in primary care. Most patient journeys through hospitals begin and end in primary care. The basic structure of primary care provides the essential elements of coverage, continuity and co-ordination for patient care.

As the population gets older, and more people have the challenge of living well with long term conditions, the challenge for the NHS is to provide support as much as possible in primary care. Government policy aims to increase the transfer of care from hospital to primary care settings.

There is increasing evidence that primary care can improve public health, mainly by applying population approaches to the care of long term conditions and the identification and control of health risks. Increasingly, the NHS is moving away from reacting to problems after they have occurred to anticipating problems and taking avoiding action.

A strong primary care system is needed to ensure that these benefits are delivered where they are most needed, to avoid health inequity.

We need to make sure that our current primary care services are best placed to face both current and future challenges. We hope that this document will help to provoke discussion and debate about the best way to develop primary care services across NHS Greater Glasgow & Clyde.

Context

This report has an ambitious remit. It sets out to comprehensively describe primary health care services in NHS Greater Glasgow & Clyde. The idea for this report grew from research carried out by the Primary Care Observatory based in Glasgow University. The Observatory uses routinely available data to identify and explore differences in the

provision of care between general practices. We have built on this work using nationally available data sources.

At the moment the health board is reviewing its policy direction for primary care services. This review is timely; there have been recent significant changes to the structure and organisation of primary care services in NHS Greater Glasgow & Clyde. Many policy documents emphasise the key role for primary care in the future. The Scottish Government has highlighted the importance of shifting more care from hospital to community based services and ensuring that primary care can respond to health inequalities. We hope our report will be of interest and use to primary care professionals providing front line services in NHS Greater Glasgow & Clyde. In addition we hope it will enable the health board and its Community Health (& Care) Partnerships (CH(C)Ps) to develop a strong primary care policy fit for the future.

Structure and content of report

This report is divided into four linked sections. In the first section we describe the structure of primary care services in NHS GGC and the population they care for. The second section addresses the question 'What does primary care do?' using several routinely available information sources. The third section describes the capacity of primary care to respond to population health needs in the health board area. The fourth section identifies future challenges facing primary health care services. We have included a summary box of key points at the start of each section.

What are the next steps?

This report will be circulated to all CH(C)Ps and primary care services including general practices within NHS GGC. A corporate event will be arranged to discuss the findings in summer 2008.

Executive Summary

Structure of primary care services

The number of organisations contributing to primary care recently has increased substantially in recent years. This has created a real challenge for professionals and patients navigating the healthcare system. Adding to this complexity, the population *resident* within a Community Health & Care Partnership (CH(C)P) area is not the same as the population *registered* with the general practices within that CH(C)P area. This results in an additional level of complexity for CH(C)Ps planning services provision.

Workforce

Differences in workforce coding and recent changes to the collection of staff information from practices means that we do not know exactly how many primary care staff are working in particular roles in each CH(C)P area. Existing information suggests a relatively flat distribution of pharmacists, dentists, community nurses and practice nurses in relation to deprivation¹ whereas deprivation is concentrated in some geographical areas.

Activity

At present, most activity information collected by the NHS relates to general practices or to hospitals. National activity information in Scotland suggests that almost 90% of people registered with a GP will be seen by one of the practice team each year. There is a positive relationship between increasing age and higher patient contact rates. For most age groups, increasing levels of deprivation are also associated with higher patient contact rates.

There is substantial variation between practices' hospital emergency admission rates and outpatient referral rates after taking into account sociodemographic differences. Further investigation at a local level will be necessary to understand possible reasons for this residual variation.

Capacity in General Practice

People living in more deprived communities suffer poorer health and a lower life expectancy than the rest of the population. However, there is a relatively flat distribution of

¹ In this report the term 'deprivation' is used to describe multi-faceted disadvantage faced by communities.

the number of general practitioners across affluent and deprived areas of Scotland causing a mismatch between GP resources available and health care need.

Research shows there is a higher prevalence of multiple morbidity in deprived areas and, in particular, a higher prevalence of psychological stress in association with other conditions.

Targeting of resources is complicated because although deprivation is concentrated in some CH(C)P areas it is present in all CH(C)Ps.

Future challenges

Over the next 20 years the population is predicted to get older and the co-ordination and continuation of care for those with long term conditions will present a challenge to primary care services. New challenges are likely to include managing increasing levels of alcohol consumption, obesity and mental health issues.

Conclusions

Over recent years there have been substantial changes to primary care services resulting in positive changes but leading to some difficulties for those navigating the system. The creation of Community Health (& Care) Partnerships has provided an opportunity to integrate these services more effectively. Integration could be further supported by the development of integrated targets and levers to support change.

Further research should be carried out into the alignment of the primary care workforce to areas of need. There remains a need for better information about the performance of primary care as a whole system, including all community based services, to identify both strengths and weaknesses. We need to develop a more sophisticated information system that will enable us to plan to manage changing circumstances and to identify and analyse pressure points in the system. Ultimately we still struggle to understand how patients are cared for by the whole primary care system and this is a key area for future research.

Acknowledgements

We would like to thank all of those people who contributed to this report by giving their time and assistance.

We would particularly like to thank Kate McGloan, Elizabeth Hutcheson and colleagues from Family Health Services. Also, Chris Carron and Doug Allan from Human Resources at NHS GGC for their assistance with local workforce information.

The PTI, workforce information, outpatient activity and Delivering for Health information teams at the Information & Services Division of NHS Scotland also provided us with key information used in this report.

Joyce Stoakes and Paula Barton from the information department within NHS GGC provided us with population information and maps illustrating the report.

This report also benefited from using information contained in the CH(C)P Community Profiles, published by the Glasgow Centre for Population Health in February 2008. These can be accessed electronically through the centre's website at [Glasgow Centre for Population Health - Community Profiles](#).

A large number of others within NHS GGC provided assistance including all the Heads of Health Improvement & Planning and lead nurses within CH(C)Ps, colleagues from mental health and learning disability partnerships, out of hours services, Glasgow addictions services, homelessness and specialist childrens services. This report would not have been completed without your help, many thanks for all your input.

1 What is primary care?

Key points in this section

- The population *resident* within a CH(C)P area is not the same as the population *registered* with the general practices within that CH(C)P area.
- We do not know how many primary care staff are working in particular roles in each CH(C)P area.
- Current information suggests there is a flat distribution of the workforce across CH(C)Ps, whereas deprivation is concentrated in a small number of CH(C)Ps
- The number of organisations contributing to primary care recently has increased substantially. This may make it hard for professionals and patients to navigate their way round the system.

Introduction

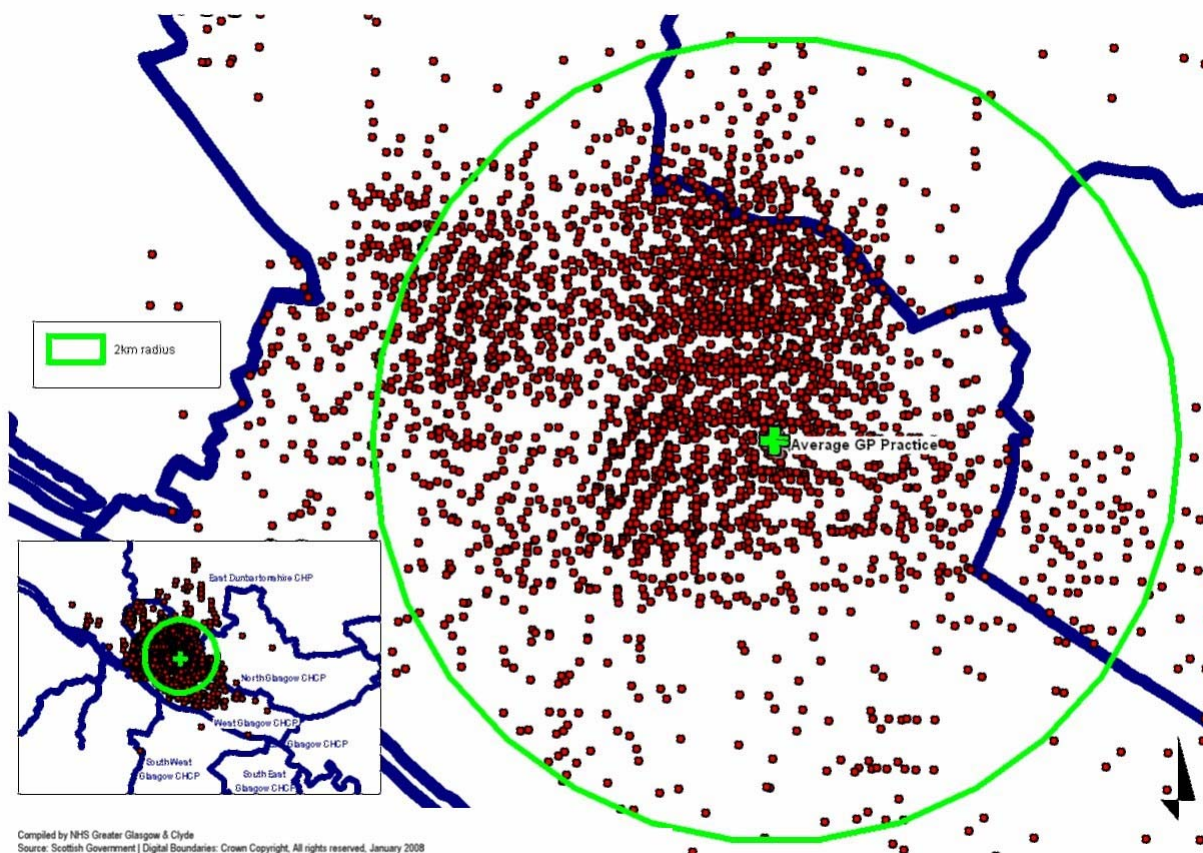
In this section we will describe the population cared for by primary care services and the structure of our existing services.

1.1 A typical practice

So what does a typical general practice in Greater Glasgow & Clyde look like? The average practice in Greater Glasgow & Clyde will have approximately 4,250 patients. A practice of this size will have approximately three general practitioners and two practice nurses with two attached district nurses and one attached health visitor. Although most of the patients will live fairly close to the practice, approximately 11% will live more than two kilometres away.

We have created a map to give an idea of just how many people are cared for by a typical core practice team. This is shown in **Figure 1.1**. The CH(C)P boundaries are shown in blue, and individual patients are represented by a single red dot.

Figure 1.1: An average-sized practice in NHS GGC



This core practice team will be supported by community based staff employed by the local CH(C)P. Our average sized practice population can also access care if necessary from another thirteen primary care staff members employed by the CH(C)P. These will include three administrative staff, three allied health professionals and three trained nurses. The practice population will share pharmacy, optometrist, maintenance and medical staff with a larger area. These additional community based staff work within the mental health partnership, learning disability partnership, hosted services and other specialist teams.

1.2 The population of NHS Greater Glasgow & Clyde

In the white paper *'Partnership for Care'*, the government set out its plans for the development of Community Health (& Care) Partnerships, CH(C)Ps.¹ These new organisations replaced Local Health Care Co-operatives (LHCCs) and are now key to the delivery of local health care, including primary care services, across NHS Greater Glasgow & Clyde. In Glasgow City and East Renfrewshire, social work services are fully integrated with health services and these organisations are known as Community Health and Care

Partnerships (CHCPs). In the remaining areas the organisations are called Community Health Partnerships (CHPs). All have been set up to work closely with local councils and community groups. The map below, **Figure 1.2**, shows the boundaries of each Community Health (& Care) Partnership in Greater Glasgow & Clyde and some of the neighbourhoods each contain.

Figure 1.2: NHS Greater Glasgow & Clyde and CH(C)P boundaries.



The geographical population of each CH(C)P area includes every person who is resident within these boundaries. However, people may register with general practitioners from other areas. This means that the resident population of each CH(C)P may be different from the population registered with general practices within the CH(C)P area. We have compared the geographical population of each CH(C)P area with the practice based populations of those people registered with practices in each CH(C)P area. We have used the Community Health Index database to see how the total number of residents compares

with the total number of patients registered with CH(C)P practices.ⁱⁱ The results are shown in **Table 1.1**.

Table 1.1: Comparison of CH(C)P populations

Source: CHI extract June 2007

CHCP /CHP	Practice populations with valid GG&C Postcode	Complete Geography Based Totals	Percentage difference between Practice populations and Geographical population
East Dunbartonshire CHP	101,436	110,014	-7.8%
East Glasgow CHCP	150,645	133,897	12.5%
East Renfrewshire CHCP	81,514	91,387	-10.8%
Inverclyde CHP	86,699	85,284	1.7%
North Glasgow CHCP	83,891	109,296	-23.2%
North Lanarkshire CHP (pt)	18,227	19,208	-5.1%
Renfrewshire CHP	175,820	176,177	-0.2%
South Lanarkshire CHP (pt)	53,994	60,016	-10.0%
South-East Glasgow CHCP	134,654	111,239	21.0%
South-West Glasgow CHCP	112,036	125,362	-10.6%
West Dunbartonshire CHP	95,144	95,710	-0.6%
West Glasgow CHCP	176,039	155,786	13.0%
Sub-Total	1,270,099	1,273,376	-0.3%

Overall, we estimate that the CHI database will inflate the total population size by approximately 7%.ⁱⁱⁱ **Table 1.1** shows that in some CH(C)P areas the resident population is very different from the population registered with general practices. For example in South East Glasgow, the practice-based population is 21% greater than the resident population of the area. This means that the CH(C)P is providing health and social care for larger numbers than their geographical boundaries might suggest. The difference between resident and practice based populations complicates the service planning process for CH(C)Ps. The organisations often use resident populations to plan services but patients may prefer to receive care through their GP practice in different areas. This may make it

ⁱⁱ Every person living in Scotland is given a unique identifying number by the NHS, this is called their Community Health Index number (CHI). This index number allows us to identify every patient registered with a general practitioner in Scotland. We have calculated the population size of each CH(C)P using the CHI database.

ⁱⁱⁱ We reached this conclusion following discussion with GRO. We compared the most recent CHI extract with General Register Office for Scotland population estimates and found that CHI figures were approximately 7% higher than GRO estimates. This is because when people move it takes time for them to de-register with practices so individuals may be counted more than once. We have calculated both resident and practice populations using CHI and so any inflation of the total population numbers will apply equally to both figures.

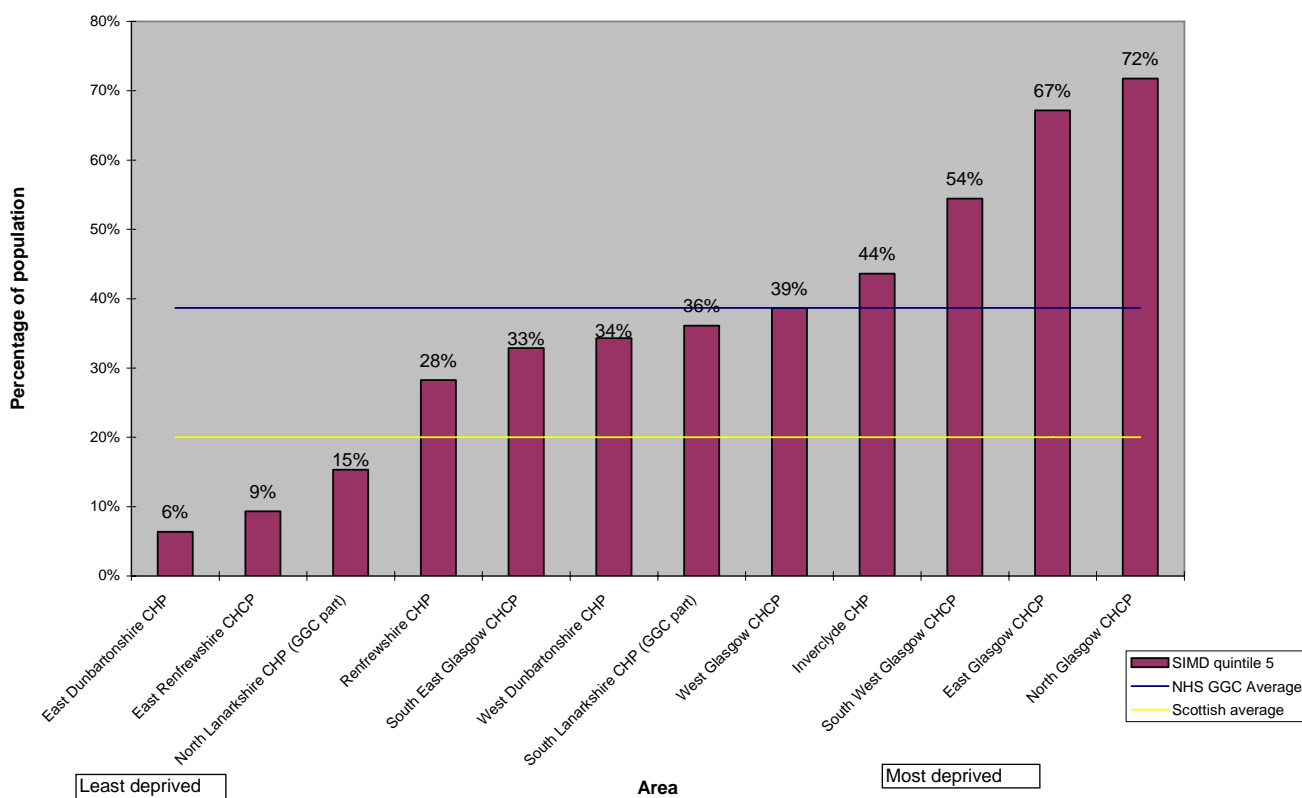
difficult to align services with the resident population served by CH(C)Ps. The analysis in this section of the report mainly relates to the practice-based populations of CH(C)Ps.

1.3 Socio-economic variation between CH(C)P populations

It is now well recognised that people who live in areas of relative deprivation are more likely to suffer from poorer health than those who live in better off areas. The Scottish Index of Multiple Deprivation (SIMD)^{IV} has been developed to help identify small areas of multiple deprivation across Scotland.

We have applied the SIMD (2006) indicator to the practice populations of each CH(C)P in Greater Glasgow & Clyde. In **Figure 1.3** we show the percentage of the CH(C)P practice population living in the most deprived SIMD quintile.

Figure 1.3: Percentage of CH(C)P practice population in most deprived SIMD quintile
Source: CHI extract June 2007



^{IV} The Scottish Index of Multiple Deprivation 2006, is made up of 7 domains. These are: income, employment, crime, education, health, housing and access. The index ranks 6,505 different data zone areas across Scotland, from the most to the least deprived area. Each data zone contains 769 people on average. The indicator was developed so that policies and funding can be directed to the areas of greatest need. It gives an overall ranking of different data zone areas across Scotland.

This figure shows clearly that practice populations in Inverclyde, South West Glasgow, East Glasgow and North Glasgow CH(C)Ps have the highest proportions of people living in the 20% most deprived areas of Scotland.

In contrast, **Figure 1.4** shows the percentage of CH(C)P practice populations living in the least deprived quintile of the population. East Dunbartonshire and East Renfrewshire CH(C)Ps have the smallest proportion of people living in areas of relative deprivation.

Table 1.2, immediately below the figure, summarises the absolute numbers of those living in quintiles 1 and 5.

Figure 1.4: Percentage of CH(C)P practice population in least deprived SIMD quintile
Source: CHI extract June 2007

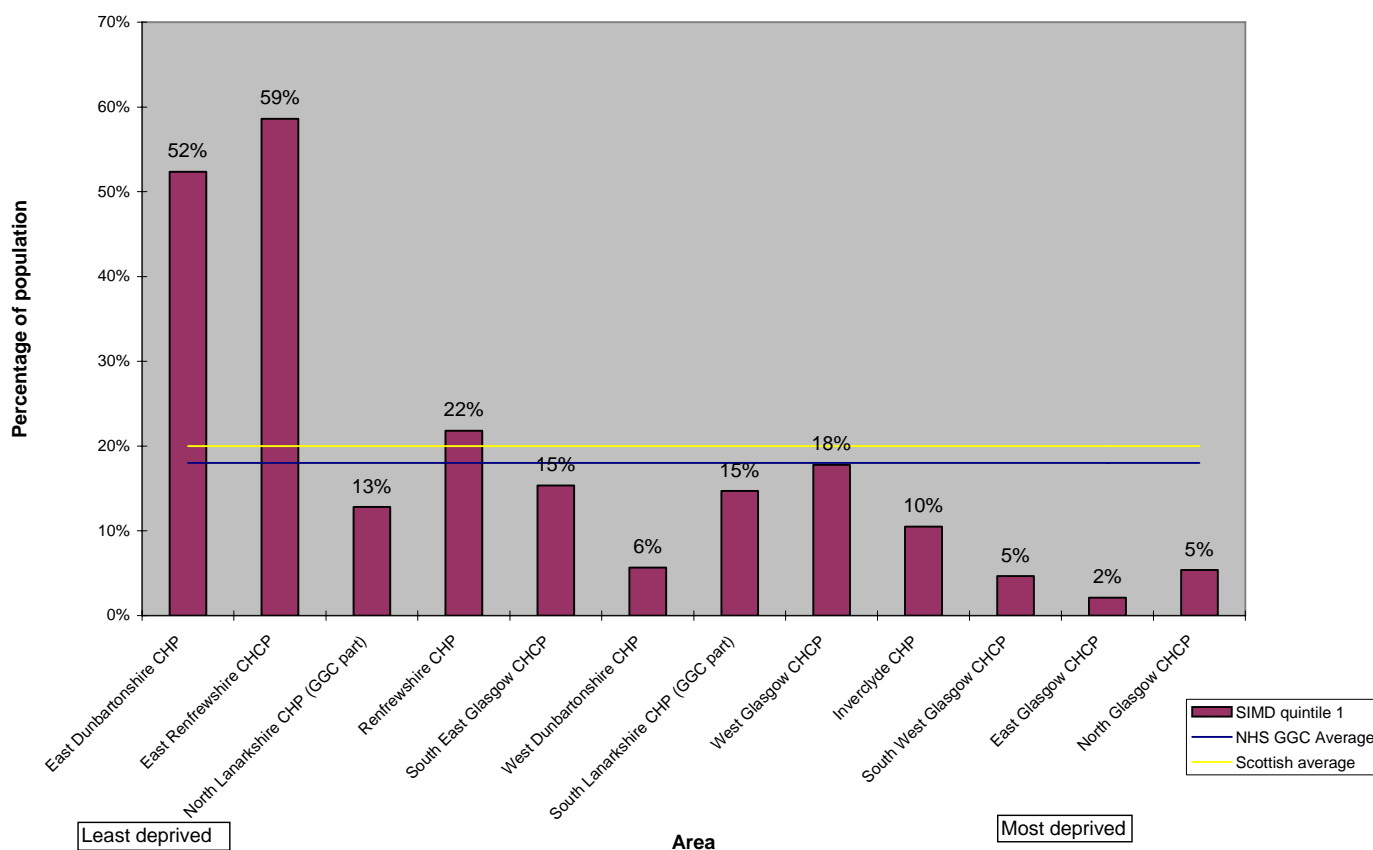


Table 1.2: The number of people and percentage of total CH(C)P practice based population living in the most and least deprived quintiles

Source: CHI extract June 2007

CH(C)P Area	Number in least deprived quintile	% least deprived quintile	Number in most deprived quintile	% most deprived quintile
East Dunbartonshire CHP	53,054	52%	6,465	6%
East Glasgow CHCP	3,176	2%	101,041	67%
East Renfrewshire CHCP	47,755	59%	7,580	9%
Inverclyde CHP	9,098	10%	37,839	44%
North Glasgow CHCP	4,506	5%	60,141	72%
North Lanarkshire CHP (part)	2,325	13%	2,783	15%
Renfrewshire CHP	38,296	22%	49,579	28%
South East Glasgow CHCP	20,658	15%	44,193	33%
South Lanarkshire CHP (part)	7,926	15%	19,450	36%
South West Glasgow CHCP	5,209	5%	60,889	54%
West Dunbartonshire CHP	5,402	6%	32,832	34%
West Glasgow CHCP	31,272	18%	67987	39%

This summary indicates where the largest numbers of people are living in deprived circumstances within the health board area. The primary care observatory has carried out a number of analyses examining deprivation in more detail. This work is described in Section 3, (page 63) of this report.

1.4 Age structure of CH(C)P practice populations

Different parts of the health board area contain different mixes of people. For instance some CH(C)Ps have higher proportions of people aged over 75 years and others have higher proportions of young people. Each of these groups will have slightly different requirements from the health care services looking after them and so it is important to describe the population in some detail.

Figure 1.5, shows the practice based populations of each CH(C)P broken down by different age groups. In all of our figures, we have ordered the CH(C)Ps according to the percentage of the population resident in SIMD quintile 5. This means that CH(C)Ps with a small proportion of the population living in deprived circumstances will appear at the left hand side of the figure. Those CH(C)Ps with larger numbers of their population living in circumstances of deprivation will appear at the right hand side of the figure.

Figure 1.5: Age structure of CH(C)P practice based populations, June 2007
Source CHI extract June 2007

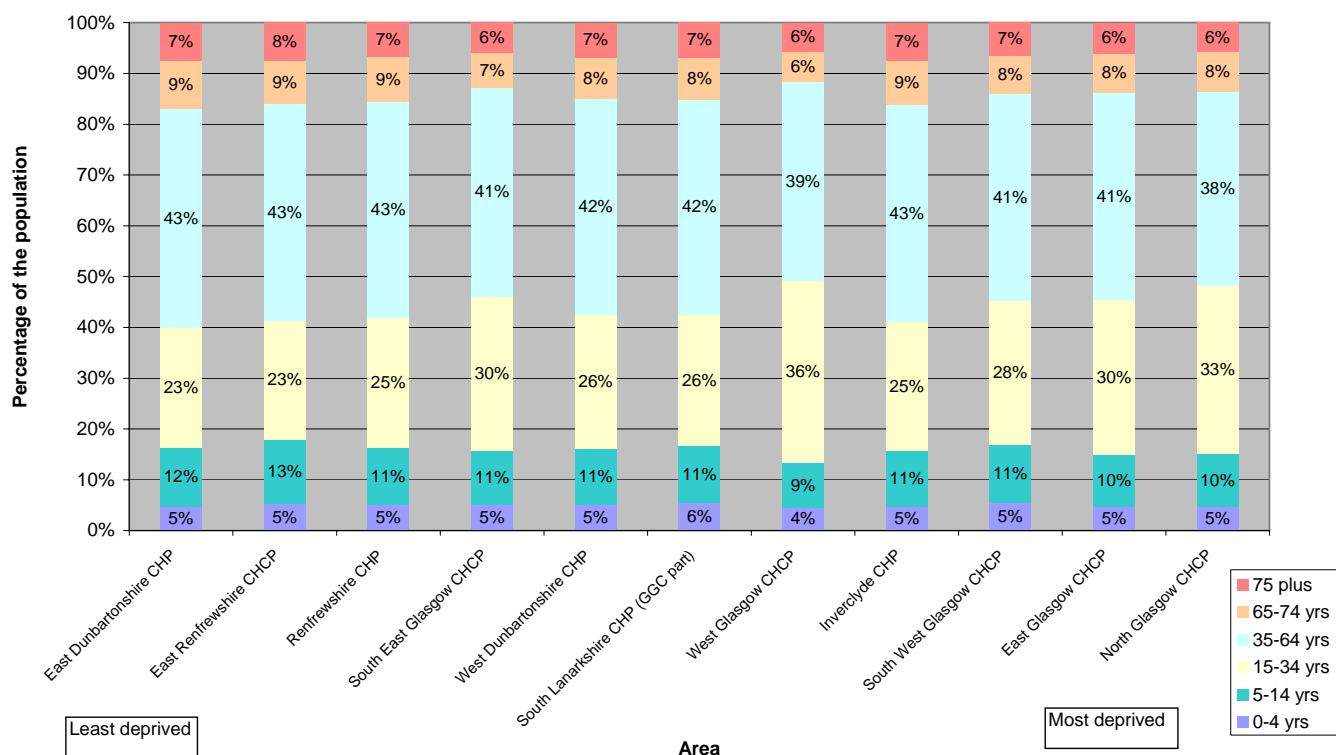


Table 1.3: Contribution of age groups to overall CH(C)P practice based populations
Source CHI extract June 2007

Age Group (both sexes)	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75 plus	All Ages
East Dunbartonshire CHP	4,683	11,939	12,583	11,180	15,429	15,344	13,025	9,615	7,536	101,334
East Renfrewshire CHCP	4,238	10,400	10,046	8,956	12,748	12,260	9,738	6,968	6,120	81,474
North Lanarkshire CHP (GGC part)	1,200	2,228	2,115	2,503	3,260	2,485	2,118	1,328	918	18,155
Renfrewshire CHP	8,845	19,804	22,108	22,597	28,870	25,192	20,837	15,265	12,036	175,554
South East Glasgow CHCP	6,900	14,164	17,775	23,129	22,954	19,038	13,226	9,125	8,136	134,447
West Dunbartonshire CHP	4,870	10,674	12,918	12,193	15,380	14,011	11,203	7,884	6,597	95,730
South Lanarkshire CHP (GGC part)	2,970	5,975	6,610	7,350	8,581	7,969	6,240	4,453	3,720	53,868
West Glasgow CHCP	7,862	15,594	27,274	35,716	30,321	22,735	15,719	10,692	10,007	175,920
Inverclyde CHP	4,149	9,525	11,162	10,807	13,958	12,733	10,405	7,595	6,451	86,785
South West Glasgow CHCP	6,399	13,354	16,240	16,934	19,352	16,799	11,358	8,860	7,640	116,936
East Glasgow CHCP	7,114	15,458	22,053	23,608	24,976	21,398	15,084	11,590	9,140	150,421
North Glasgow CHCP	3,929	8,690	14,880	12,876	13,829	10,903	7,357	6,449	4,882	83,795

The variations in population structure are not large but they will have some impact on services. For example Inverclyde, East Renfrewshire and East Dunbartonshire CHPs all have high proportions of people aged 65 or over registered within their practices. In East Dunbartonshire 17% of the population are aged 65 or over. In comparison 14% of the population in West Glasgow are aged 65 or over but this CHCP has a much higher

proportion of adults aged 15-34 yrs than other CH(C)Ps probably because of the high number of students in that area. Older people are more likely to suffer from ill-health than younger age groups and consequently will have increased need for both social and health care services. A more detailed breakdown of the variation in age groups across all CH(C)Ps is contained in **Appendix 1**.

1.5 Asylum seekers and refugees

Asylum seekers and refugees living within the health board area may be particularly vulnerable and may need additional health or social care services. For instance, young children arriving from other countries may not have been able to receive routine childhood immunisations because they were living in areas of conflict. It is important for the whole community that asylum seekers are able to access primary care services so they can receive immunisations recommended in this country as well as other necessary care.

The UK government records how many asylum seekers are dispersed to Greater Glasgow. **Table 1.4** summarises the number of asylum seekers in Greater Glasgow, in August 2007. This summary does not include those people who came as asylum seekers but who have now been granted leave to remain, or failed asylum seekers still resident in Glasgow. Once individuals have been granted leave to remain they are known as refugees.

Table 1.4: Number of asylum seekers in each CH(C)P area

Source; COSLA strategic migration partnership, using Home Office data, August 2007

CHP	All persons	Number of family groups	People in family groups of more than one person	Family groups of more than one person	Average size of family group (>1)
East Glasgow CHCP	725	412	479	166	2.9
East Renfrewshire CHCP	5	1	5	1	5.0
North Glasgow CHCP	1,697	576	1,578	457	3.5
South East Glasgow CHCP	694	296	571	173	3.3
South West Glasgow CHCP	1,327	492	1,182	340	3.5
West Dunbartonshire CHP	12	5	12	5	2.4
West Glasgow CHCP	1,200	384	1,133	317	3.6
Scotland	5,678	2,174	4,974	1,463	3.4

Overall, 5660 asylum seekers from 69 different countries are living in Greater Glasgow CH(C)Ps. The majority of those who came here were part of family groups.

Once asylum seekers are granted leave to remain in the UK, it becomes harder to know where they are living. Some refugees choose to remain in the area but others may prefer to live nearer to friends or family in different parts of the country. **Table 1.5** summarises the number of refugees, failed refugees and asylum seekers we estimate are living in Glasgow. This information is based on individuals registered with general practices in NHS GGC and was taken from a CHI extract in April 2007. It may be an overestimate of the true figure because once asylum seekers are granted leave to remain they often choose to leave the city but it can take a while for them to de-register with general practices. However, this summary table gives a better indication than the previous table of the total size of the asylum seeker and refugee population.

Table 1.5: An estimate of the total number of refugees, asylum seekers and failed asylum seekers in Greater Glasgow

Source; Asylum seeker health co-ordinator, NHS Greater Glasgow & Clyde. April 2007.

Area	Males	Females	0-5 years	Total
East Glasgow CHCP	36	44	30	105
North Glasgow CHCP	2259	1972	726	4231
South East Glasgow CHCP	853	835	255	1925
South West Glasgow CHCP	875	903	326	2024
West Glasgow CHCP	1509	1216	367	2946
Unknown	2	1	0	3
All Glasgow City	5534	4971	1704	11234

1.6 Primary care services

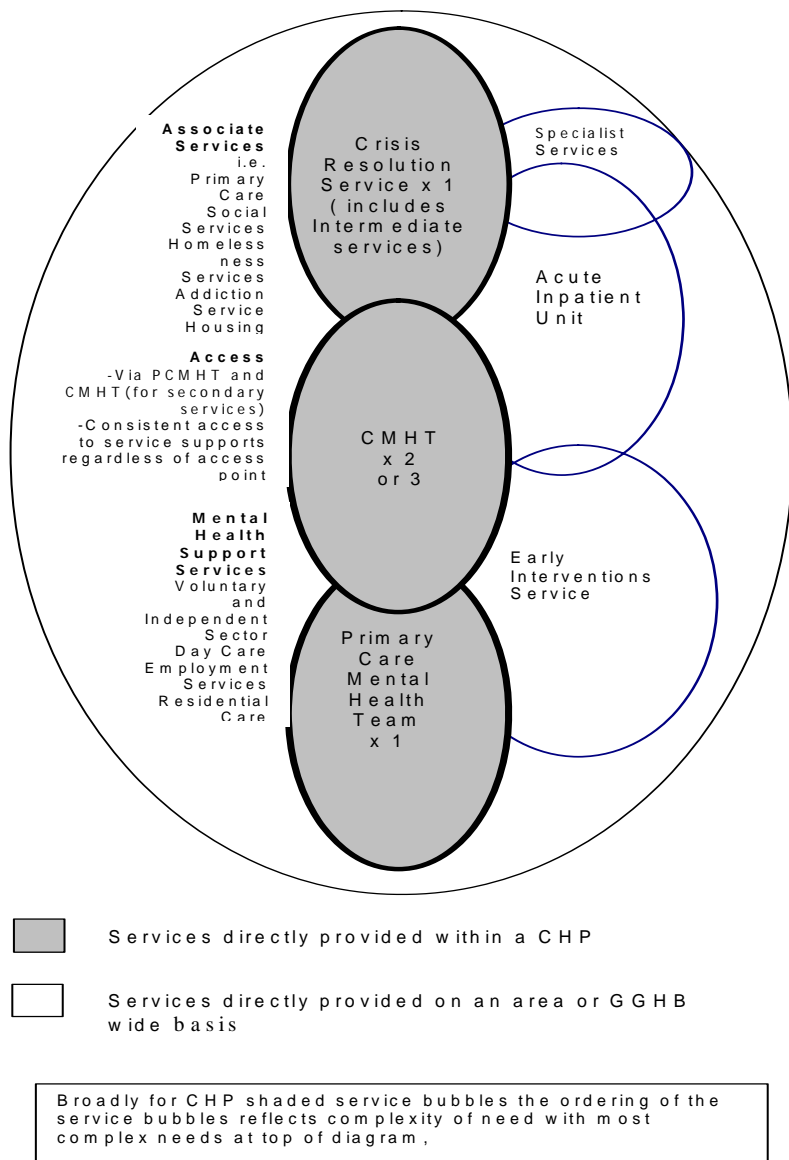
In the past most people would have thought of general practice as their main provider of primary care services. They would also have recognised general dental practitioners, community pharmacies and optometrists as providing particular types of care to the community. Nowadays primary care services include a much wider range of health and social care services. These services work alongside general practice to provide for the majority of individuals' health care needs and are mainly based in the community, rather than in hospitals. The newly created CH(C)P organisations work closely with social care services to provide primary care and community based services in their areas. However, the focus of this report is the provision of primary *health* care services and the populations they serve across the health board area. Our report was built around the work of the Primary Care Observatory in Glasgow University, which has concentrated on general practices. Less information is readily available to describe other community based services.

The community based health services working alongside general practices in Greater Glasgow & Clyde include the mental health partnership, older peoples' services and physical disability services, rehabilitation services, learning disability services, the homelessness partnership, specialist children's services, community addictions services, oral health action teams, palliative care services, and out of hours providers. Some, but not all, of these services are directly managed by CH(C)Ps. The increase and variety of organisations contributing to primary care can make it hard for both professionals and patients to navigate their way round the system.

1.7 Partnership organisations

The mental health partnership provides a useful illustration of the way other services interact with CH(C)Ps. All adult services are included in the partnership except for elderly mental health teams. The partnership is currently undergoing reorganisation with three main components relating to each CH(C)P. These are primary care mental health teams, community mental health teams (CMHTs) and crisis teams. **Figure 1.6**, below outlines the developing structure of community mental health services in Glasgow. Social work practice teams will form an integral part of these services.

Figure 1.6: A CH(C)P view of the mental health network in NHS Greater Glasgow
Source: Specification and Organisation of integrated community mental health services, Mental Health Partnership 2007



Adult mental health services in Clyde are not arranged in this way and will remain financially separate for the next three years. They also provide primary care support services (to 50% of practices), integrated adult community mental health teams and assertive outreach teams.

Learning disability services are also separately organised in Greater Glasgow & Clyde. In Glasgow city the Glasgow learning disability partnership is responsible for city wide services. Learning disability teams are made up of nurses, learning disability nurses,

psychiatrists, psychologists, social workers and allied health professionals. Arrangements vary across the other CH(C)P areas.

Like the two partnerships just described, specialist children's services are also organised separately in Glasgow and Clyde areas. The services in both areas provide a mixture of very specialist children's services (e.g. community autism team), and services that will be accessed easily by all children (e.g. school nursing services).

Glasgow has also developed a specialist homelessness partnership, which is made up of a homelessness mental health team, homeless families' services, physical health team, allied health professionals and integrated teams that assess people living in hostel accommodation and manage resettlement.

All of these partnership organisations and community based services provide care for people in the community. They provide care for a much smaller proportion of the population than practices. This is because they target people with particular needs or in particular age groups. National data collection^V shows that 90% of the population are seen by a member of the general practice team (GP, practice nurse, district nurse or health visitor) each year. The partnership organisations have substantial workloads but they do not have contact with such a large proportion of people. **Table 1.6** below shows caseload information for a number of partnership organisations across the health board area. Unfortunately it is not possible to easily describe caseload information accurately at CH(C)P level.^{VI}

^V The Information and Services Division of NSS (ISD) collect activity information from a representative sample of practices across Scotland. This allows them to estimate the total number of patients seen, and number of consultations with GPs, practice nurses, district nurses and health visitors. For more detail see **Table 2.1**.

^{VI} National reports about Learning Disability services describe caseloads for the whole of Glasgow city and for the whole of North and South Lanarkshire. We do not have easy access to CH(C)P specific caseloads. The community mental health teams in Greater Glasgow use different methods to allocate patients to resource centres North and South of the river. North of the river Clyde, patients are allocated according to postcode of residence. However, South of the river, patients are allocated according to their GP practice.

Table 1.6: Reported caseload of selected community services in GG (& C) and general practices

Source: multiple sources listed below

Organisation	Caseload
Mental Health Partnership (GG) ¹	13,999
Elderly CMHTs (GG) ²	6,569
Learning Disability (all GGC) ³	5,590
Community Addiction Teams (adults-GG) ⁴	9,334
Community Addiction Teams (young people- GG) ⁴	1,276
Homelessness Partnership (GG) ⁵	8,000
General Practices (GGC) ⁶	1,270,099

1 All open referrals in adult CMHTs and PCMHTs in Greater Glasgow June 2007, personal communication

2 All open referrals in elderly CMHTs in Greater Glasgow June 2007, personal communication

3 Number of people known by Local Authorities to have learning disabilities. Taken from [Same As You](#) statistical returns 2005

4 Number of adults receiving support from GAS in March 2006. Figures from annual report 2006

5 Personal communication, June 2007, no direct equivalent of the homelessness partnership exists in Clyde

6 CHI extract June 2007, all patients registered with NHS GGC practices with a valid postcode

Researchers from the Primary Care Observatory used Scottish Health Survey data to estimate the burden of mental health problems in the Scottish population. They found that between 12-19% of the general population in Scotland have self assessed mental health problems (see **Table 2.10**). The mental health partnership will primarily provide care for those with more severe problems.

Table 1.7 below summarises by CH(C)P the total number of social work clients assigned to a social worker in March 2007. This information applies to the *resident* population of CH(C)Ps. No information was available for Inverclyde CHP.

Table 1.7: Social work clients with an open event^{vii} at March 2007, by CH(C)P area.

Source: careFirst, Social Work departments in Glasgow, East Dunbartonshire, West Dunbartonshire and East Renfrewshire Councils.

CHCP area	Total SW clients, March 2007	Percentage of total population	Older people (65 and over)	Percentage of total population aged 65 and over
East Dunbartonshire CHP	5,427	5.1%	2,445	13.2%
East Glasgow CHCP	12,182	9.8%	4,424	22.6%
East Renfrewshire CHCP	1,827	2.0%	1,084	7.1%
Inverclyde CHP				
North Glasgow CHCP	9,892	9.9%	3,047	20.9%
Renfrewshire CHP	7,484	4.4%	2,850	10.4%
South East Glasgow CHCP	7,754	7.6%	2,841	21.2%
South West Glasgow CHCP	11,071	9.5%	4,082	22.6%
West Dunbartonshire CHP	6,812	7.5%	2,994	20.5%
West Glasgow CHCP	10,794	7.8%	4,692	24.9%

^{vii} An event is a piece of work (eg assessment, case management) that is assigned to a worker

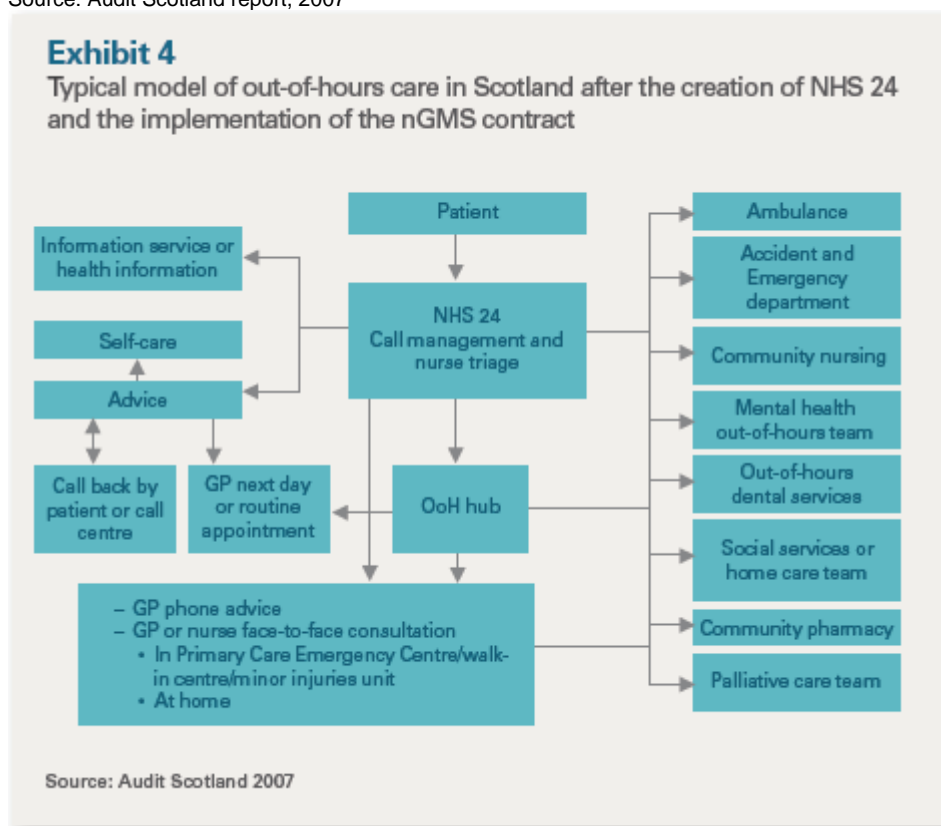
The areas with the largest number of clients are not necessarily the same as those where the greatest proportion of their total population in contact with social work services. The table illustrates a nearly five-fold variation in the percentage of social work clients across different CH(C)P areas. There is also a substantial difference in the number of older clients across different areas but these differences are a little less marked. Although East Renfrewshire, East Dunbartonshire and Renfrewshire CHPs have the highest proportion of elderly residents these areas a smaller proportion are in contact with social work services.

1.8 Out of hours care

Although most people contact their GP during working hours sometimes they need to contact a doctor or nurse in the evening or at weekends. Health care provided in evenings or weekends is called 'out of hours care'. Over the last twelve years there has been considerable change to the provision of this type of health care. In response to increasing demand for out of hours care in the 1990's many doctors chose to form out of hours co-operatives.² Local doctors arranged to provide out of hours care by working together with other practices. Patients were encouraged to attend out of hours care centres to receive health care. Then in 2000 the government announced that it would create a new out of hours service, NHS 24. This organisation was designed to be integrated with existing co-operative services, A&E and the Scottish Ambulance Service.³ As NHS 24 was being introduced, substantial changes were made at national level to the GP contract, thereby reforming pay and conditions. One of the changes introduced allowed GPs to opt out of providing out of hours care for their patients. The responsibility for providing out of hours care then fell to the NHS Boards. **Figure 1.7** below illustrates the different services contributing to out of hours care in Scotland at present.⁴ Most patients will access primary care emergency care through NHS 24, whose staff may then either provide sufficient advice for the patient to manage until the next working day or will refer the patient on to other unscheduled care services.

Figure 1.7: Current model of out of hours care in Scotland

Source: Audit Scotland report, 2007⁴



In Greater Glasgow out of hours primary care is provided by the Glasgow Emergency Medical Service (GEMS). At present, services in Clyde are provided separately. Local general practitioners are not obliged to work in these new organisations though a proportion choose to do so.

GEMS has six primary care emergency centres open in the evenings until midnight and at weekends across Greater Glasgow. Two of these centres are also open overnight. **Table 1.8** below summarises the number of patient contacts with GEMS during the out of hours period and contrasts these with the number of A&E attendances over the same time period. Clyde primary care emergency services have three out of hours centres, all of which remain open overnight. Similar information about patient contacts is not currently available for Clyde services, which experienced substantial boundary changes following the dissolution of NHS Argyll & Clyde.

Table 1.8: Number of patient contacts with GEMS and A&E services

Source: GEMS annual report 2005/6, www.gemsgp.co.uk

Type of contact	Year ending 31 st March 2005	Year ending 31 st March 2006
Out of hours service*	231, 997	233, 227
Home visit from GP	31,135	30,747
Treated at primary care emergency centre	79,083	76,731
A&E contacts during OOH period	146, 842	148, 098

* Includes contacts with NHS 24, calls for advice only, attendance at emergency centre and home visits

Recent policy documents have recommended that more care should be delivered by community based services rather than by hospitals.^{5,6} This policy recommendation has been met in part by the development of partnership organisations such as those described above. However, primary care services are increasingly complex. It can be difficult for both patients and their general practitioners to find their way through the system. One of the priorities for CH(C)Ps is to ensure that these different services are integrated with each other.

1.9 The primary care workforce

In order to make best use of our staff resources we have to understand where people are working and to ensure enough primary care staff are based in areas of greatest need.

We used two main methods to calculate the number of primary care based staff.

- For general practitioners, dentists, practice nurses and community pharmacies, we used local registers to calculate the numbers of staff in each CH(C)P area.
- For staff employed by CH(C)Ps directly (community based nurses, allied health professionals and administrative staff) we analysed an extract from the payroll department in NHS Greater Glasgow & Clyde taken in March 2007.

Both of these information sources have some limitations. Since the new GMS contract for GPs was introduced there has been no obligation for independent contractors to provide detailed information about the number of staff working within practices. In the past we were able to calculate whole time equivalent (WTE)^{VIII} information for GPs, dentists and practice

^{VIII} Whole time equivalent adjusts headcount staff figures to take account of part time staff.

nurses using information submitted by practices as part of the financial reimbursement process. Previously, we used whole time equivalent information to examine the numbers of staff working in an area because it takes into account part-time working. Unfortunately because of the contractual changes described above this information is no longer routinely collected from practices. We have reliable information about the total number of general practitioners working in each CH(C)P but information held on the numbers of practice nurses is patchy. For instance information about numbers of practice nurses from Renfrewshire is incomplete. The estimated number of dentists comes from those who have registered to provide NHS care. This does not mean that all of those dentists registered are actually providing NHS services, but simply that they have registered to do so. It also excludes any dentists who only provide services to private patients.

The information available from payroll provides broad categories of staff and appears to be reasonably accurate at this level. However, detailed information about where individual members of staff are working may be unreliable. In part this is because of recent organisational boundary changes resulting from the development of CH(C)Ps. Also, NHS Greater Glasgow and NHS Argyll and Clyde used different coding systems for payroll purposes. In some CH(C)Ps this makes it impossible to be certain which staff are working in the community, and which are providing in-patient care.

Table 1.9 summarises broad staff groupings within practices and a selection of those working in the wider CH(C)P areas.

Table 1.9: Summary of practice based staff and wider community based services

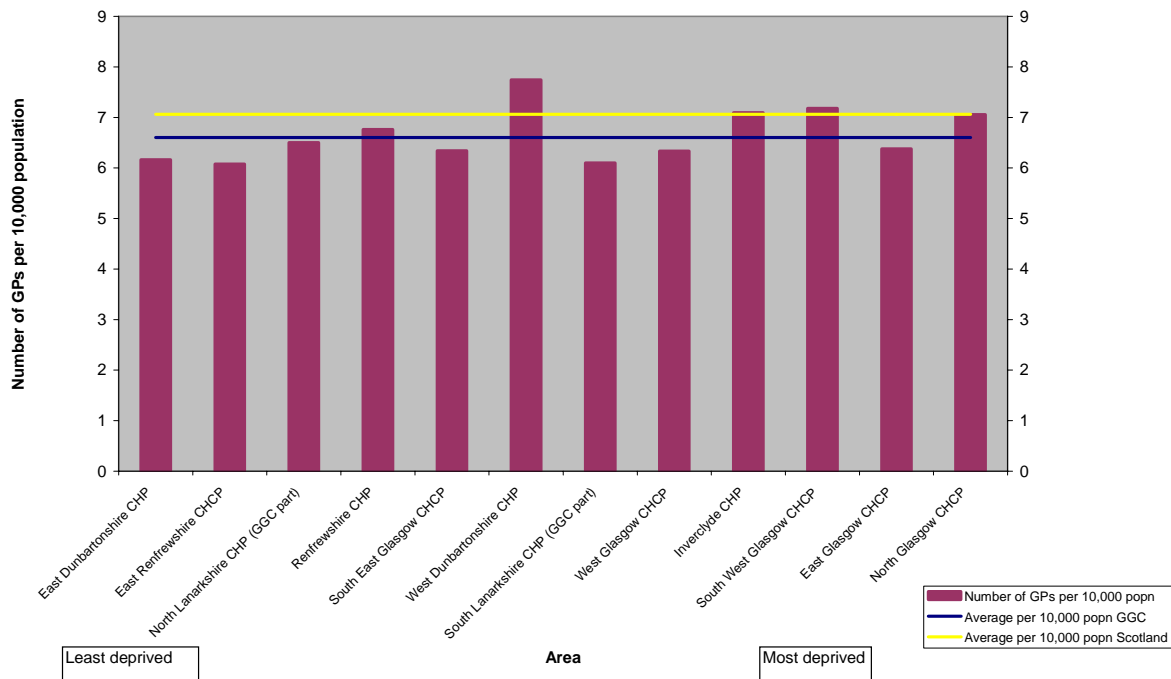
Sources; 1- Family Health Services (medical), 2-Practice Nurse advisors office, 3- Oral Health Directorate, 4- The Pharmacy and prescribing support unit, 5- Human Resources dept extract from payroll March 2007

CHCP	General Practices (number of practices ¹) (GPs ¹)		Practice Nurses ²	General Dental services ³	Community Dental Services ³ (centres) (dentists)		Community pharmacies ⁴ (number of premises)	All community nurses ⁵	Allied Health Professionals ⁵
East Dunbartonshire CHP	17	63	40	67	2	2	24	107	30
East Glasgow CHCP	35	97	56	57	4	8	39	247	83
East Renfrewshire CHCP	16	52	35	51	1	1	20	97	26
Inverclyde CHP	16	62	32	35	5	7	19	179	46
North Glasgow CHCP	19	60	42	36	3	9	25	182	70
North Lanarkshire CHP (pt)	4	12	unknown	13	0	0	4	16	0
Renfrewshire CHP	30	120	unknown	102	10	8	43	238	101
South East Glasgow CHCP	29	86	52	80	3	5	28	223	71
South Lanarkshire CHP (pt)	13	33	22	25	1	1	14	74	21
South West Glasgow CHCP	27	84	55	54	2	3	28	182	41
West Dunbartonshire CHP	20	76	28	36	2	1	21	255	80
West Glasgow CHCP	45	112	77	133	6	4	43	240	84

The CH(C)P areas in Greater Glasgow & Clyde cover populations of different sizes (see **Table 1.1**) and this will account for much of the difference in workforce numbers between different areas, along with historical and organisational reasons. The table above simply summarises the total numbers of staff for each area and does not allow us to explore which CH(C)Ps have the highest numbers of primary care staff relative to the size of their populations. In the figures below we show the number of professionals per 10,000 practice based population in order to take account of the different population sizes of the CH(C)Ps. **Figure 1.8** shows the number of general practitioners providing care per 10,000 population by CH(C)P.

Figure 1.8: Number of GPs per 10,000 population, April 2007

Source: Numbers of GPs provided by Family Health Services (medical) NHS GGC, total number of GPs in Scotland provided by ISD 2006. Denominator is the number of people registered with practices by CH(C)P area as at 30th September 2006, ISD website.



The figure shows a fairly even distribution of general practitioners across the CH(C)Ps. However, this is only a comparison of the total numbers of doctors. They may not be working on a full time basis. This situation has already been highlighted to us by West Dunbartonshire CHP, where traditionally GPs carry out sessional work in the local hospital. It may be that this is why West Dunbartonshire appears to have a higher number of GPs per 10,000 population than do other areas.

Information about WTE general practitioners has not been collected since 2004 when the new GMS contract was introduced. The figure below cannot be directly compared with the headcount information in **Figure 1.8** but WTE provides a better indication of the size of our general practitioner workforce. In this figure too, West Dunbartonshire had the highest number of WTE general practitioners.

Figure 1.9: Whole time equivalent number of GPs per 10,000 population, 2004

Source: Primary Care Observatory research team, Glasgow University. Denominator is the number of people registered with practices by CH(C)P area as at 30th September 2006, ISD website.

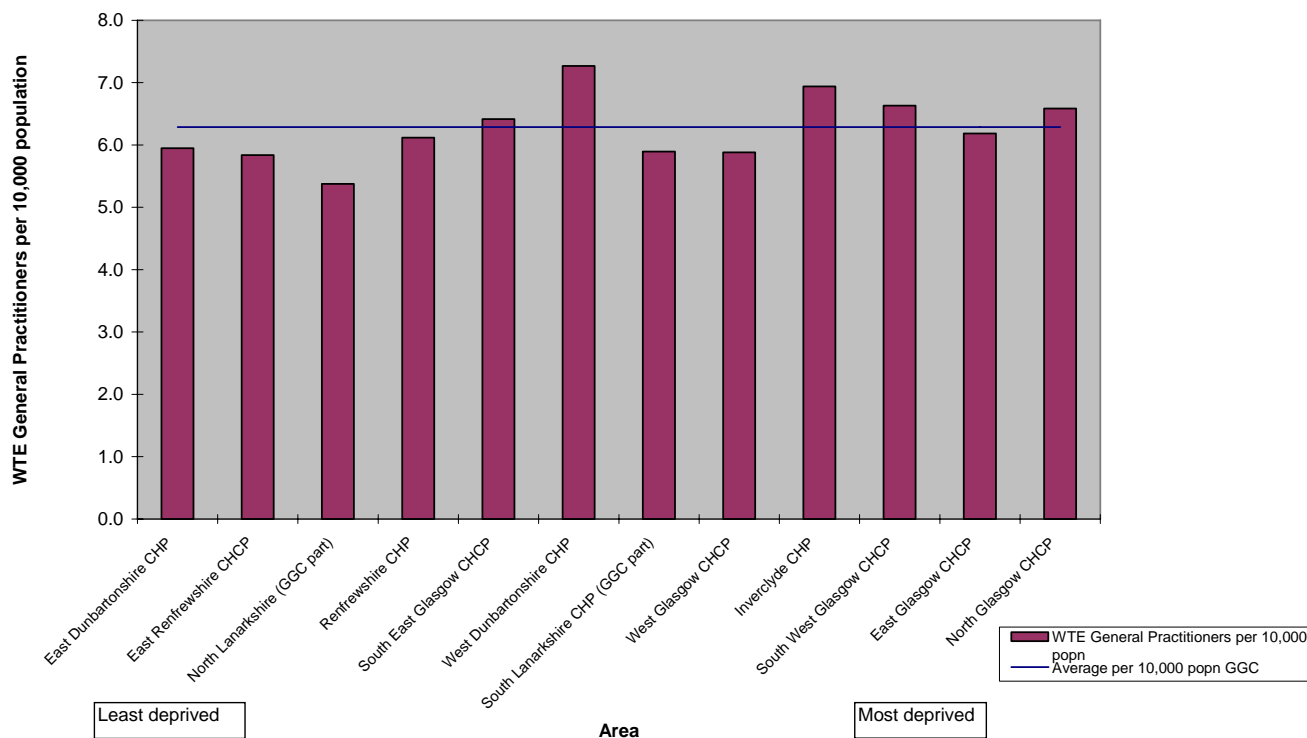
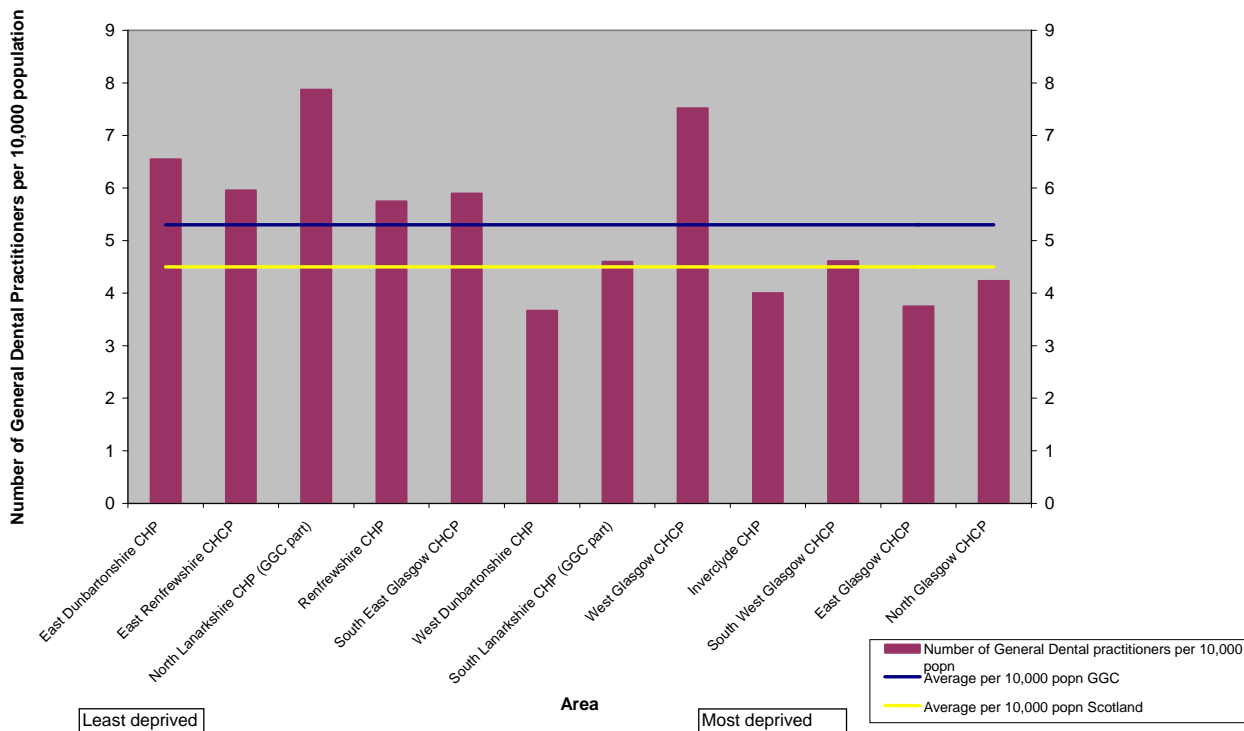


Figure 1.10, shows the number of dentists registered to provide NHS services per 10,000 population. Some dentists provide services in more than one CH(C)P area and when this happens they have been counted in each of the areas where they have a surgery.

Figure 1.10: Number of Dentists registered to provide NHS services per 10,000 population, May 2007

Source: Primary Care Dental Services, Oral Health Directorate, NHS GGC. Total number of GDS practitioners ISD 2006. Denominator is the number of people registered with practices by CH(C)P area as at 30th September 2006, ISD website.

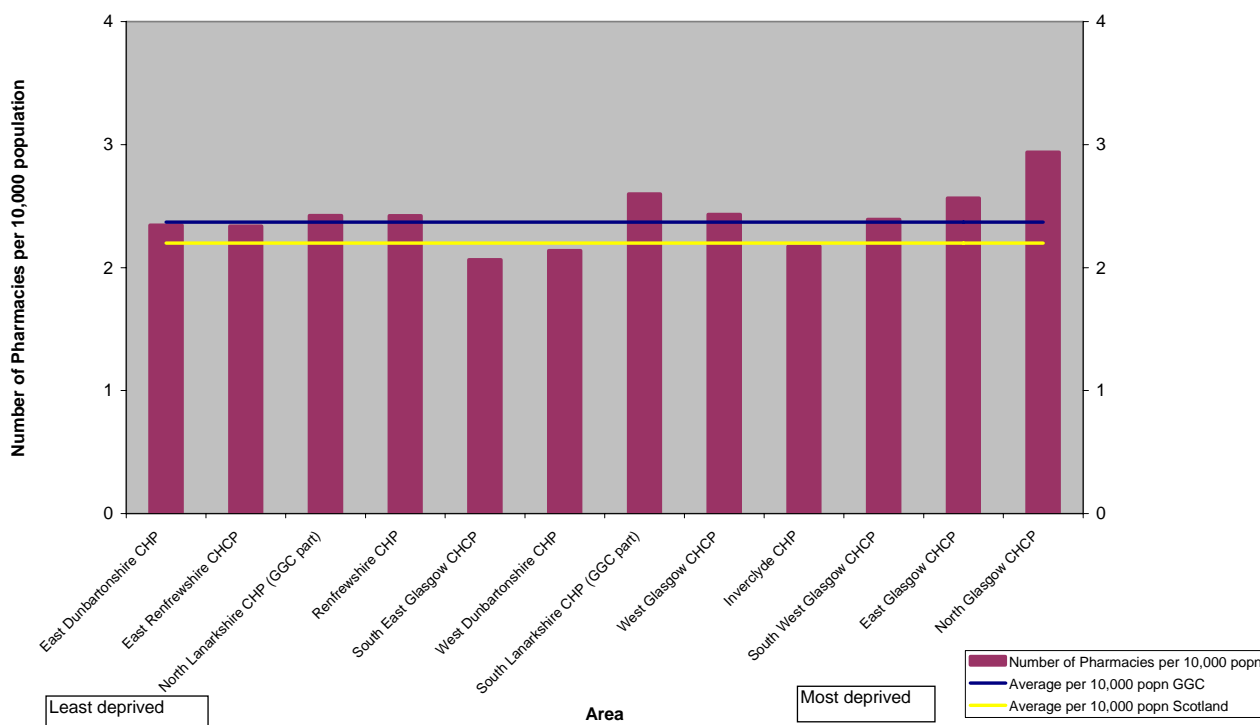


This figure shows that there are many more dental practitioners available to provide NHS care in CH(C)Ps serving less deprived populations. The West CHCP includes staff working within the dental hospital, which may explain why it appears to have a very high level of dental provision.

Figure 1.11, shows how many community pharmacies are provided by each CH(C)P per 10,000 population.

Figure 1.11: Number of community pharmacies per 10,000 population, May 2007

Source: Pharmacy and prescribing support unit, Queens Park House. Total number community pharmacies open in Scotland, ISD 2006. Denominator is the number of people registered with practices by CH(C)P area as at 30th September 2006, ISD website.



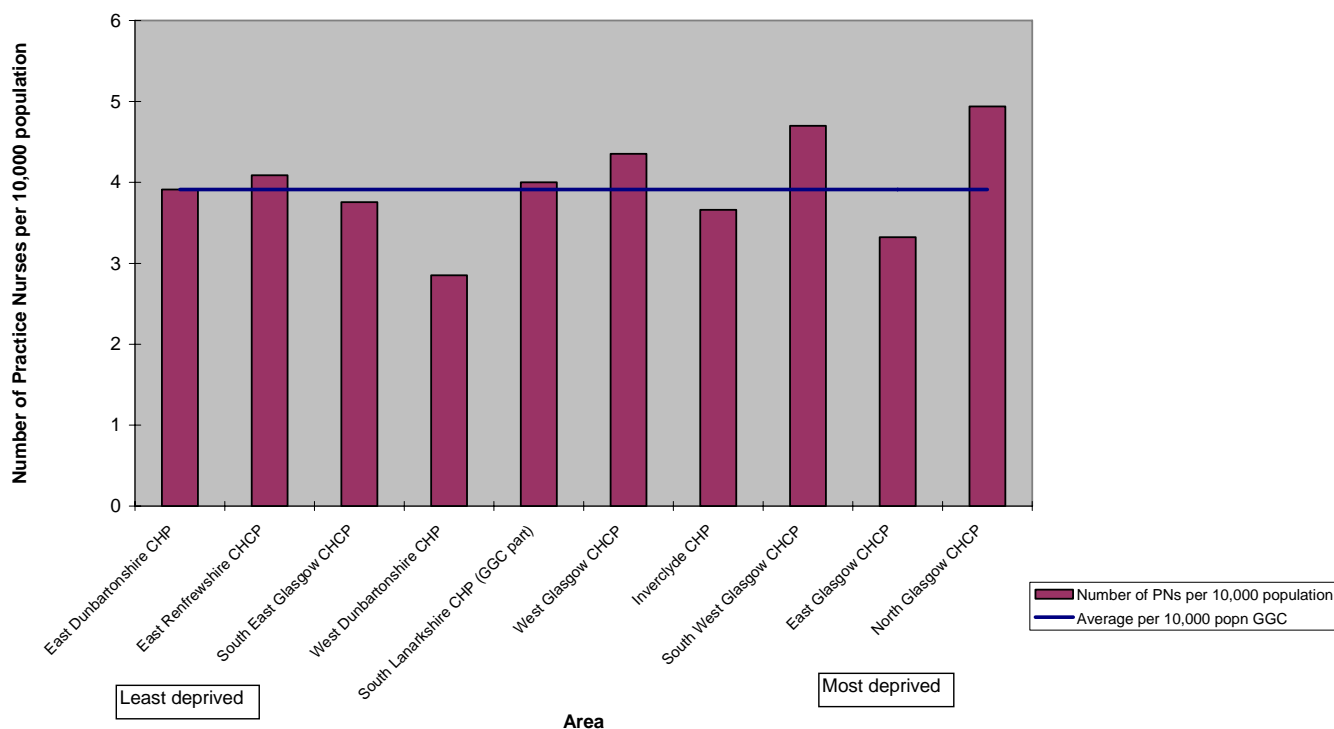
This figure shows that the provision of community pharmacies is relatively flat across CH(C)Ps. However, there is a slightly increased level of provision in the North Glasgow CH(C)P and across Glasgow the provision is a little higher than the average provision in the rest of Scotland.

Until 2004 information was collected centrally about the number of practice nurses working in general practices. Unfortunately because of contractual changes this information is no longer collected centrally. The practice nurse advisor's office in NHS GGC has created a list of those nurses currently known to be working in each of the CH(C)P areas for administrative purposes. This list may contain inaccuracies because it may take some time before the office is notified when a nurse has left their post. In some areas information is very patchy. No specific information about practice nurse numbers is available from Renfrewshire CHP.

Figure 1.12 below describes the number of practice nurses available per 10, 000 population in our CH(C)P areas.

Figure 1.12: Number of Practice Nurses per 10,000 population, July 2007

Source: Practice Nurse Advisors office, Family Medical Services. No data available for Renfrewshire. Denominator is the number of people registered with practices by CH(C)P area as at 30th September 2006, ISD website.



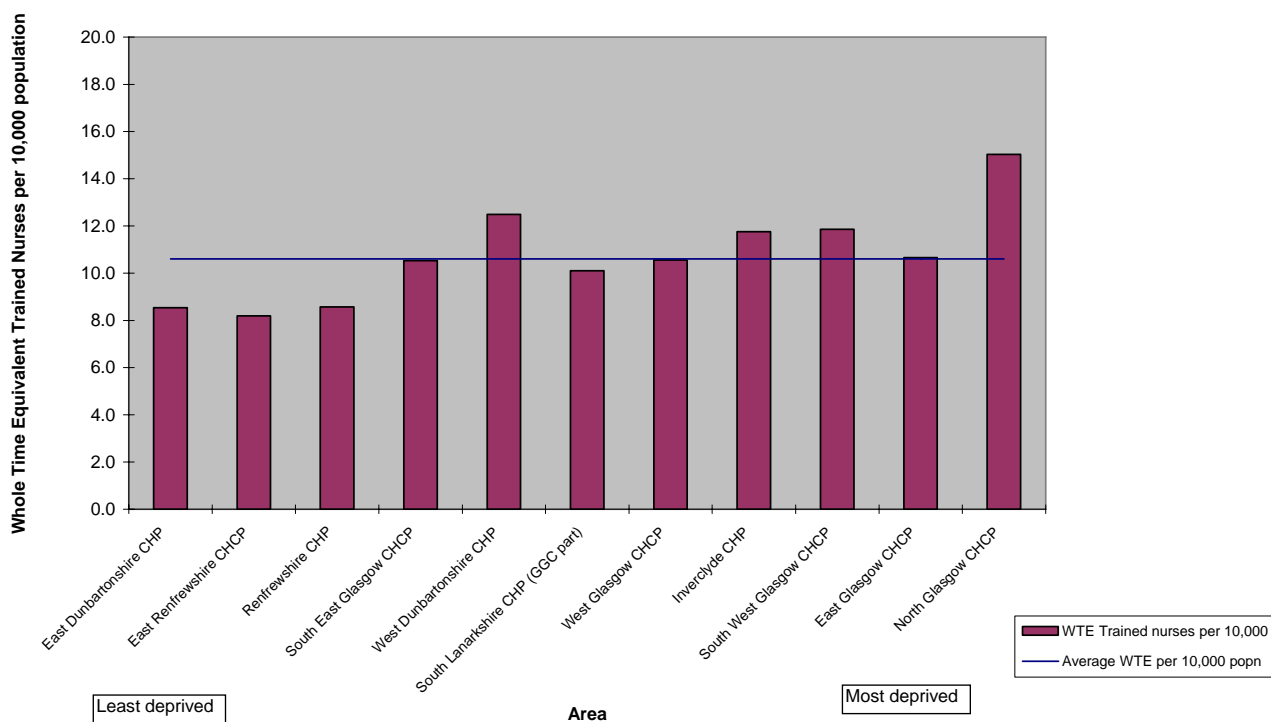
We have not been able to calculate Whole Time Equivalent (WTE) information for staff employed within general practices. We would have preferred to use this measure because we could then take into account staff who choose to work part-time. However we can compare WTE hours for staff employed by CH(C)Ps. In doing this it has not been possible to clearly identify the number of staff working in the Greater Glasgow & Clyde part of North Lanarkshire CHCP. These staff have been included in the total for East Glasgow CH(C)P in the figures below.

Figure 1.13, shows the whole time equivalent number of trained community nurses for each CH(C)P per 10,000 population.

Figure 1.13: Whole time equivalent trained community nurses per 10,000 population

Source; payroll extract March 2007.

Nursing staff employed by partnership organisations, hosted services and out of hours services have been removed from the analysis. Denominator is the number of people registered with practices by CH(C)P area as at 30th September 2006, ISD website.



This figure is based on payroll information and because of coding variations within CH(C)Ps it provides only a rough estimate of community nurses working in each area. Further investigation is needed in order to make a more robust comparison across CH(C)P areas.

More information about community nurse staffing levels, allied health professionals and administrative staff working in CH(C)Ps is available in **Appendix 2**.

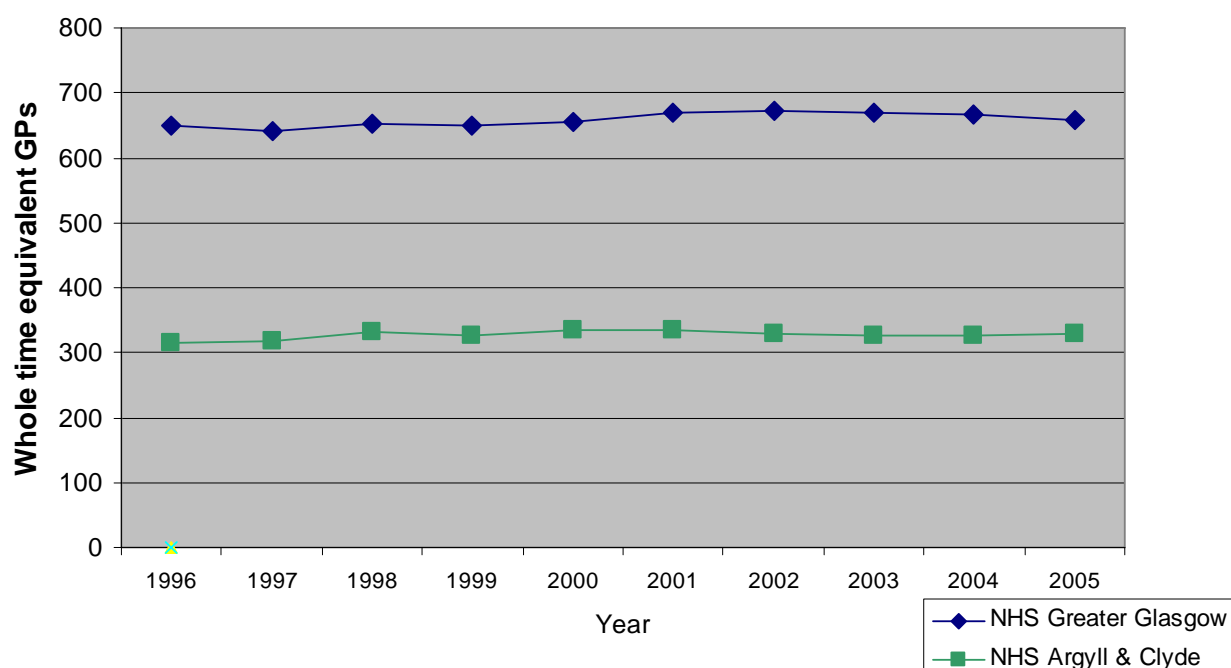
1.10 Understanding general practices

Core general practice remains at the heart of primary care services and includes practice nurses, practice administrative staff and general practitioners working closely with health visitors and district nurses. Patients are more likely to use this part of the service than any

of the other more specialist community based services. In the figures below we outline the information about practice structure in relation to numbers of general practitioners. We have the most reliable information about this professional group, although even this has reduced since the introduction of the new GP contract. The Information and Services Division (ISD) of NHS Scotland, has collected workforce data from all health board areas over a number of years.^{IX} **Figure 1.14** shows over the last ten years there has been very little change in the number of general practitioners working in primary care.

Figure 1.14: WTE general practitioners in NHS Greater Glasgow and NHS Argyll and Clyde, 1996-2005

Source: ISD Workforce statistics, 2006

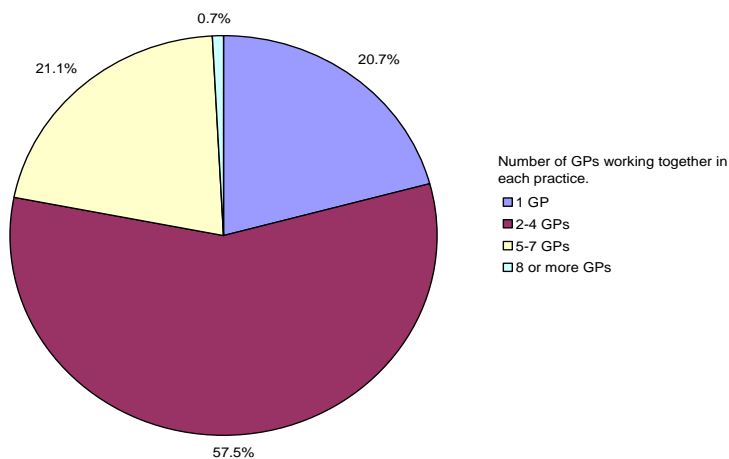


General practitioners are independent contractors and as such they can decide how many staff members to employ and also whether they want to work alone or to form larger group practices. **Figure 1.15** below is a pie chart of the total number of general practices in Greater Glasgow & Clyde, broken down by the number of GPs who are working together.

^{IX} Since 2004 no information has been collected from practices about the whole time equivalent number of staff employed in general practices. However, the team at ISD have carried out modelling to estimate the WTE number of GPs for 2005.

Figure 1.15: General practices in NHS GGC broken down by the number of GPs working together.

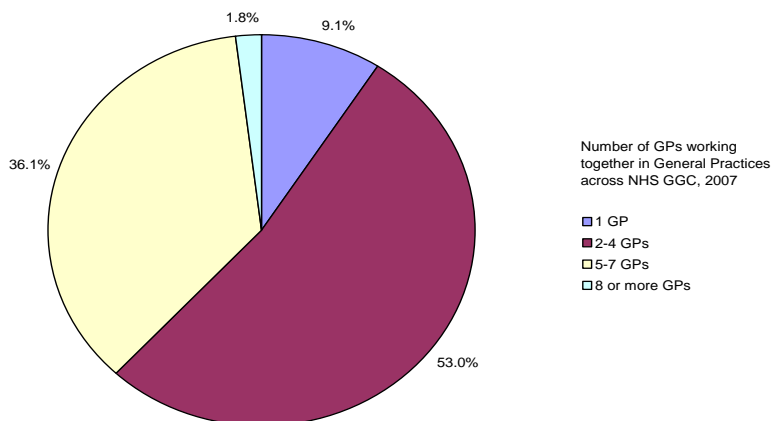
Source; Extract from GP register, Family Health Services, April 2007



The chart shows that a fifth of practices are run by single handed GPs and that over half of practices are medium-sized, involving 2-4 GPs . We have also created a pie chart that shows the proportion of the population who are cared for by these different sized practices. **Figure 1.16** shows that although a fifth of practices are run by single handed practitioners these practices actually care for only 9% of the population.

Figure 1.16: Proportion of the population cared for by practices with different numbers of GPs

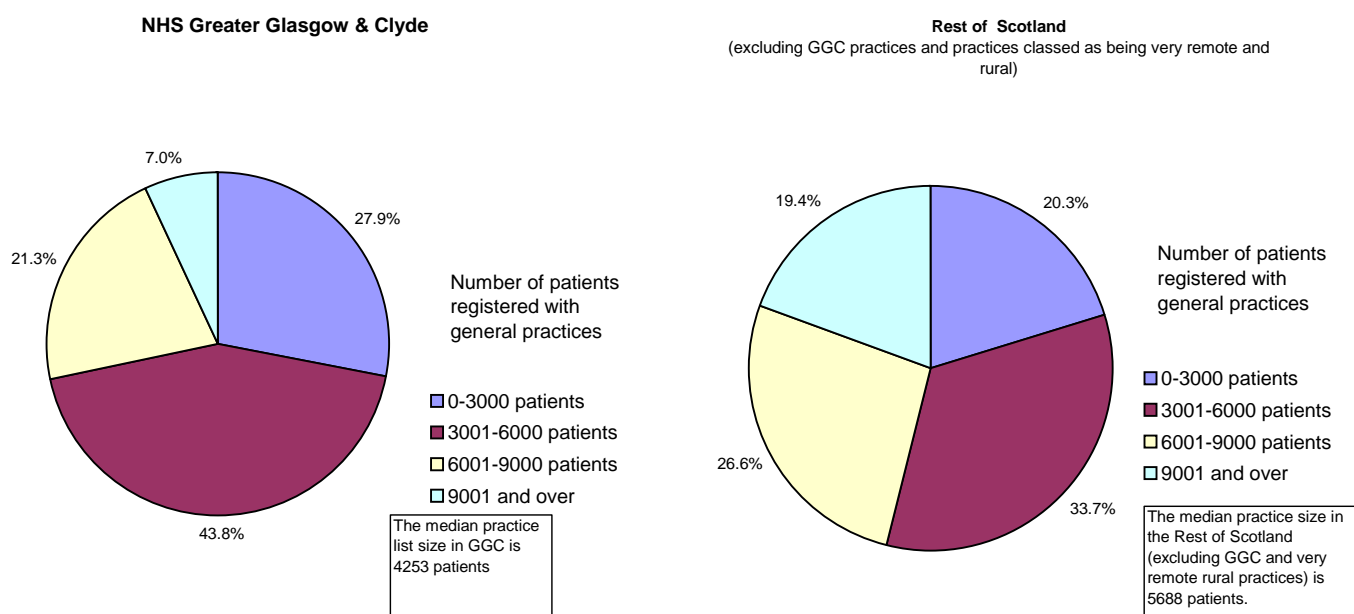
Source; Extract from GP register, Family Health Services, April 2007



The majority of people in Glasgow are cared for by relatively small practices. Well over half of the population are cared for by practices with four or less GPs. Larger practices (which comprise approximately 21% of all practices) provide care to a larger proportion of the population than might be expected (36%). We can also compare NHS GGC with practices in the rest of Scotland. The easiest way to do this is to compare practices according to their list sizes. **Figure 1.17** compares the size of patient lists in NHS GGC with those in the rest of Scotland.

Figure 1.17: Proportion of practices with different list sizes in NHS GGC and the Rest of Scotland

Source: Information and Services Division 2005/6



There is a much larger proportion of bigger practices in the rest of Scotland than in NHS GGC. Overall, the average list size of practices in NHS GGC is smaller than that in the rest of Scotland by approximately 1,500 patients.

1.11 General practitioner workforce

Across the UK over the last 10-15 years, workforce monitoring has shown a reduction in the number of GPs aged less than 40 years.⁷ Across the whole of Scotland, the proportion of GPs aged less than 40 fell from 46% to 32% between 1995 and 2005. In 2005, 40% of GPs in Scotland were aged between 40-49yrs.⁷ This pattern is also seen in other regions within the UK but it is more marked in Scotland. A Scottish report has suggested that 25%

of general practitioners will retire in the next 10-15 years.⁸ The current age profile of GPs in NHS GGC is shown in **Table 1.10**, below.

Table 1.10: Age profile of GPs in NHS GGC, September 2006

Source: ISD, September 2006

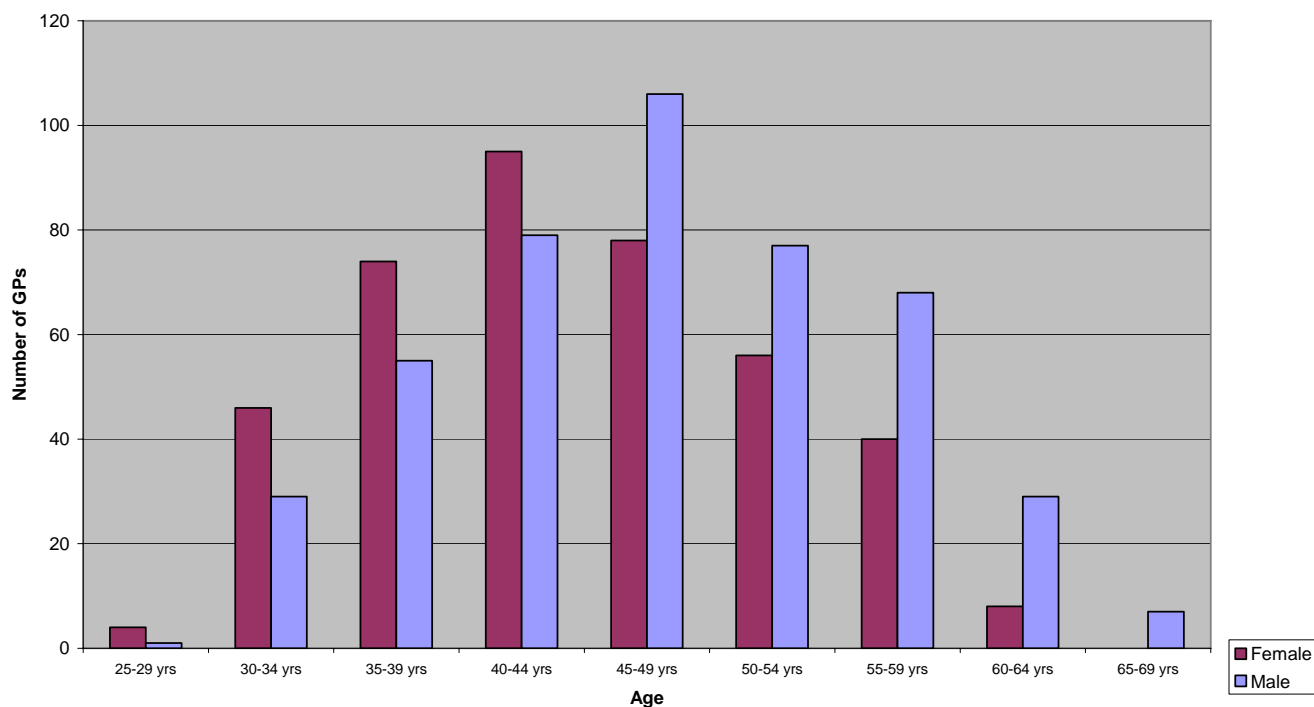
Age Group	< 30 yrs	30-39 yrs	40-49 yrs	50-59 yrs	60 plus
Number	5	204	358	241	44
Percentage	1%	24%	42%	28%	5%

Some areas, such as South West CHCP, have a much higher proportion of GPs aged over 40 years (87%). North Glasgow CHCP has the highest proportion of younger GPs, (37% aged less than 40 years). More information about the age and sex profile of the GP workforce in each CH(C)P area is available in **Appendix 3**.

Another significant change that has affected the GP workforce is that many more women are now working in practice than was the case 10-15 years ago. Over the whole of Scotland, between 1993 and 2005, the percentage of female GPs increased from 26% to 41% of the workforce. Figures from ISD show that in 2006 47% of GPs in NHS GGC were female.

Figure 1.18, below summarises the age and sex profile of GPs in NHS GGC. The graph shows clearly that the majority of younger GPs are female and the majority of older GPs are male. This overall pattern is also reflected in each of the CH(C)Ps in Greater Glasgow & Clyde.

Figure 1.18: Number of General Practitioners in NHS GGC, by age group and sex
Source: ISD, September 2006



In England and Wales, information is still collected about the number of GPs working full time or part-time. This is not available in Scotland or Northern Ireland now. The RCGP estimates that approximately a quarter of all GPs work part-time, and that most of those are female (74%). As the proportion of female GPs is increasing this will affect the numbers of doctors choosing to work less than full-time in future.

1.12 Discussion

Using the CHI database we can describe practice populations in detail. Analysis shows that in some CH(C)P areas there are substantial differences between the size of the resident population and practice based populations. It also allows us to describe differences in demography across CH(C)P areas. The different demographic profiles of CH(C)P areas will influence local priorities. At present it is difficult to describe those people being cared for by other community based services.

We need better information about the total numbers of staff working in primary care and community based services. At present this is difficult because of differences in coding in different CH(C)Ps. Recent changes to the GP contract mean that we no longer collect information about whole time equivalent staffing figures from general practices. The end result of both of these information gaps is that we do not have good information about the number of staff providing primary health care services within CH(C)Ps.

Routinely available information is collected about the total number of general practitioners and their average age. There has been relatively little change in the total number of GPs working in NHS GGC over recent years but the proportion of younger doctors working in general practice has fallen. Further work is needed to understand how primary care services should best respond to this workforce challenge.

We know relatively little about other primary care services where arrangements are complex and recording systems are less well developed.

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2 What does primary care do?

Key points in this section

- There is a positive relationship between older patient age and higher contact rates with practice staff. For most age groups, increasing levels of deprivation are also associated with higher patient contact rates.
- There is substantial variation in hospital emergency admission rates and outpatient referral rates by practice even after taking into account sociodemographic differences.

Introduction

Primary care comprises a complex mesh of organisations, including general practices. Although individual services collect information about how many patients they see, in most cases this is not collated across services to provide an overall picture of activity. However, we are able to access some information about general practices relatively easily. In part, this is because practices are paid for carrying out some activities, such as immunisation and cervical screening. Also, it is because general practices are a major point of access to other parts of the health care system, and so practice codes are recorded on routine hospital admission/referral forms.

2.1 Activity in general practices across Scotland

The Information and Services Division of NHS Scotland collects information on primary care activity from a sample of representative practices across Scotland (44 practices currently contribute to this sample). For these practices data are collected from all face to face contacts with any member of the practice team including district nurses, practice nurses, health visitors and doctors. This allows ISD to estimate for the whole of Scotland, the face to face contact rates patients have with the primary care team. Whilst it does not include all types of patient related activity (for example, telephone advice given to patients will not be included in these figures) it provides us with a way of estimating nationally just

how much work takes place in general practices across the country. The information is not able to tell us how short or long individual consultations are. The Practice Team Information (PTI) sample is too small to contain a representative sub-sample from each health board area. Although between 11 and 13 practices from NHS GGC contribute to the data collection, these practices may not fully represent the primary care workload within this Health Board area and so should not be looked at in isolation.

Table 2.1 shows the number of expected contacts for each member of the practice team in Scotland and the average number of contacts each would have per patient over the course of a year.

Table 2.1: Proportion of population¹ seen face to face by practice team in the year, and median number of contacts per person² 2005/6^p

Source: Practice Team Information (PTI), ISD Scotland

Discipline	Estimated patients seen for Scotland [†]	Percentage of all patients	Median number of contacts per patient
General Practitioner	4,217,700	79%	3
Practice Nurse	2,474,600	46%	2
District Nurse	403,050	8%	1
Health Visitor	430,100	8%	2
All disciplines	4,721,150	88%	4

¹ Population source: Community Health Index (CHI) record, as at 30 September 2005.

² Based on 44 PTI practices that submitted PTI data for the year ending 31 March 2006. Figures are standardised for age, gender and deprivation.

[†] Estimated figures are rounded to the nearest fifty.

^p Provisional. A small number of practices are still submitting community nursing (district nurse and health visitor) data for this time period. These missing data are estimated at around 10% of all community nursing contacts.

Note: Following a substantial review of PTI data and subsequent revisions to the methodology for all PTI analyses, direct comparisons with figures produced prior to 27th March 2007 are not valid. Revised, comparable figures for 2003/04 and 2004/05 have been produced. See the Note of Revisions for further information.

The PTI information can also be used to calculate estimates of patient contact rates for particular age groups and SIMD quintile within the Scottish population. The analysis presented below is based on data collected in 2005 and 2006.

Figure 2.1, shows the estimated contact rate per 1,000 population for males in Scotland. The estimated contact rates have been calculated by age group and for each SIMD quintile of deprivation. These rates relate to the whole practice team (i.e. they include face to face contacts with district nurses, GPs, practice nurses and health visitors). **Figure 2.2**, shows the equivalent graph for females in Scotland.

Both of these figures show that we would expect an increased contact rate with increasing age, and with increasing levels of deprivation. However, the pattern is not consistent across all age groups. It appears that people who are over 75 years of age and living in more deprived areas are less likely to consult with the practice team than those living in less deprived areas.

It is not clear why the pattern of increased contact rates associated with higher SIMD levels changes in the over 75 age group. Perhaps this part of the population is less well represented in the PTI sample. This might happen for example if more patients in SIMD 5 are cared for in a nursing home, and receive primary care services from a different GP surgery. Further investigation of contact rates in this age group is necessary before any firm conclusions can be made.

Figure 2.1: Estimated PTI contact rates for males, by SIMD quintile 2004; year ending 31st March 2006.

Source: ISD Practice Team Information.

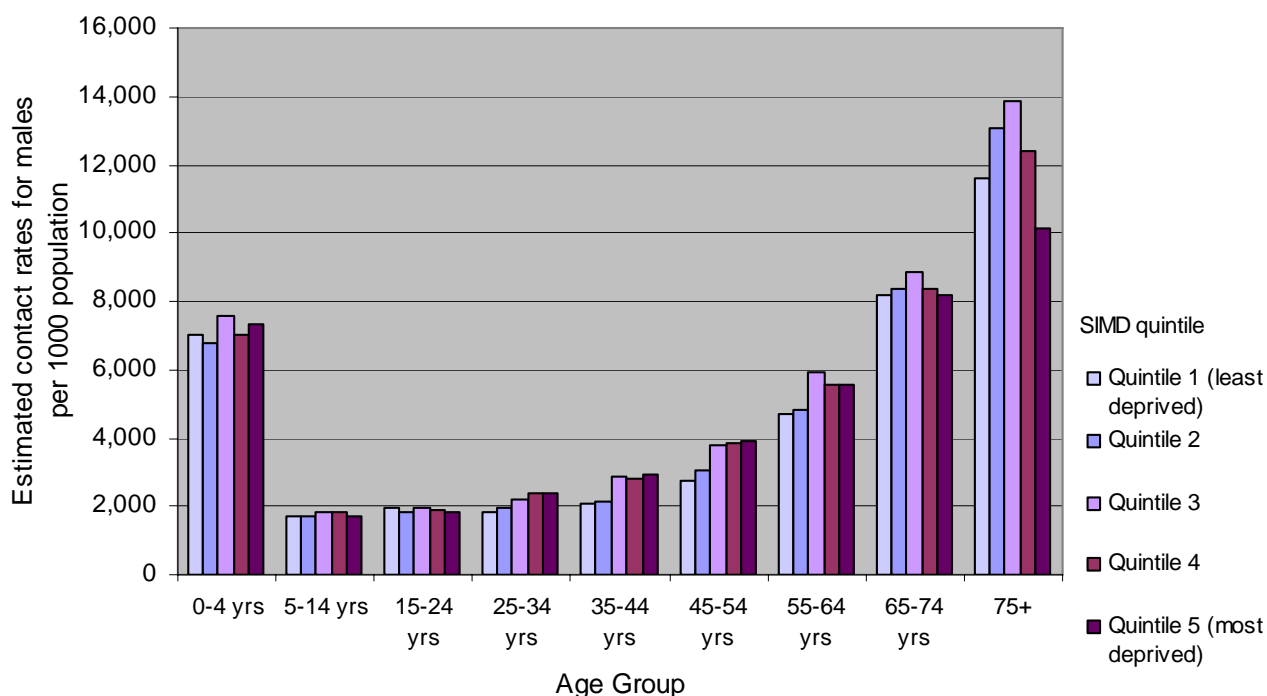


Table 2.2: Estimated PTI contact rates, Males, per 1000 population; year ending March 31st 2006

Source: ISD Practice Team Information.

Males	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+
Quintile 1	7,004	1,702	1,930	1,847	2,077	2,748	4,702	8,169	11,628
Quintile 2	6,790	1,683	1,816	1,963	2,150	3,028	4,843	8,344	13,041
Quintile 3	7,566	1,832	1,961	2,199	2,889	3,797	5,898	8,865	13,860
Quintile 4	7,014	1,813	1,912	2,386	2,808	3,840	5,546	8,393	12,377
Quintile 5	7,354	1,722	1,850	2,374	2,915	3,893	5,565	8,201	10,131
Ratio Quintile 5:1	1.05	1.01	0.96	1.29	1.40	1.42	1.18	1.00	0.87

Figure 2.2: Estimated number of PTI contacts, Females, by SIMD quintile 2004; year ending 31st March 2006/

Source: ISD Practice Team Information.

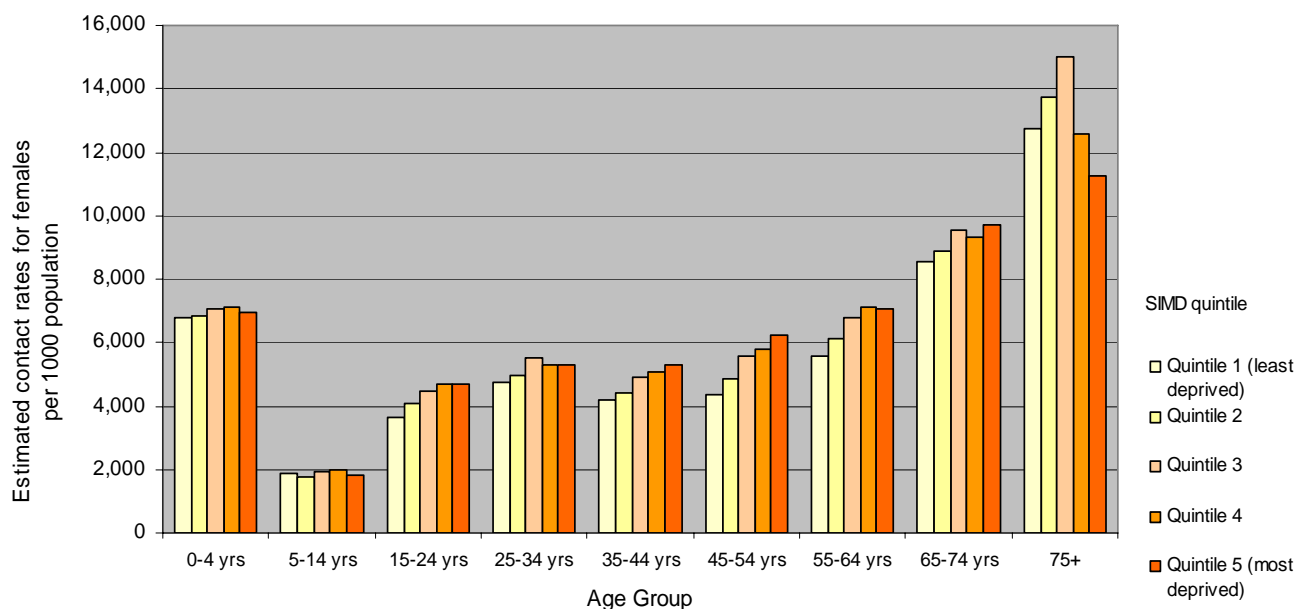


Table 2.3: Estimated PTI contact rates, Females, per 1000 population; year ending March 31st 2006.

Source: ISD Practice Team Information.

Females	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+
Quintile 1	6,789	1,854	3,665	4,735	4,184	4,376	5,565	8,561	12,729
Quintile 2	6,848	1,761	4,098	4,983	4,407	4,836	6,142	8,902	13,752
Quintile 3	7,046	1,940	4,445	5,495	4,927	5,545	6,800	9,538	15,030
Quintile 4	7,105	1,976	4,711	5,310	5,083	5,778	7,104	9,336	12,585
Quintile 5	6,978	1,799	4,691	5,278	5,290	6,212	7,061	9,710	11,243
Ratio Quintile 5:1	1.03	0.97	1.28	1.11	1.26	1.42	1.27	1.13	0.88

The PTI information collected by the same sample of practices can also be analysed according to professional group.

The next two figures show the estimated contact rates for General Practitioners only.

Figure 2.3: Estimated contact rates with General Practitioners, Males, by SIMD quintile 2004; year ending 31st March 2006.

Source: ISD Practice Team Information.

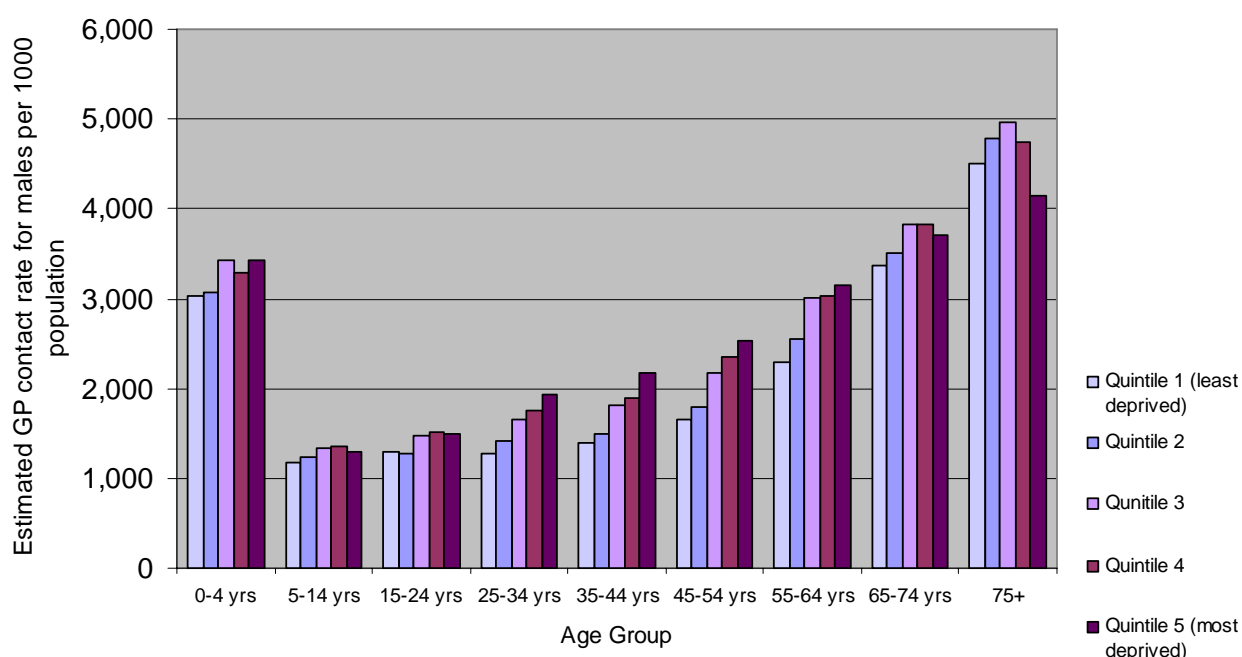


Table 2.4: Estimated GP contact rates, Males, per 1000 population; year ending March 31st 2006.

Source: ISD Practice Team Information.

Males	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+
Quintile 1	3,031	1,181	1,286	1,284	1,400	1,651	2,297	3,376	4,513
Quintile 2	3,066	1,228	1,285	1,410	1,486	1,793	2,543	3,510	4,787
Quintile 3	3,427	1,329	1,481	1,649	1,808	2,181	3,001	3,822	4,959
Quintile 4	3,281	1,353	1,509	1,760	1,902	2,360	3,020	3,830	4,743
Quintile 5	3,421	1,288	1,486	1,932	2,175	2,525	3,151	3,718	4,154
Ratio Quintile 5:1	1.13	1.09	1.16	1.51	1.55	1.53	1.37	1.10	0.92

Figure 2.4: Estimated contact rates with General Practitioners, Females, by SIMD quintile 2004; year ending 31st March 2006

Source: ISD Practice Team Information.

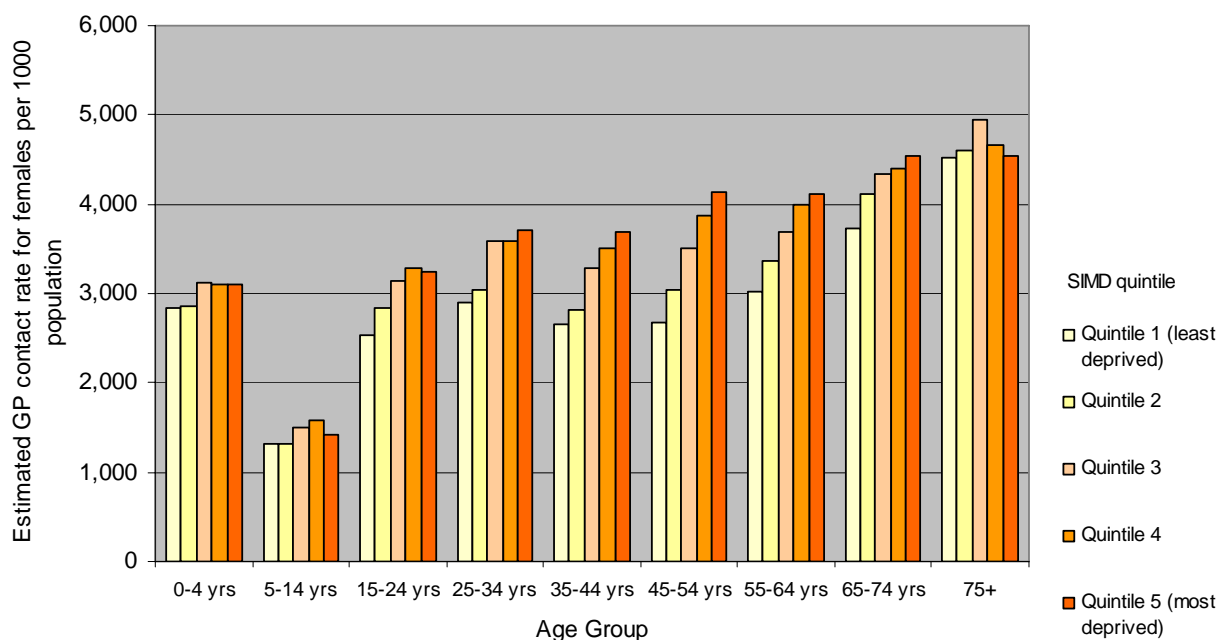


Table 2.5: Estimated GP contact rates, Females per 1000 population; year ending March 31st 2006.

Source: ISD Practice Team Information.

Females	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+
Quintile 1	2,830	1,318	2,529	2,889	2,663	2,666	3,018	3,734	4,530
Quintile 2	2,853	1,314	2,844	3,049	2,818	3,042	3,355	4,119	4,597
Quintile 3	3,112	1,493	3,136	3,588	3,292	3,502	3,685	4,343	4,948
Quintile 4	3,101	1,577	3,290	3,580	3,517	3,864	3,997	4,397	4,665
Quintile 5	3,101	1,423	3,253	3,704	3,699	4,141	4,123	4,543	4,538
Ratio Quintile 5:1	1.10	1.08	1.29	1.28	1.39	1.55	1.37	1.22	1.00

The GP estimated contact rates follow the same pattern as those for the whole practice team (**Figure 2.1, Figure 2.2**). There is a strong relationship between higher contact rates and age. There is also a strong relationship between higher contact rates and increasing SIMD quintiles in most age groups, except in the over 75 age group. Fitting in higher numbers of consultations with approximately the same number of practice staff will result in reduced consultation time with individual patients in the more deprived areas.

We calculated the *ratio* of the estimated contact rates in SIMD quintiles 1 and 5 for each age group for both the whole practice team and for general practitioners

alone (**Table 2.6**). We then subtracted the ratios for the whole practice team, at each age group, from the ratios for GP contact rates. For both males and females and in every age group the ratios for GP contact rates are slightly higher than PTI contact rates. This suggests that GPs in Scotland are a little more likely to have contact with patients from SIMD quintile 5 than are other members of the practice.

It is well recognised that people who live in more deprived areas are more likely to suffer poor health and may have more complex health needs. GP contact rates are higher with increasing levels of deprivation but not as much as might be expected given mortality and morbidity data (see **Figure 3.5**).

Table 2.6: Comparison of PTI and GP contact rates by SIMD, year ending March 31st 2006.

Source: ISD Practice Team Information

Males	Ratio PTI	Ratio GP	Difference		Females	Ratio PTI	Ratio GP	Difference
0-4 yrs	1.05	1.13	0.08		0-4 yrs	1.03	1.10	0.07
5-14 yrs	1.01	1.09	0.08		5-14 yrs	0.97	1.08	0.11
15-24 yrs	0.96	1.16	0.20		15-24 yrs	1.28	1.29	0.01
25-34 yrs	1.29	1.51	0.22		25-34 yrs	1.11	1.28	0.17
35-44 yrs	1.40	1.55	0.15		35-44 yrs	1.26	1.39	0.12
45-54 yrs	1.42	1.53	0.11		45-54 yrs	1.42	1.55	0.13
55-64 yrs	1.18	1.37	0.19		55-64 yrs	1.27	1.37	0.10
65-74 yrs	1.00	1.10	0.10		65-74 yrs	1.13	1.22	0.08
75+	0.87	0.92	0.05		75+	0.88	1.00	0.12

2.2 General practices in Greater Glasgow & Clyde

A typical practice in Greater Glasgow & Clyde will provide care for approximately 4250 patients. We have selected three practices caring for populations of approximately this size, but with very different socio-economic profiles, to explore differences between them. The tables below contrast the age profile of their registered patients, workloads, selected conditions and prescribing patterns. **Figure 2.5** and **Table 2.7** below contrast the age profiles of a practice from an area with very little deprivation (Bearsden), one with a mixed socio-economic profile (Renfrewshire), and one with a more deprived profile (North Glasgow).

Figure 2.5: Comparison of three practice populations with different socio-economic profiles

Source: Primary Care Observatory, Glasgow University

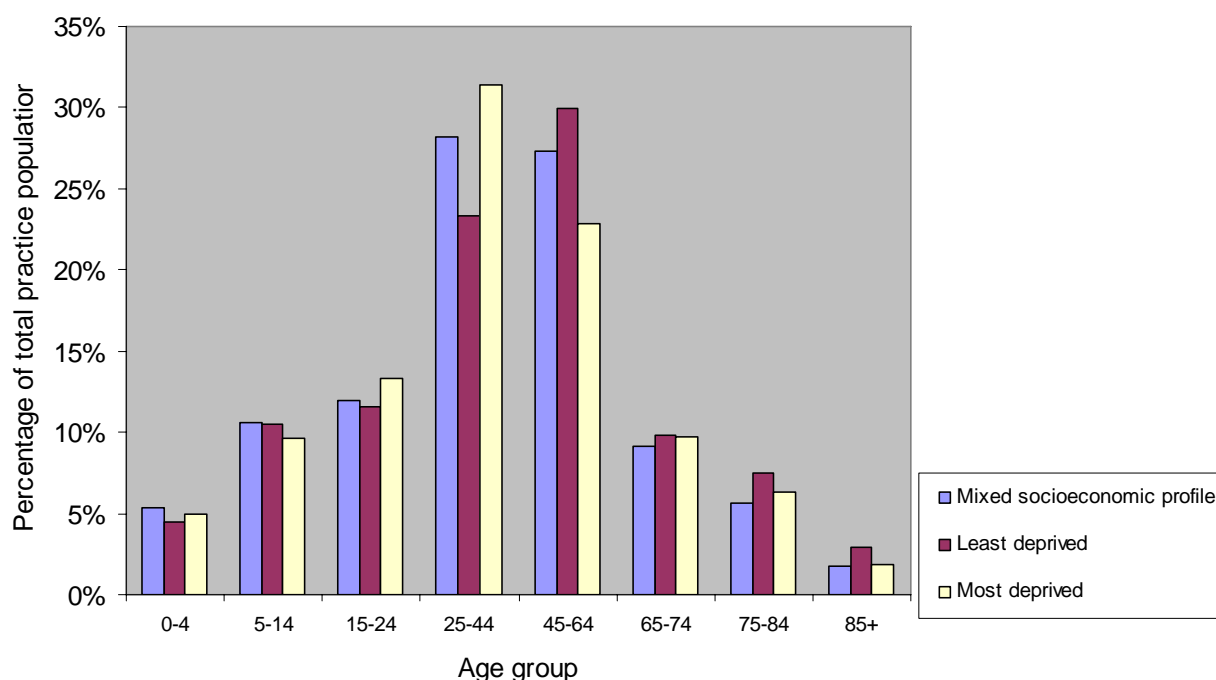


Table 2.7: Age structure of three selected practice populations in NHS GGC

Source: ISD practice population by age group January 2007

All ages (yrs)	Mixed socioeconomic profile	Least deprived	Most deprived
0-4	5%	4%	5%
5-14	11%	11%	10%
15-24	12%	12%	13%
25-44	28%	23%	31%
45-64	27%	30%	23%
65-74	9%	10%	10%
75-84	6%	7%	6%
85+	2%	3%	2%

All of these practices provide care for approximately the same number of patients. However, our North Glasgow practice looks after a higher proportion of people aged under 45 years than the other two areas. The practice in Bearsden looks after a higher proportion of older people than either of the other two areas. These differences will impact on the demand and need for services. At a population level, as people get older, their need for health care services increases.

Each of these practices looks after people from a variety of socio-economic circumstances but the mix varies considerably between areas. In the Renfrewshire practice, approximately 36% of the practice population come from the most deprived SIMD population quintile. This is in stark contrast to the practice in North Glasgow where 85% of the practice population live in the most deprived population quintile. In Bearsden the practice population comes from a more affluent area, with 83% of the population living in the least deprived quintile. It is well recognised in the literature that people living in more deprived circumstances are more likely to suffer ill health and to have shorter life expectancy. In more affluent areas there is greater demand for preventive services compared to deprived areas. However people who do not attend for preventive care will not be included in health service activity information. Health services in deprived areas may have to work differently to increase uptake of preventive services to ensure their population benefits.

2.3 Face to face contacts in general practice

We have selected these three practices working with very different populations simply to illustrate the different workload that might be experienced by different practices. It should be emphasised that they may not be representative of all practices in NHS GGC.

In order to compare these practices we first adjusted the practice list sizes to take account of small differences in practice size. We then applied the age sex and SIMD specific contact rates from the national PTI sample to our selected practices patient populations. This allowed us to estimate the number of whole practice team (PTI) and GP contacts that might be expected in each of these different practices. The results are summarised in **Table 2.8** below.

Table 2.8: Number of estimated face to face contacts in selected practices

Source: ISD, practice team information, year ending March 2006

Practice profile	Estimated PTI contacts in 1 year	Estimated number in 1 week	Estimated GP contacts in 1 year	Estimated GP contacts in 1 week
Least deprived	21,418	412	10,811	208
Mixed socioeconomic profile	21,888	421	12,101	233
Most deprived	22,020	423	12,719	245

The table shows for these particular practices that the practice covering a more deprived population would be expected to have a higher face to face contact rate with patients than the other two practices.

When we applied the PTI information to the rest of Scotland we discovered that practices in other areas have lower expected contact rates than any of our NHS GGC practices. A typical practice caring for an affluent population with 4253 patients in Scotland would have 381 face to face contacts with these patients in one week. A typical practice caring for a more deprived population in Scotland would have 394 contacts with their patients in one week. These differences between GGC and the rest of Scotland might be expected because of the higher levels of deprivation affecting the population in NHS GGC.

2.4 Patients' problems in selected practices

The PTI team in ISD has calculated expected contact rates for different medical conditions broken down by SIMD quintile. The national sample is too small to allow the PTI team to calculate contact rates for specific medical conditions by age and sex in addition to SIMD. We applied these expected rates contact rates by SIMD quintile to our selected practices. This allowed us to estimate the expected number of face to face contacts for particular conditions in one week. For the purposes of this comparison we had to assume that all practices had the same age and sex profile. The results are summarised in **Table 2.9**.

Table 2.9: Number of estimated face to face contacts for selected medical conditions in 1 week

Source: ISD, practice team information, year ending March 2006

Practice profile	Cardiovascular Disease	Respiratory Disease	Mental Health	Chronic Obstructive Pulmonary Disease	All 4 conditions
Least deprived	24	17	16	2	60
Mixed socioeconomic profile	26	22	28	4	80
Most deprived	25	24	35	5	88

Patients from our more deprived practice area are more than twice as likely to attend with mental health problems as those from the least deprived area. This estimate agrees with analysis of mental health problems taken from the Scottish Health Survey. **Table 2.10** shows the estimated percentage of the population with mental health problems for different deciles of deprivation.

Table 2.10: Estimated number of people with mental health problems, Scottish Health Survey, by decile of deprivation (mSIMD)^x

Source: Primary Care Observatory, analysis from Scottish Health Surveys

Decile of deprivation	Numbers with Mental Health Problems	Total Population	Percentage with Mental Health Problems
1 (least deprived)	62,595	533,244	11.7%
2	66,242	536,980	12.3%
3	67,995	528,831	12.9%
4	71,840	536,819	13.4%
5	74,186	535,847	13.8%
6	76,592	531,945	14.4%
7	80,177	536,508	14.9%
8	82,530	526,985	15.7%
9	88,194	539,087	16.4%
10 (most deprived)	99,390	523,840	19.0%
Total	769,741	5,330,086	14.4%

Numbers calculated from 1995,98 & 03 SHS using age, sex and deprivation as predictors.

People from the more deprived practice area are also more likely to attend with chronic obstructive pulmonary disease (COPD). This condition is strongly associated with many years of smoking.

For the other conditions we examined, we saw very little variation between estimated attendances at our practices. Patients with epilepsy or dementia were

^x mSIMD is a modified version of the Scottish Index of Multiple Deprivation (SIMD). It was developed by the Primary Care Observatory team and removes health related measures from the SIMD to avoid confusing the relationship between population deprivation and health outcomes.

equally likely to be seen no matter what the demographic differences between practices.

2.5 Prescribing for different populations

The budget for all primary care services in NHS GGC is now held by CH(C)Ps and prescribing uses a large proportion of the total monies available.

Table 2.11 below, summarises the overall CH(C)P budget for the financial year 2006/7. General practice budgets are coded as Family Health Services (FHS) in the table. This budget code also includes general dental services, general ophthalmic services and pharmaceutical services.

Table 2.11: Budget summary for NHS GGC Community Health and Care Partnerships 2006/7^{XI}

Source: Finance Department, NHS GGC

CHCPs BUDGETS 2006/07	Total £'000	%
Mental Health – Adult Community	25,378	3.4%
Addictions	4,593	0.6%
Learning Disabilities	4,619	0.6%
Health & Community Care	78,843	10.5%
Children & Families	49,365	6.6%
Planning & Health Improvements	13,738	1.8%
Family Health Services (FHS)	272,252	36.1%
Prescribing	237,264	31.5%
Accommodation, Executive, A&C & Other	48,718	6.5%
Hosted Services	18,557	2.5%
2006/07 Budget by Care Group (as at 31/03/07)	753,328	100.0%

- ^{XI}
1. Health and Community Care: includes district nursing staff, podiatry, dietetics, physiotherapy, elderly mental illness, older peoples services, other community nurses and diabetes services.
 2. Children and Families: includes specialist childrens services, health visiting, school nurses and adolescent services
 3. Planning and Health Improvement: includes health promotion staff, oral health action teams, smoking cessation services and public health practitioners
 4. Family Health Services: includes all general medical services, general dental services, general ophthalmic services and pharmaceutical services
 5. Prescribing: all prescriptions dispensed in the community (i.e. excludes hospital dispensing)
 6. Accommodation, Executive, A&C: this includes accommodation costs, administrative staff, clinical directors and senior managers

Prescribing costs are increasing and pose challenges for the whole organisation. Different areas will have different requirements for prescribing budgets because of variation in patterns of illness, age, sex and socio-economic status of the population. We have compared the number of items dispensed by our selected practices, to illustrate some of the challenges faced by different communities.

Table 2.12: Number of items dispensed per 1000 patients by selected practices, 2006/7

Source: PRISMS, prescribing support unit, Queens Park House

Practice profile	Antibacterials	Antidepressants	Bronchodilators	Statins
Least deprived	637	388	160	653
Mixed socioeconomic profile	759	822	426	915
Deprived practice	833	1183	500	921

The table shows that more than three times as many antidepressants and bronchodilators items were dispensed per 1000 patients by the practice covering the more deprived area compared to the practice whose population lives in the least deprived circumstances. This is only a snapshot picture from the three practices chosen for our comparison. Further analysis is indicated before any definite conclusions can be drawn about prescribing patterns across practices with different socio-economic profiles. These findings support the PTI information above, which suggests patients from more deprived areas are more likely to attend the practice with mental health problems or COPD.

2.6 Interface with secondary care

Information about patient referrals and hospital admissions is routinely collected in Scotland. This information can provide a useful way of describing the workload that passes between primary and secondary care services. Every episode of hospital care in Scotland generates a patient record. These are known as SMR (Scottish Morbidity Recording) records. All emergency admissions can be identified by a code present on SMR01 records, for all hospitals (except obstetric or psychiatric hospitals, which use different records systems). **Table 2.13** summarises the total numbers and rates of emergency medical admissions and multiple medical admissions from each CH(C)P within the health board area. The Table shows striking differences, particularly in multiple emergency admission

rates, between CH(C)P areas. East Glasgow CHCP has more than twice the multiple emergency admission rate of East Renfrewshire CHCP.

Table 2.13: Number of Emergency Medical admission patients and number with 2 or more emergency admissions, by CH(C)P area. Rates for each area standardised for age and sex per 100,000 population.

Source: ISD SMR01 linked data

CHCP area	Average number of patients discharged from Emergency Medical Admissions (2004-2006)	3 year annual average age/sex standardised rates per 100,000 population	Average number of patients discharged from Multiple Emergency Medical Admissions (2004-2006)	3 year annual average age/sex standardised rates per 100,000 population
East Dunbartonshire CHP	5,797	4,705	1,116	831
East Glasgow CHCP	10,930	8,427	2,404	1,793
East Renfrewshire CHCP	4,893	4,774	929	829
Inverclyde CHP	6,737	7,300	1,389	1,422
North Glasgow CHCP	8,087	7,537	1,781	1,613
Renfrewshire CHP	12,137	6,752	2,498	1,333
South East Glasgow CHCP	7,233	6,739	1,454	1,338
South West Glasgow CHCP	9,423	7,434	2,050	1,553
West Dunbartonshire CHP	6,372	6,298	1,315	1,227
West Glasgow CHCP	8,961	6,265	1,920	1,430

2.7 Emergency medical admission rates

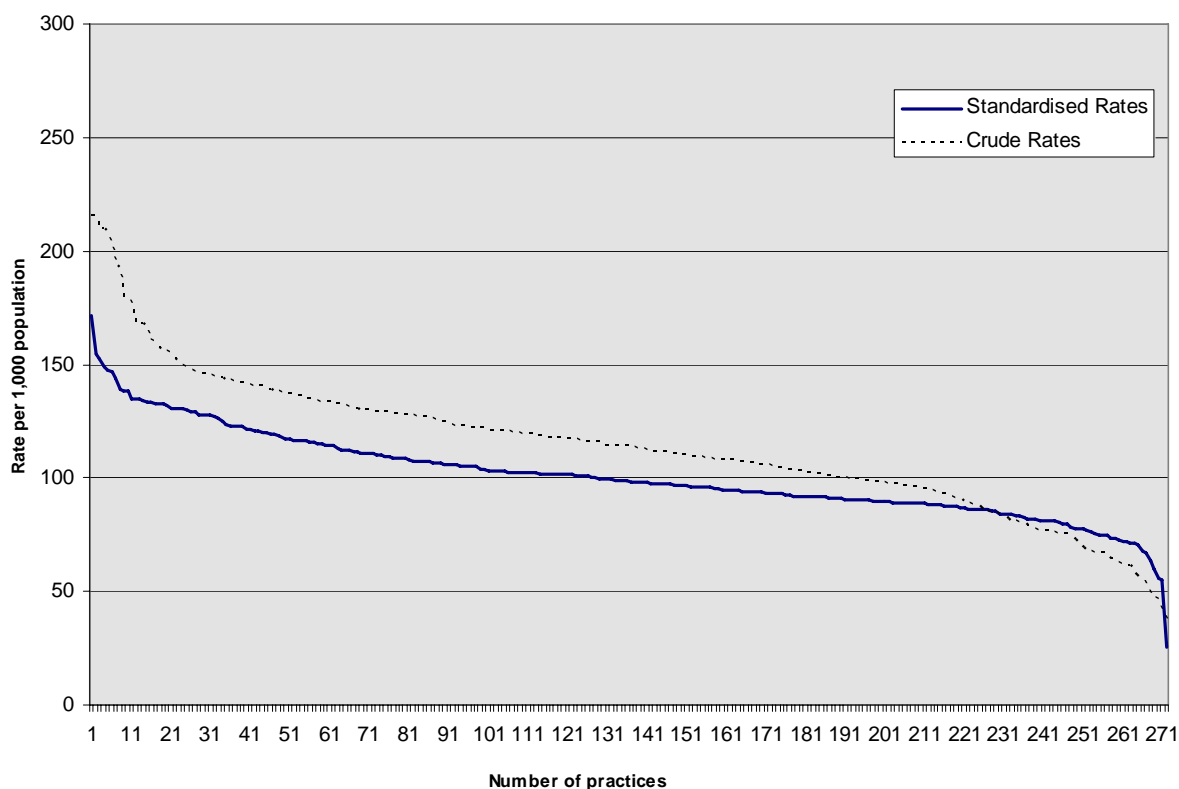
A recent project by ISD examined the effect of age, sex and SIMD profile on Emergency Medical Admission (EMA) rates of general practices in Scotland.¹

The team found that people were more likely to be admitted to hospital in an emergency as they get older and men were more likely to be admitted than women. There was also a strong relationship between higher rates of emergency admission and increasing levels of deprivation.

To investigate differences between practices further the team carried out indirect standardisation to take account of the differences in age, sex and SIMD between practice populations. **Figure 2.6** below shows the effect of standardisation on the emergency admission rates of practices in NHS GGC. Practices are ranked in descending order of emergency admission rate for both crude and standardised rates. Since the ordering is based on descending order of emergency admission rate the same practice may not necessarily appear in the same position on each line.

Figure 2.6: NHS Greater Glasgow & Clyde, Ordered highest to lowest rates of emergency admission by practice, 2005. Figure shows crude rates and rates standardised for age, sex and SIMD.

Source: ISD, Delivering for Health Information team



Across the Board area the general effect of carrying out standardisation is to reduce the EMA rate. This is because of the higher levels of deprivation in the board area compared to the rest of Scotland. At the far left hand distribution of the graph standardisation increases some practices emergency admission rates. This is most likely to occur because these practices serve relatively affluent populations.

Crude EMA rates for practices range from 37 to 221 per 1000 population. There is a 1.7 fold variation between the top and bottom deciles of the distribution (76-132). After adjusting for age, sex and deprivation status of practice populations this reduces to 1.3 fold variation between top and bottom deciles (80-111).

Variation between practices remains even after adjusting for age, sex and deprivation of their populations.

Table 2.14 shows the Emergency Medical Admission rates for our selected practices. The results have been indirectly standardised for age and sex only, to illustrate the effect of deprivation on EMA rates.

Table 2.14: Average annual Emergency Medical Admission rates per 1000 population (rates indirectly standardised for age and sex)

Source: ISD, Delivering for Health information programme

Practice profile	Emergency Admission Rate (5 year average 2001-5)
Least deprived	73.5
Mixed practice profile	124.9
Most deprived	141.4
Average Scottish EMA rate	103.1

The mean EMA rate for Scotland, 2001-5 was 103.1 per 1000 population. The EMA rate for the least deprived practice is 29% lower than the Scottish average. In contrast the most deprived practice has an EMA rate 37% above the Scottish average. These results concord with the general findings by the team in ISD. People who live in areas of higher deprivation are more likely to be admitted to hospital in an emergency.¹ However, not all of those patients who have been admitted as an emergency will have been referred to hospital by their GP practice. Some will have dialled a 999 ambulance and some will have gone to the nearest A&E by themselves. Another study by the same team in ISD suggests that only a quarter of all emergency admissions are actually referred to hospital by their own GP surgery.²

After taking into account all of the differences in practice populations across Scotland the ISD team found variation remains between practices emergency medical admission rates. Standardised emergency medical admission rates by practice are available for all CH(C)P areas in **Appendix 4**. We don't fully understand the reasons why residual variation remains between practices. However, the ISD team suggest there should be further local investigation to identify possible reasons.²

2.8 New referrals to out-patient departments

Every new out-patient appointment is recorded on SMR00 for all specialties except A&E and genitourinary medicine. This means that individual patients will be counted more than once if they are referred to more than one clinic.

From these records it is possible to calculate the emergency admission rates and out-patient referral rates for individual general practices in Scotland.

72%^{XII} of all patients who attend out-patient departments are referred there by a general practitioner. This means that the number of referrals made by GPs can have a considerable impact on the workload of out-patient clinics. It is widely recognised that there is considerable variation between practices referral rates. However, much of the variation remains unexplained and there is no consensus in the literature about whether it is possible or desirable to try and alter GP referral patterns. Indirectly standardised new out-patient referral rates are available for all CH(C)P areas (and practices within each area) in **Appendix 5**.

Table 2.15 below shows the new out-patient referral rates for our selected NHS GGC practices.

Table 2.15: New Out-Patient referral rates per 1000 population (indirectly standardised for age and sex)

Source: ISD SMR00 data set. All specialties except genitourinary medicine and A&E; year ending March 2006

Practice Profile	New Out-Patient rates per 1000 patients 2005/6
Least deprived	270
Mixed practice profile	170
Most deprived	250
Average Glasgow new OP referral rate	219

Interestingly, these results do not show a positive relationship between deprivation and referral rate. The least deprived practice has referral rates 23% above the Glasgow average. In contrast the most deprived practice has referral rates 14% above the Glasgow average. This finding may be the result of our health care system being less able to deliver early intervention (referral to outpatients) in areas of greater deprivation compared to less deprived areas. Further investigation of outpatient referral data is warranted here. We only looked at one year of data in this table rather than taking a 5 year average; year to year variation may account for the lack of difference between these practices.

^{XII} Source ISD, SMR00 records for the year ending March 2006.

2.9 Discussion

Most of the information presented in this report has focussed on general practice simply because this is where the most robust data are available. Even here there is room for improving the information collected. Scotland wide PTI suggests 79% of all patients are seen three times each year by a GP. This would amount to approximately 15 consultations per day per GP (assuming list size of 1500 patients, and six weeks annual leave per year). PTI does not capture all activity in general practice however, it only estimates the number of face-to-face consultations. GPs report that they are under increasing pressure but this is not reflected in current data collection systems. We need to identify ways to effectively measure activity and workload pressures in primary care.

Further analysis of PTI information demonstrates there is a positive relationship between increasing age of patients and higher patient contact rates. For most age groups, increasing levels of deprivation are also associated with higher patient contact rates. This is particularly noticeable when we looked at contact rates with general practitioners rather than the whole practice team. National estimates of contact rates for mental health problems and chronic obstructive pulmonary disease are higher in practices where more of the population live in relatively deprived areas. These differences are reflected in the table summarising prescribing differences between practices selected in this exercise. Comparing our selected practices we found much higher levels of prescribing antidepressants and bronchodilators in the practice whose population are resident in the most deprived area. Further investigation of prescribing patterns across populations with different demography would provide additional insights into the burden of patients needs and demands in general practice.

Routinely available information about emergency medical admission rates indicates that the socio-economic profile of the population accounts for much of the variation we see between practices. Patients who are older and those who live in more deprived circumstances are more likely to be admitted to hospital in an emergency. However, even after taking into account the age, sex and

deprivation status of the population considerable variation remains between practices. Further investigation at a local level will be necessary to understand possible reasons for this residual variation. Interestingly we did not find evidence of a similar relationship between deprivation and the rate of new referrals to out-patient departments. We do not know why this is the case and further investigation in this area is indicated. It is possible that the out-patient referral rate may be influenced by many additional factors including how likely it is a patient will attend their doctor at an early stage in the disease process or by expectations about the success of attending a hospital out patient appointment.

It may be possible to reduce emergency medical admission rates but further work will need to be carried out in this area. Emergency admissions are more likely to occur if other care options are not available¹ or if anticipatory care is not easy to access. Investigating areas with higher admission rates could provide an opportunity to support and develop preventive services as well as local unscheduled care services. We should consider the best method of feeding back these existing routinely available information sources to general practices and CH(C)Ps.

At present, most activity information collected relates to general practices or hospitals. We should develop ways of collecting activity information about other community based services across all CH(C)P areas. We have included an overall summary of CH(C)P spending in this report, however reporting this information at individual CH(C)P level would allow more detailed analysis of service provision.

References

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- 2 Kendrick S, Tomlinson J, Vize J. The system of unscheduled care in Scotland: understanding the sources of emergency in-patient admission. 2007;**3**:1.
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3 Capacity of Primary Care Services

Key points in this section

- There is a relatively flat distribution of the number of general practitioners across affluent and deprived areas of Scotland and NHS Greater Glasgow & Clyde causing a mismatch between resources available and health care need.
- Targeting resources to address higher levels of need in deprived areas is complicated by several factors including the social heterogeneity of patients within general practices, and of general practice populations within CH(C)Ps.

Introduction

This chapter reviews research concerning capacity, coverage and activity in general practices within Greater Glasgow & Clyde. The main findings are based on general practice populations and are discussed in the context of other general practice-based research carried out by the Section of General Practice and Primary Care at Glasgow University

3.1 Background

This work was originally carried out as part of the [Platform Project](#) supported by a CSO and SHEFC research development grant. The aim of the work was to establish a platform for primary care in Scotland and it involved all four Scottish academic departments of general practice. The project included special interest groups concerning deprivation, rurality, prescribing, CHD, cancer, mental health and nursing.

Funding from the NHS Greater Glasgow CHD Managed Clinical Network has allowed us to carry out additional Glasgow-based analyses. These have been continued as part of the Primary Care Observatory Function which is funded jointly by the Glasgow Centre for Population Health and NHS Greater Glasgow & Clyde.

The aim of the Primary Care Observatory work is to provide:

- Epidemiological perspectives based on populations registered with general practices
- Added value from routine data (intelligence, not information) when processed via an academic centre
- Linkage of census, welfare and health data, so comparisons of process and outcome can be adjusted according to the nature of the populations being served.
- Comparison of observed and expected data, based on best available epidemiology
- Like with like comparisons *between* populations served by CH(C)Ps
- Comparative data between practices *within* CH(C)Ps
- Linkage of primary and secondary care data

A key step in the analyses has been the application of the Scottish Index of Multiple Deprivation (SIMD) to characterise practice populations on the basis of measures of education, employment and income (and more recently, housing and crime). In our analyses we have used a modified version of the existing SIMD (mSIMD) excluding measures of health from the SIMD score. This has been done to avoid confusing the relationship between population deprivation and measures of the structure, process and outcome of health care delivery.

We have established that the most suitable method for characterising deprivation within general practices is to use a mean population deprivation score of all patients. A report has been produced describing this work, [The characterisation of deprivation for general practices in Glasgow](#). This work also showed (**Table 3.1**) that the 10% most severely deprived practice populations in Scotland comprise 130 practices in 6 health board areas (108 in Greater Glasgow & Clyde, 6 in Lothian, 6 in Tayside, 4 in Fife, 3 in Ayrshire and Arran and 2 in Lanarkshire).

Table 3.1: Distribution of Scottish general practices by Health Board and by deciles of the Scottish population stratified by mean practice population deprivation scores

Source: Primary Care Observatory, 2006

Deprivation Decile	Ayrshire & Arran	Borders	Fife	Greater Glasgow & Clyde	Highland & Argyll	Lanarkshire	Grampian	Orkney	Lothian	Tayside	Forth Valley	Western Isles	Dumfries & Galloway	Shetland	Total
10 (most deprived)	4	0	4	108	0	2	0	0	6	6	0	0	0	0	130
9	9	0	6	41	0	28	2	0	8	8	3	0	0	0	105
8	6	0	8	32	3	26	1	0	6	6	4	0	2	0	94
7	13	0	6	21	8	11	4	0	13	5	10	0	1	0	92
6	6	0	6	19	3	7	8	0	12	5	14	5	4	0	89
5	10	3	7	14	10	6	7	3	11	9	5	4	9	0	98
4	1	5	6	8	13	14	10	1	19	6	4	3	2	0	92
3	8	4	3	8	33	3	15	3	12	6	3	1	7	3	109
2	1	8	7	8	24	3	16	5	22	12	6	0	12	5	129
1 (least deprived)	3	4	5	18	10	0	21	2	20	8	8	0	0	2	101
Total	61	24	58	277	104	100	84	14	129	71	57	13	37	10	1,039

1. Deprivation is a modified version of SIMD for 2006
2. Number of practices is at September 2004

The larger number of practices serving the most deprived decile of the population (130 compared with an average of 104 for all deciles) is explained by the larger numbers of single handed practices based in urban deprived areas.

Further work ranked the 1039 general practices in Scotland according to the proportion of patients on their lists in the most deprived 20% of the Scottish population, (comprising 1,056,334 people, see **Table 3.2**). Of the 100 most deprived practice populations, 88 are in Greater Glasgow & Clyde, 3 in Lothian, 2 in Tayside, 2 in Lanarkshire, 4 in Ayrshire and Arran and 1 in Fife.

Table 3.2: 100 practices serving the most deprived populations in Scotland broken down by Health Board area

Source: Primary Care Observatory, 2006

NHS Board	Number of Practices
Greater Glasgow and Clyde	88
Ayrshire and Arran	4
Lothian	3
Tayside	2
Lanarkshire	2
Fife	1

It follows that the organisation and delivery of primary care in the most severely deprived areas is essentially a Greater Glasgow & Clyde, rather than a Scottish, problem. We require solutions informed by local evidence and evaluated by local enquiry.

Earlier work has shown that there is a virtually flat distribution of medical manpower across groups of general practices serving tenths of the Scottish population from most affluent to deprived. This flat distribution of manpower exists despite a 2.5 to 3-fold increase in the prevalence of health problems in the most deprived areas, as assessed using a range of independent measures.¹

These findings provide the context of the analyses and studies reported in the rest of this chapter.

3.2 General practice lists

General practice lists cover almost 100% of the population, but tend to be scattered geographically and, especially in cities, are hard to characterise in terms of recognisable local communities.

For example, the four general practices based in the geographical area known as Parkhead^{XIII} only look after 3258 (46%) of the 7,033 people living in the 173 postcodes that make up the Parkhead area. The remaining 54% of the Parkhead population is registered with 71 other general practices in the city. The four Parkhead practices also provide primary care for 13,959 people living outside the Parkhead geographical area, mostly in the area of the East Glasgow CHCP, and neighbouring CHCPs.

This geographical “mismatching” is often seen at practice level. It is less visible at the level of Community Health and Care Partnerships but does still present challenges even with these larger organisations. However, the vast majority of people within any CH(C)P are registered with practices within the CH(C)P.

Analyses in the next section are mostly based on the populations served by general practices, and provide perspectives on primary care activity and outcome, which are not obvious from analyses based on geographical (e.g. CH(C)P) areas.

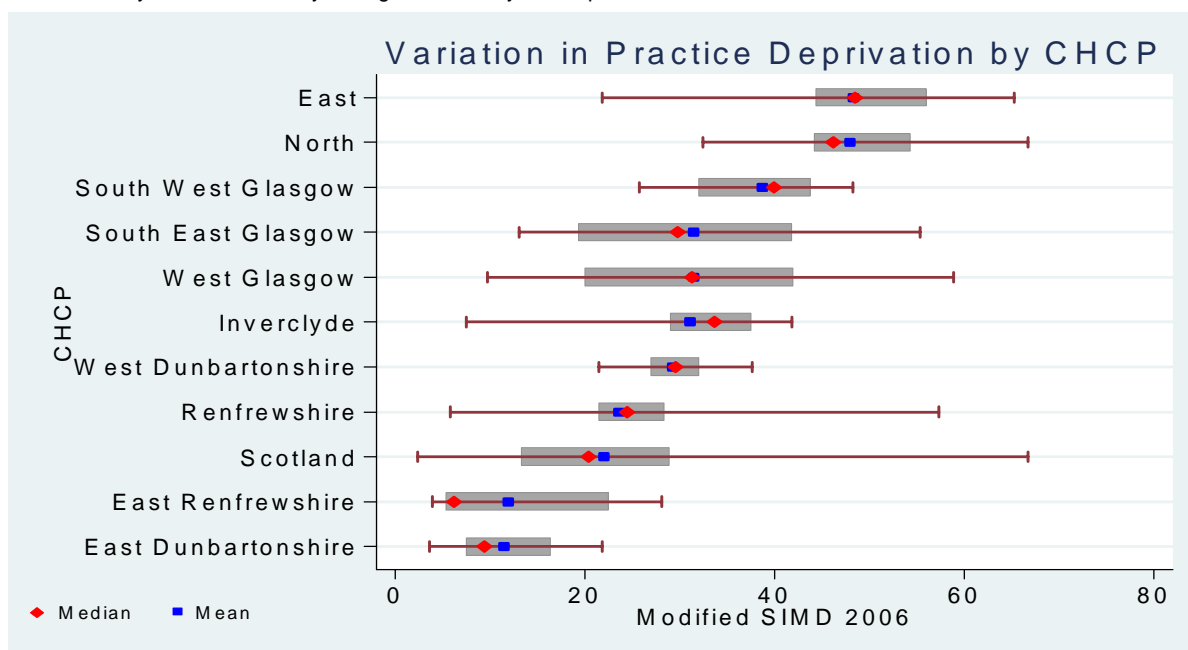
^{XIII} For the purposes of this project the Parkhead boundary was defined by local residents. The main postcode sectors included in the project were G31 4 and G31 5.

3.3 Epidemiology of socio-economic deprivation in CHCPs

In Section 1 we summarised the proportion of people living in the most deprived quintile of the population broken down by CH(C)P area. In this section we present the results of analysis into the variation in deprivation within CH(C)P areas **Figure 3.1** shows the mean, median, inter-quartile range and full range of mean deprivation scores of all practice populations. These are shown for CH(C)P populations in Greater Glasgow & Clyde (see, [The characterisation of deprivation for general practices in Glasgow](http://www.gla.ac.uk/projects/platform), available at <http://www.gla.ac.uk/projects/platform>). CH(C)Ps vary substantially in their average deprivation scores, ranging from very deprived (North and East CHCPs) to very affluent (East Renfrewshire and East Dunbartonshire), with most CH(C)P populations lying in between.

Figure 3.1: Variation in Practice Deprivation across NHS GGC by CH(C)P area

Source: Primary Care Observatory, Glasgow University. 2005, practice lists.



For each CH(C)P area the grey shaded box represents the inter-quartile range and the brown bar represents the full range of mean practice deprivation scores.

Figure 3.2, shows the associated large variation in health status between CH(C)P populations based on the Census measure of long term limiting illness in the under 65s (SIR64), self-reported health status in the under 65s (SHR64), as well as standardised mortality ratios in the under 65s (SMR64) and under 75s (SMR74). Overall, North Glasgow, East Glasgow and South West Glasgow CH(C)Ps have the highest levels of long term limiting illnesses and higher mortality rates. However the

figure shows that there is a wide variation in practice based health measures within each CH(C)P area.

Figure 3.2: Variation in practice based health measures by CH(C)P area

Source: Primary Care Observatory, Glasgow University. 2005, practice lists

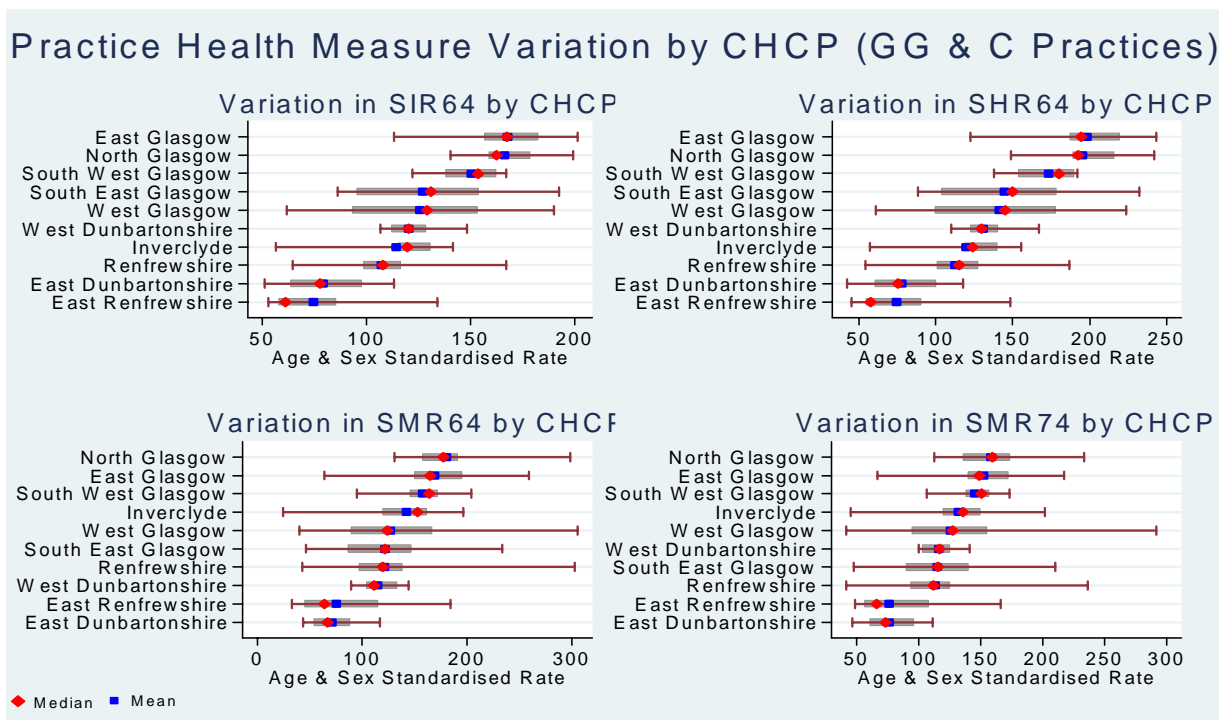


Figure 3.3 and Table 3.3 show the age distribution of practice populations in deciles of deprivation. While the age range is similar in all areas, practices serving the most deprived populations have relatively more patients aged under 20 and fewer patients aged over 70 than practices serving the least deprived populations. However, these differences are not large.

Figure 3.3: Greater Glasgow & Clyde population by decile of deprivation and age group

Source: Primary Care Observatory, based on CHI extract 2003 and modified SIMD 2006

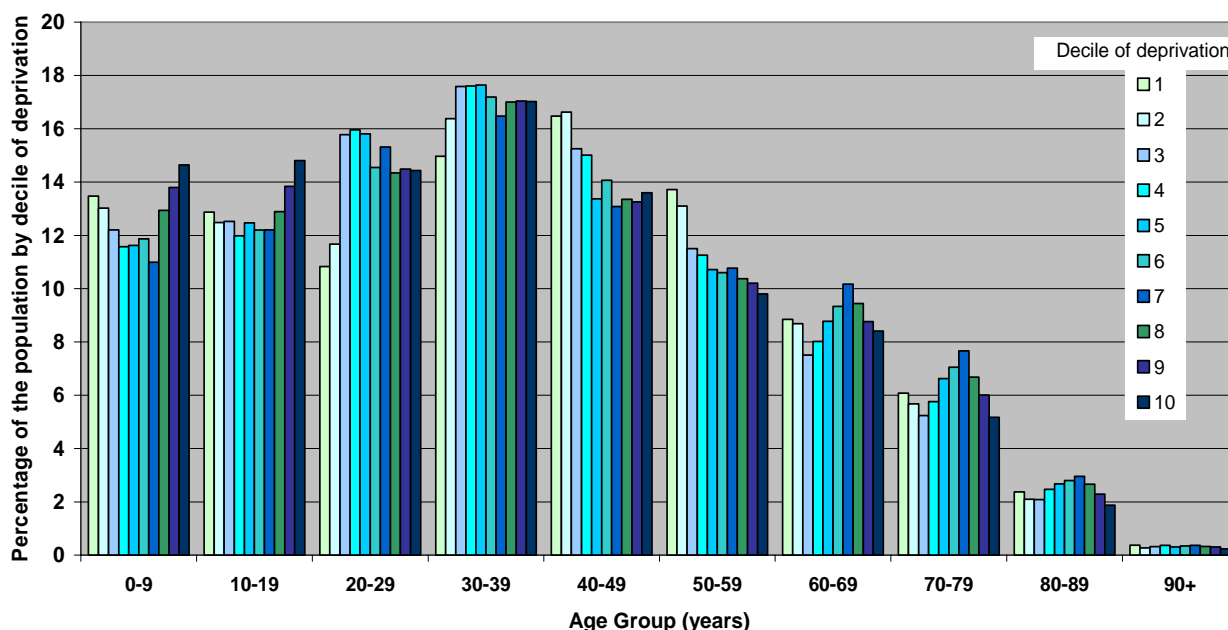


Table 3.3: Age distribution of Greater Glasgow & Clyde practice based populations by decile of deprivation. Rows show total number of people in each age group (and row percentage of total).

Source: Primary Care Observatory, based on CHI extract 2003 and mSIMD 2006

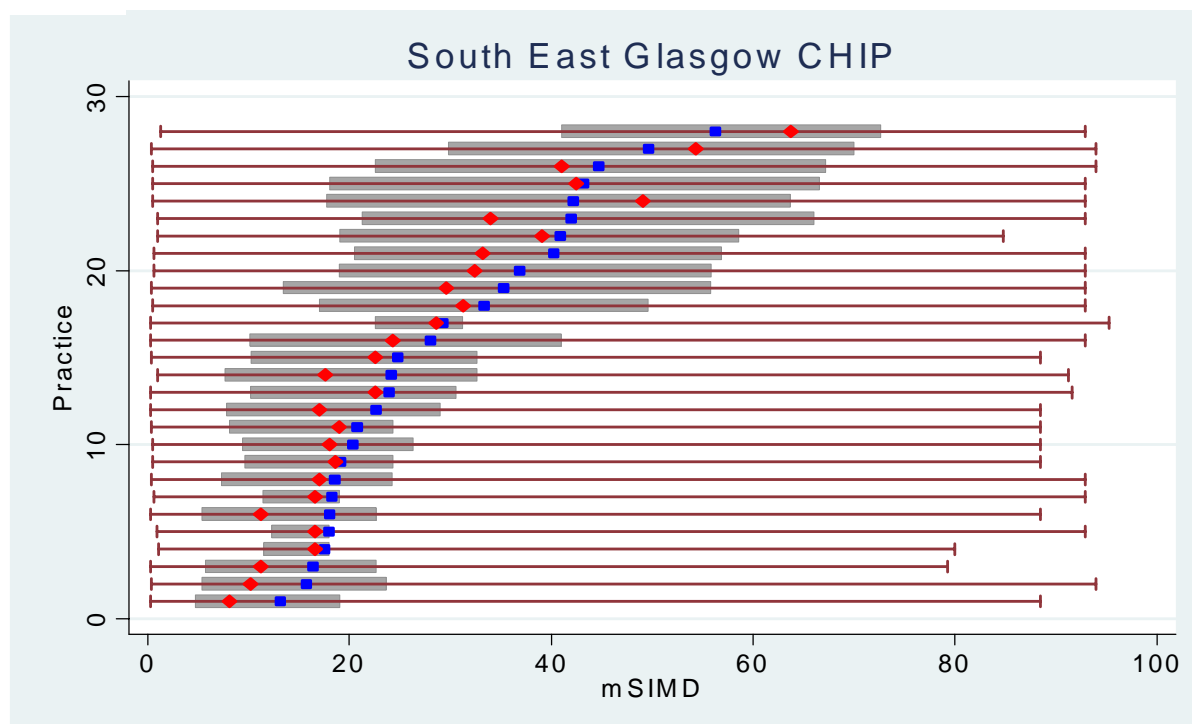
Decile	Age category										Total
	0-9	Oct-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+	
1 (least deprived)	16,964 (13.5)	16,204 (12.9)	13,631 (10.8)	18,843 (15.0)	20,741 (16.5)	17,273 (13.7)	11,140 (8.8)	7,651 (6.1)	2,989 (2.4)	467 (0.4)	125,903
2	16,381 (13.0)	15,704 (12.5)	14,686 (11.7)	20,605 (16.4)	20,913 (16.6)	16,485 (13.1)	10,926 (8.7)	7,141 (5.7)	2,631 (2.1)	339 (0.3)	125,811
3	15,355 (12.2)	15,758 (12.5)	19,854 (11.7)	22,126 (16.4)	19,190 (16.6)	14,469 (13.1)	9,441 (8.7)	6,591 (5.7)	2,629 (2.1)	394 (0.3)	125,807
4	14,499 (11.6)	15,004 (12.0)	19,988 (16.0)	22,049 (17.6)	18,800 (15.0)	14,101 (11.3)	10,040 (8.0)	7,223 (5.8)	3,088 (2.5)	462 (0.4)	125,254
5	14,544 (11.6)	15,593 (12.5)	19,782 (15.8)	22,062 (17.6)	16,725 (13.4)	13,401 (10.7)	10,980 (8.8)	8,285 (6.6)	3,341 (2.7)	387 (0.3)	125,100
6	14,899 (11.9)	15,314 (12.2)	18,266 (14.5)	21,585 (17.2)	17,658 (14.1)	13,307 (10.6)	11,720 (9.3)	8,856 (7.1)	3,513 (2.8)	427 (0.3)	125,545
7	13,863 (11.0)	15,394 (12.2)	19,312 (15.3)	20,784 (16.5)	16,501 (13.1)	13,586 (10.8)	12,821 (10.2)	9,664 (7.7)	3,724 (3.0)	458 (0.4)	126,107
8	16,293 (12.9)	16,235 (12.9)	18,063 (14.3)	21,416 (17.0)	16,816 (13.4)	13,069 (10.4)	11,886 (9.4)	8,412 (6.7)	3,354 (2.7)	404 (0.3)	125,948
9	17,269 (13.8)	17,319 (13.8)	18,131 (14.5)	21,324 (17.0)	16,586 (13.3)	12,772 (10.2)	10,968 (8.8)	7,521 (6.0)	2,862 (2.3)	389 (0.3)	125,141
10 (most deprived)	18,306 (14.6)	18,506 (14.8)	18,039 (14.4)	21,274 (17.0)	16,996 (13.6)	12,253 (9.8)	10,509 (8.4)	6,460 (5.2)	2,344 (1.9)	299 (0.2)	124,986
Total	158,373	161,031	179,752	212,068	180,926	140,716	110,431	77,804	30,475	4,026	

3.4 Epidemiology of socio-economic deprivation in general practices

Figure 3.4 shows the mean, median, inter-quartile range and full range of patient deprivation scores for practice populations within South East Glasgow CH(C)P. The figure shows a wide range of deprivation scores across practices and is typical of many CH(C)Ps. Similar figures are shown for other CH(C)P areas in **Appendix 6**.

Figure 3.4: Variation in deprivation scores for individual patients within practices in South East Glasgow

Source: Primary Care Observatory, Glasgow University, 2005 practice lists.



Most practices include patients with a wide range of socio-economic circumstances, but vary enormously in the numbers of their patients living in deprived and affluent circumstances e.g.

- The North and East CHCP practice populations are almost universally deprived, with only small numbers of patients living in less deprived areas.
- The East Renfrewshire and East Dunbartonshire CH(C)P practice populations are almost universally affluent
- West Dunbartonshire CHP practice populations are also socially homogenous, but in the middle of the socio-economic range.
- Other CH(C)P practice populations are socially heterogeneous, with substantial variation between practices within CH(C)Ps

These summary figures show that practices serving severely deprived populations are distributed across several CH(C)Ps and may have more in common with each other than with other practices in their CH(C)P. The same is true for practices serving predominantly affluent populations.

Figure 3.5 shows that as deprivation increases ill-health as measured by the Census variables^{XIV} SIR64, SHR64, SMR64 and SMR74, also increase but WTE GP manpower does not increase at a sufficient enough rate to meet the implied increase in demand at higher levels of deprivation.

Figure 3.5: Age & Sex standardised 2001 health census measures by Greater Glasgow & Clyde deprivation decile

Source: Primary Care Observatory, based on 2004 whole time equivalents.

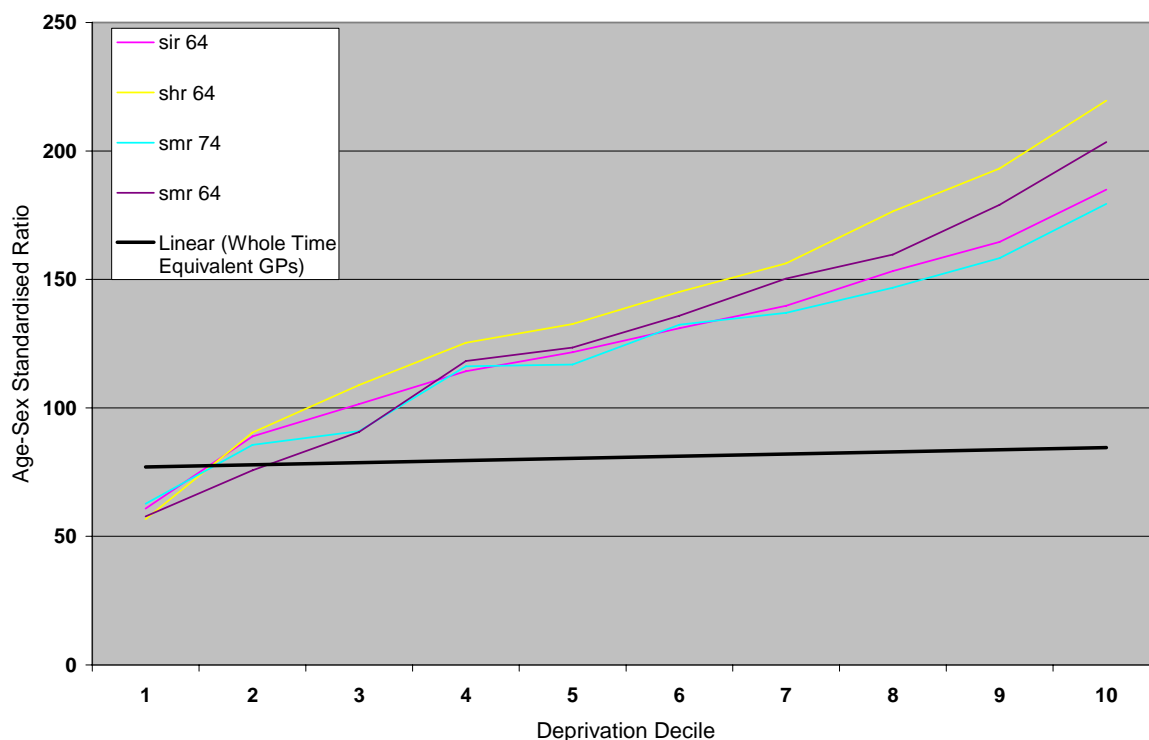


Table 3.4 shows that 56% of the most deprived 20% of GG&C residents live in three CHCP areas north of the Clyde (North, East and West), 24% live in two CHCP areas

^{XIV} SIR is a measure of long term limiting illness recorded in the census. SIR64 applies to the population aged under 65 years. The SHR64 measurement represents self reported health in those aged under 65yrs, taken from the FORM 2001 Census. The SMR summary measures represent standardised mortality ratios for people aged under 65 and 75yrs respectively.

south of the Clyde (South-East and South-West), while the remaining 20% live in seven other CHCP areas.

Table 3.4: Most deprived 20% of GG&C population by CH(C)P area

Source: Primary Care Observatory, CHI database 2003.

Area	Total	%
East Dunbartonshire CHP	2,022	0.8
East Glasgow CHCP	65,258	26.3
East Renfrewshire CHCP	2,260	0.9
Inverclyde CHP	14,484	5.8
North Glasgow CHCP	37,558	15.2
North Lanarkshire CHP	233	0.1
Renfrewshire CHP	14,956	6.0
South East Glasgow CHCP	25,413	10.3
South Lanarkshire CHP	7,748	3.1
South West Glasgow CHCP	33,476	13.5
West Dunbartonshire CHP	8,326	3.4
West Glasgow CHCP	36,082	14.6
Total 20% Deprived GG&C Population	247,816	

3.5 “Hidden” deprivation

While severe deprivation is concentrated within some CH(C)Ps and practices, it is important to record that many patients with postcodes in the most deprived 20% of the Scottish population are distributed across CH(C)Ps and practices whose social composition is mixed.

3.6 CHD in general practice populations

Table 3.5 and **Table 3.6** are based on data from the Local Enhanced Services (LES) scheme for chronic disease management in Greater Glasgow general practices and show the number of patients with at least one CHD diagnosis (angina, acute MI or heart failure), by age and by quintile of deprivation.

Increasing prevalence of CHD is strongly associated with increasing age, and older patients with CHD will impact on the workload of all general practices. Premature CHD occurs more often in deprived populations. 29% of people with early CHD (<60 yrs) are found in the most deprived quintile compared with 11% in the least deprived quintile. 55% of CHD patients in the most deprived quintile are aged under 70 compared with 38% in the least deprived quintile (**Table 3.5**). Providing effective

treatments to these younger patients in particular will support the reduction of health inequalities.

Table 3.5: Number of patients with at least one diagnosis of coronary heart disease, by age and quintile of deprivation, NHS Greater Glasgow

Source: Primary Care Observatory, quintiles of Greater Glasgow population only, modified SIMD 2006, contemporaneous data, 2005.

Quintile of deprivation	Patients with known Coronary Heart Disease				Total number of patients (<90 yrs) N
	< 60 years N (row %) Col %	60-69 yrs N (row %) Col %	70-79 yrs N (row %) Col %	80-89 yrs N (row %) Col %	
1	844(12.9%)	1,629(24.9%)	2,469(37.7%)	1,601(24.5%)	6,543
	10.9%	14.6%	17.9%	21.8%	
2	1,102(17.2%)	1,628(25.4%)	2,258(35.3%)	1,411(22.1%)	6,399
	14.2%	14.6%	16.3%	19.2%	
3	1,746(18.9%)	2,529(27.3%)	3,210(34.7%)	1,777(19.2%)	9,262
	22.5%	22.7%	23.2%	24.2%	
4	1,805(21.3%)	2,465(29.2%)	2,840(33.6%)	1,345(15.9%)	8,455
	23.3%	22.2%	20.6%	18.3%	
5	2,262(24.1%)	2,872(30.6%)	3,034(32.4%)	1,210(12.9%)	9,378
	29.2%	25.8%	22.0%	16.5%	
Totals	7,759 (19.6%)	11123 (28.6%)	13811 (34.5%)	7344 (17.3%)	40,037

Table 3.6: Number of patients with at least one CHD diagnosis, prevalence rates, number of practices and practitioners by quintile of deprivation, NHS Greater Glasgow

Source: Primary Care Observatory, quintiles of Greater Glasgow population only, modified SIMD 2006, contemporaneous data, 2005.

Quintile of deprivation	Total population all ages	Total number of Patients aged < 90 yrs	Prevalence rate standardised for age and sex, all ages	Prevalence rate standardised for age and sex patientst aged <70 yrs	Number of General Practices	Number of WTE GPs	Patients per WTE GP
1	192,791	6,543	78.3	61.8	30	100.9	64.8
2	186,482	6,399	81.4	74.3	38	97.9	65.4
3	192,762	9,262	109.3	114.4	45	121.7	76.1
4	187,444	8,455	109.2	116.7	37	110.8	76.3
5	188,475	9,378	124	134.8	46	111.2	84.3
Totals	947,954				196	542.5	
Q(5) / Q(1)			1.58	2.18			

The age and sex standardised prevalence rates of CHD are 1.58 times higher in quintile 5 (most deprived) compared with quintile 1 (least deprived) in the population as a whole, and 2.18 times higher in people under 70 (**Table 3.6**).

While the least deprived quintile is served by 30 general practices involving 100.9 WTE general practitioners, the most deprived quintile is served by 46 practices involving 111.2 WTE general practitioners. GPs in the latter group have 30% more CHD patients per WTE GP (84.3 v 64.8: see **Table 3.6**).

25% of patients with a CHD diagnosis had completed the Hospital Anxiety and Depression Score (HADS). **Table 3.7** shows that the prevalence of a positive score (≥ 10) was more than twice as high in CHD patients in the most deprived quintile, compared with the least deprived, suggesting that there is a higher level of significant co-morbidity in the former group (**Table 3.7**).

Table 3.7: Prevalence of Anxiety and Depression among patients with coronary heart disease by deprivation quintile, NHS Greater Glasgow

Source: Primary Care Observatory, LES data, contemporaneous data, 2006.

Quintile of deprivation	Age group				
	<60 yrs	60-69 yrs	70-79 yrs	80-89 yrs	Total <90 yrs
1	20.0% (31)	16.1% (62)	13.7% (85)	9.5% (31)	14.0% (209)
2	23.0% (54)	14.8% (62)	12.4% (74)	8.9% (26)	14.0% (216)
3	32.4% (127)	24.9% (166)	15.8% (131)	15.5% (53)	21.4% (477)
4	42.3% (164)	28.2% (163)	18.9% (130)	17.7% (44)	26.4% (501)
5	45.4% (209)	32.9% (223)	21.1% (151)	17.8% (35)	30.1% (618)
Q5 / Q1	2.24	2.04	1.54	1.87	2.15

3.7 Treatment with statins

Between 2001/2 and 2005/6, the volume of statin treatment in Greater Glasgow & Clyde increased fourfold (4.0). However, the gradient of statin prescribing across practices serving deciles of deprivation remained constant, being 1.4-1.5 times higher in the most deprived decile (**Table 3.8**).

Table 3.8: Trends in statin prescribing by deciles of deprivation, NHS Greater Glasgow & Clyde, 2001-6. (Defined Daily Doses are shown as rates per weighted practice population)

Source: Primary Care Observatory, medicines management, NHS GGC.

Decile of deprivation	2001/02	2002/03	2003/04	2004/05	2005/06
1 (least deprived)	2.32	3.32	4.51	6.47	8.38
2	2.81	3.91	5.37	7.33	9.22
3	2.45	3.74	5.43	8.31	10.49
4	2.55	3.72	5.34	8.38	10.25
5	2.61	3.94	6.05	9.13	11.35
6	2.62	3.83	4.75	7.15	8.97
7	2.67	3.82	5.64	8.48	11.48
8	2.56	4.24	6.12	9.55	12.15
9	2.72	4.25	6.11	9.45	12.31
10 (most deprived)	3.4	4.99	6.92	10.23	11.71
D10/D1	1.47	1.5	1.53	1.58	1.4

1. Defined Daily Dose, or DDD: is the assumed average maintenance dose per day for a drug used for its main indication in adults. Further details are available at <http://www.who.int/classifications/atcddd/en/>
2. Practices are weighted by STAR-PU (specific therapeutic group age-sex related prescribing units)
3. Deprivation is modified SIMD for 2004
4. Greater Glasgow data only
5. Data is for all drugs defined as a statin

We do not know how these figures of observed statin prescribing compare with epidemiology of clinical indications for such treatment. However, the gradient in statin prescribing is consistent with the gradient of CHD prevalence (unadjusted for age) reported by practices for the Quality and Outcomes Framework (QOF) as part of the new GMS contract.

Table 3.6 above shows steeper gradients of CHD prevalence in patients under 70.

Table 3.9 below demonstrates even more marked differences in angina rates, hospital admission rates and mortality rates from coronary heart disease across deciles of deprivation in Greater Glasgow & Clyde.

We would expect that there should be similar gradients across deciles of deprivation for statin prescribing in Greater Glasgow & Clyde in this age group. However, prescribing information broken down by decile of deprivation is not available at present.

Table 3.9: Emergency medical admission rates, death rates for coronary heart disease and angina rates for patients under 70 yrs old, by NHS GGC decile of deprivation

Source: Primary Care Observatory

Decile of deprivation	CHD Emergency medical admission rate per 10,000, patients aged <70 yrs	CHD death rate per 10,000 patients aged <70yrs	Angina rate per 10,000 patients aged <70yrs
1 (least deprived)	34.8	3.6	280.1
2	58.8	3.4	298.9
3	60	3.9	380.3
4	72.3	5.4	361.3
5	79.4	6.5	398.3
6	92.3	6.3	461.5
7	98.1	8.3	427.4
8	115.9	7.2	552.2
9	122	6.8	594
10 (most deprived)	149.6	8.9	648.2
D10/D1	4.3	2.5	2.3

1. Deprivation measurement used is modified SIMD for 2006
2. EMAs are Emergency Medical Admissions for CHD
3. Angina rate is calculated from the Scottish Health Surveys for 1995 & 1998

However, in data from 13 general practices in Paisley, taking part in the Have a Heart Paisley (HAHP) project and contributing data to the Paisley Coronary Disease Register (CDR), statin prescribing is divided more or less equally between people with and without a CHD diagnosis (i.e. presumed secondary and primary

prevention), between men and women and between people under 70 and aged 70 and over (**Table 3.10, Table 3.11**). In Paisley, statin prescribing is reported in over 80% of patients under 70 with a CHD diagnosis, over 70% of patients aged 70 and over with a CHD diagnosis, 4% of people under 70 without a CHD diagnosis and 19% of people aged 70 and over without a CHD diagnosis.

Table 3.10: Number of patients with Coronary Heart Disease prescribed a statin, by gender and deprivation quintile, Paisley

Source: Primary Care Observatory, HaHP database, contemporaneous data, 2006.

Greater Glasgow & Clyde Quintile	Males < 70 yrs			Males > 70 yrs			Females < 70 yrs			Females >70 yrs			WTE GPs	Number of practices
	Number on Statin	Any CHD	Rate	Number on Statin	Any CHD	Rate	Number on Statin	Any CHD	Rate	Number on Statin	Any CHD	Rate		
2	295	414	71.3%	288	463	62.2%	175	255	68.6%	355	605	58.7%	22.1	5
3	537	609	88.2%	436	520	83.8%	310	360	86.1%	489	620	78.9%	25.9	6
4	59	67	88.1%	30	40	75.0%	48	54	88.9%	47	59	79.7%	2	1
5 (most deprived)	89	102	87.3%	37	45	82.2%	60	72	83.3%	22	22	100.0%	2	1
Total	980	1192		791	1068		593	741		913	1306			

NB There are no patients from GGC quintile 1 in this analysis

Table 3.11: Number of patients without a coronary heart disease diagnosis and prescribed statin medication, by gender and deprivation quintile, Paisley

Source: Primary Care Observatory, HaHP database contemporaneous data, 2006.

Greater Glasgow & Clyde Quintile	Males < 70 yrs			Males > 70 yrs			Females < 70 yrs			Females >70 yrs			WTE GPs	Number of practices
	Number on Statin	Number without CHD	Rate	Number on Statin	Number without CHD	Rate	Number on Statin	Number without CHD	Rate	Number on Statin	Number without CHD	Rate		
2	414	12,810	3.2%	173	1,099	15.7%	390	13,313	2.9%	362	1,991	18.2%	22.1	5
3	578	14,438	4.0%	257	1,191	21.6%	555	14,328	3.9%	426	2,072	20.6%	25.9	6
4	66	1,334	4.9%	13	99	13.1%	49	1,206	4.1%	20	135	14.8%	2	1
5 (most deprived)	89	1,999	4.5%	14	80	17.5%	104	1,753	5.9%	43	106	40.6%	2	1
Total	1,147	30,581		457	2,469		1,098	30,600		851	4,304			

Dividing the Paisley practice populations into five groups of similar size, from least to most deprived, the proportions of patients on a statin for primary CVD prevention (i.e. without an existing CHD diagnosis) in quintiles 1-5 (from least to most deprived) were 4.9%, 5.5%, 5.6%, 5.4% and 4.2%, **Table 3.12**.

Table 3.12: Proportion of Paisley population receiving a statin, by quintile of deprivation

Source: Primary Care Observatory, HaHP database contemporaneous data, 2006.

Paisley Deprivation Quintile	Number of patients	Total population	Percentage Prescribed Statin
1 (least deprived)	691	14,132	4.9%
2	749	13,677	5.5%
3	763	13,657	5.6%
4	745	13,841	5.4%
5 (most deprived)	563	13,284	4.2%
Total	3,511	68,591	

3.8 Impact of ASSIGN

The clinical indications for preventive treatment for cardiovascular disease are changing as a result of clinical guidelines which recommend lowering the threshold for intervention from a CVD event risk of 30% to 20% over 10 years. This change will be accompanied in Scotland by the introduction of a new CVD risk scoring system, ASSIGN, based on traditional Framingham-based risk factors, but also including deprivation and family history.

Table 3.13 shows the impact of the Framingham 30%, Framingham 20% and ASSIGN 20% CVD risk thresholds on men aged 30-74 in Greater Glasgow & Clyde, divided into quintiles of the distribution of deprivation scores.

Table 3.13: Number of men recommended for statin medication using Framingham risk tool at 30% and 20% risk thresholds and ASSIGN 20% risk threshold for Coronary Vascular Disease (CVD), NHS Greater Glasgow & Clyde

Source: Primary Care Observatory, Hugh Tunstall-Pedoe.

Greater Glasgow & Clyde Quintile	Framingham 30% risk males	Framingham 20% risk males	Assign 20% risk males
1 (least deprived)	11,460	20,412	14,187
2	8,098	17,641	10,822
3	13,398	21,286	16,601
4	12,684	22,042	18,530
5 (most deprived)	11,695	22,494	21,644

While the Framingham 20% threshold approximately doubles the number of men at high CVD risk in each quintile, compared with the Framingham 30% threshold, the effect of the ASSIGN 20% threshold is to substantially reduce the increase in cases

in quintiles 1-3, to halve the increase in quintile 4 and to maintain the increase in quintile 5. The effect of ASSIGN, therefore, will be to substantially increase the high CVD risk caseload in people living in the most deprived areas, and in the practices predominantly serving such populations.

3.9 Volunteering by general practices

General practices are generally preoccupied in dealing with the problems presented by patients on a day to day basis. In recent years, they have also been concerned with achieving clinical targets. These include incentives introduced through the new GMS contract, mainly for preventive aspects of care requiring a population approach. Practice engagement with the Quality and Outcomes Framework (QOF) is generally high, with almost all practices achieving within 5% of the maximum totals for clinical and organisational aspects of care (**Table 3.14**).

Practices also choose to take part in a range of voluntary activities e.g. undergraduate teaching of medical students, postgraduate training of GP registrars, research studies via the Scottish Primary Care Research Network (SPCRN), enhanced clinical data recording via the Scottish Programme for Improving Clinical Effectiveness (SPICE), primary care development projects via the Scottish Primary Care Collaborative (SPCC) and the Quality Practice Award Scheme of the RCGP (QPA).

Table 3.15 shows the distribution of practice participation in these named voluntary activities across CHCPs in Greater Glasgow & Clyde.

Table 3.14: Overall number of activities and average QOF points achieved in practices by CH(C)P area, NHS Greater Glasgow & Clyde

Source: Primary Care Observatory, deprivation score 2005; activities 2005-7; QOF score 2006.

CHCP Area	Number of practices	SIMD ¹	No activities	One activity	Two activities	Three activities	Four or more activities	Clinical QOF points	Non-clinical QOF points	Total QOF points
East Renfrewshire CHCP	16	12.4	5	7	2	1	1	654.9	309.7	964.7
East Dunbartonshire CHP	17	12.5	2	4	3	7	1	670.5	320.3	990.9
North Lanarkshire CHP	3	20.2	1	2	0	0	0	646.5	322.8	969.3
Renfrewshire CHP	30	23.5	11	10	4	2	3	661.3	316.6	977.8
South Lanarkshire CHP	14	27.2	5	3	5	0	1	671.8	320.8	992.6
West Dunbartonshire CHP	19	27.4	5	2	9	3	0	669.6	319.9	989.5
South East Glasgow CHCP	28	28.2	8	10	4	5	1	662.6	316.3	978.9
Inverclyde CHP	15	28.8	6	5	3	1	0	642.2	314.7	956.9
West Glasgow CHCP	44	30	8	5	12	15	4	660.5	316.1	976.6
South West Glasgow CHCP	25	37.5	5	5	6	4	5	668.4	319.2	987.7
North Glasgow CHCP	20	45	1	7	5	3	4	658.7	315.9	974.6
East Glasgow CHCP	35	45.3	6	13	6	6	4	659.7	312.7	972.4
Total	266		63	73	59	47	24			
Percentage			23.7	27.4	22.2	17.7	9			
All Glasgow City CHCPs	152	37.2	28	40	33	33	18	662	316	978

1. SIMD score included in this table uses the full SIMD (including health measurement). The score included here is the mean population SIMD score for each CH(C)P area and is for 2005.

Table 3.15: Number of practices taking part in defined voluntary activities in NHS Greater Glasgow & Clyde

Source: Primary Care Observatory, deprivation score 2005; activities 2005-7; QOF score 2006.

CHCP Area	Number of practices	SIMD ¹	SPICE	GP training	SPCRN	SPCC	Teaching
East Renfrewshire CHCP	16	12.4	7	10	6	0	11
East Dunbartonshire CHP	17	12.5	6	8	10	21	13
North Lanarkshire CHP	3	20.2	0	2	6	5	5
Renfrewshire CHP	30	23.5	2	3	1	4	4
South Lanarkshire CHP	14	27.2	7	5	13	10	9
West Dunbartonshire CHP	19	27.4	1	0	0	1	0
South East Glasgow CHCP	28	28.2	6	6	5	11	8
Inverclyde CHP	15	28.8	2	5	10	5	14
West Glasgow CHCP	44	30	4	1	6	3	3
South West Glasgow CHCP	25	37.5	9	6	11	10	13
North Glasgow CHCP	20	45	3	4	8	4	8
East Glasgow CHCP	35	45.3	14	7	25	18	26
Total	266		61	57	101	92	114
Percentage			22.9	21.4	38	34.6	42.9
All Glasgow City CHCPs	152	37.2	36	24	55	46	58

1. SIMD score included in this table uses the full SIMD (including health measurement). The score included here is the mean population SIMD score for each CH(C)P area and is for 2005.

A summary of the number of activities that individual practices are involved in and the average points achieved from the QOF can be found in **Table 3.14**. 63 practices

(24%) do not take part in any of these voluntary activities, 27% take part in one, 22% in two, 18% in three and 9% in four or more.

Within Glasgow City (East, West, North, South-West and South-East CHCPs, comprising 152 practices), 28 practices (18%) do not take part in any of the activities, 26% take part in one, 21% in two, 22% in three and 12% in four or more.

The most popular voluntary activity is undergraduate teaching (43%), followed by research (38%), the Scottish Primary Care Collaborative (35%), postgraduate training (21%) and SPICE (23%).

In general there is a direct relationship between the number of voluntary activities and the numbers of clinical and organisational points achieved in the 2006/07 QOF, with non-participating practices having the lowest numbers of points in both categories (**Table 3.16, Figure 3.6**)

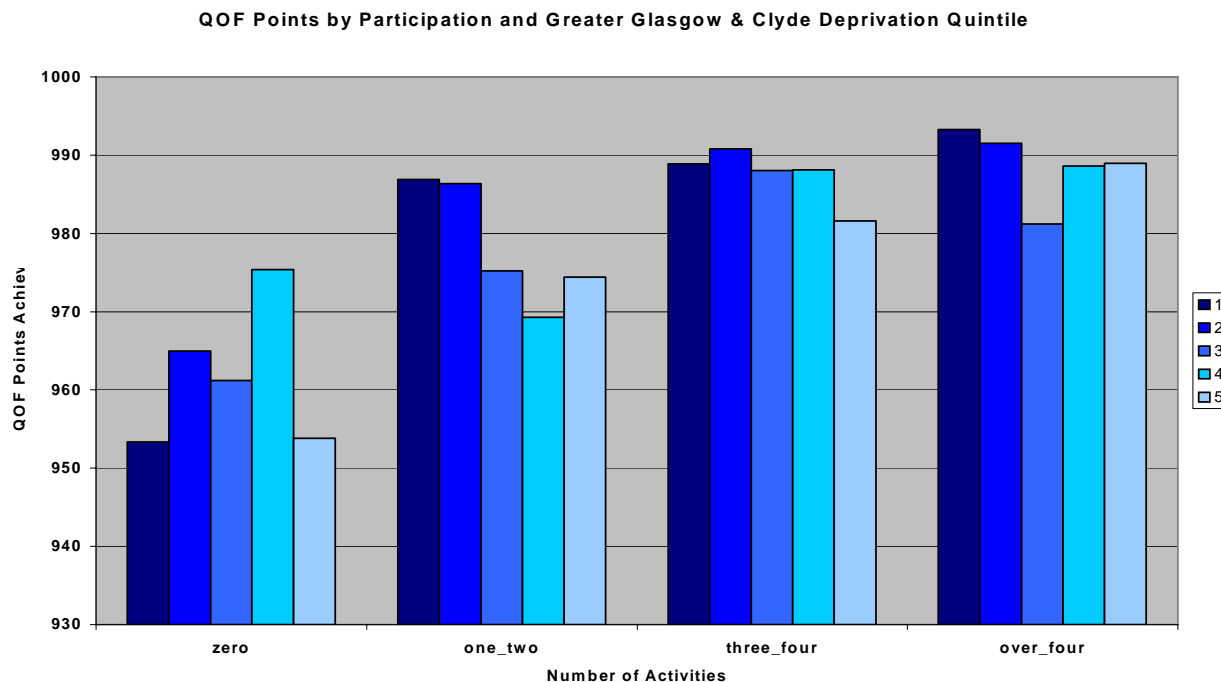
Table 3.16: Number of voluntary activities and QOF points achieved, by Greater Glasgow & Clyde deprivation quintile

Source: Primary Care Observatory, 2006/7, modified SIMD

Deprivation Quintile	No voluntary activities			One to two activities			Three to four activities			Four or more activities		
	clinical	non-clinical	total	clinical	non-clinical	total	clinical	non-clinical	total	clinical	non-clinical	total
1 (least deprived)	642.9	310.4	953.3	667.2	319.7	986.9	668.8	320.1	988.9	674.5	318.8	993.3
2	654.6	310.3	965	667.5	318.9	986.4	669.6	321.2	990.8	670.2	321.3	991.5
3	642	319.2	961.2	660	315.2	975.2	668.8	319.3	988	662.9	318.4	981.2
4	658.2	317.2	975.4	656.6	312.7	969.3	669.7	318.5	988.1	669.8	318.8	988.6
5 (most deprived)	649.9	303.9	953.8	660.7	313.7	974.4	663.1	318.4	981.6	669.5	319.4	988.9

Figure 3.6: QOF points achieved, broken down by participation in voluntary activities and Greater Glasgow & Clyde deprivation quintile

Source: Primary Care Observatory, 2006/7



3.10 Discussion

Socio-economic deprivation and its severe health consequences, are concentrated within Scotland in the NHS Greater Glasgow & Clyde area. Within NHS GGC, they are concentrated within North and East Glasgow CHCPs (see **Figure 1.3**). However, people living in deprived circumstances can be found within many areas of Scotland, and in all CH(C)P areas within NHS GGC.

A major feature of general practice populations is their geographically disparate nature, representing communities of interest rather than communities of place. Analyses based on general practice populations can show the extent to which these communities access and benefit from NHS health care.

The relatively poor health of deprived general practice populations is seen most starkly on the basis of mortality data collected by the Registrar General and morbidity data collected by the decennial Census and intermittent national health surveys.

Social gradients in health care activity are less steep, partly due to the relatively flat distribution of general practitioners and associated staff, and their difficulty in responding to increased levels of need by increasing their activity levels.

Research studies (**Appendix 7**) show that the mismatch of resource and need is associated with shorter average consultation times in general practices in deprived areas. Research also shows the higher prevalence of multiple morbidity in deprived areas and, in particular, the higher prevalence of psychological stress in association with other conditions. Patients with psychological co-morbidity in deprived areas are less likely to report being enabled by a consultation with a general practitioner than are similar patients in more affluent areas. General practitioners in deprived areas also report higher personal stress levels.

General practice populations in Greater Glasgow are unusual in that they provide not only information on quality indicators for the new GMS contract, but also a wealth of other data on chronic disease management as part of a local enhanced services (LES) scheme. These data show that general practitioners serving the most deprived fifth of the Greater Glasgow population have 30% more heart disease patients than general practitioners serving the least deprived fifth. Heart disease patients in the most deprived fifth are twice as likely to report associated psychological problems.

Drug treatment with statins is the most effective clinical intervention to increase longevity in large numbers of people. Although statin treatment has increased over fourfold in the last six years, it is not known what proportion of this prescribing is for primary prevention (i.e. to prevent heart disease in people currently without the condition) nor the extent to which such treatment is socially patterned according to CVD risk. However, it is known that application of the new ASSIGN risk score, including deprivation and family history as risk factors, has the potential to double the number of men in the most deprived fifth of the population who are eligible for such treatment. ASSIGN will also substantially increase the number of women for whom CVD prevention is indicated.

Research shows that lay perceptions of CVD risk may differ from professional views and suggests that cultural changes in understanding and behaviour may be needed before the benefits of CVD prevention can be fully achieved.

Compared with some deprived inner city areas in England and Wales, the west of Scotland conurbation is fortunate in having maintained complete population coverage by the general practice system, mainly via a large number of small practices, with high levels of professional commitment, as demonstrated by performance in the Quality and Outcomes Framework of the new GMS contract, and high levels of participation in voluntary schemes for teaching, training, research, IT and service development. Nevertheless, about 20% of general practices do not take part in any of these schemes, and they present a continuing challenge of engagement.

References

- 1 Mackay D Sutton M Watt G. Deprivation and volunteering by general practices : cross-sectional analysis of a national primary care system. *BMJ* 2005; 331: 1449-50
- 2 Watt GCM. The inverse care law today. *Lancet* 2002;360:252-4

4 What future challenges face primary care?

Key points in this section

- Providing co-ordination and continuation of care for those with long term conditions will present a continuing challenge to primary care services.
- Developing challenges are likely to include managing increasing levels of alcohol consumption, obesity and mental health issues.

Introduction

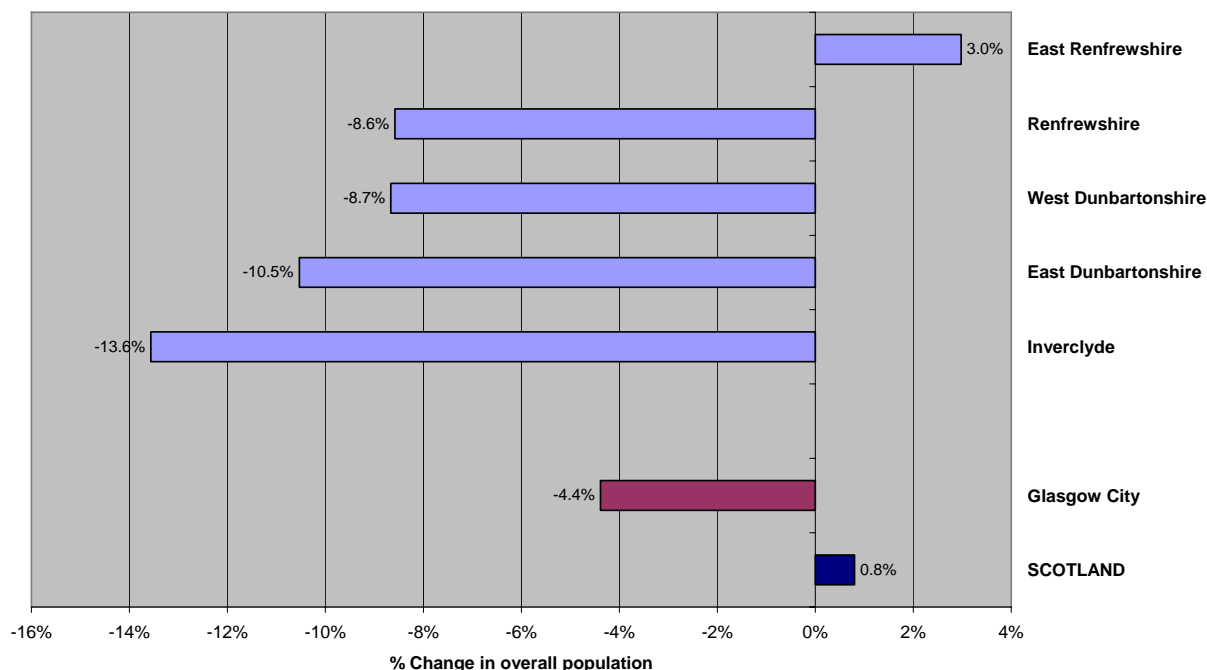
Although it is not possible to predict future challenges with certainty, some population and health trends suggest which emerging issues might pose challenges in the future. This section describes the demographic changes predicted by the General Register of Scotland over the next 17-23 years. It also discusses possible trends in population health and challenges to our health services.

4.1 Demographic changes

The General Register Office for Scotland (GROS) estimates the population changes in the country over future years. Current projections from GROS relating to council areas estimate a net fall in all NHS GGC local authority areas except East Renfrewshire between 2004 and 2024. These local council area projections are based on population estimates made in 2004.

Figure 4.1: Projected Population Changes in Scotland, 2004-2024; NHS Greater Glasgow & Clyde council areas.

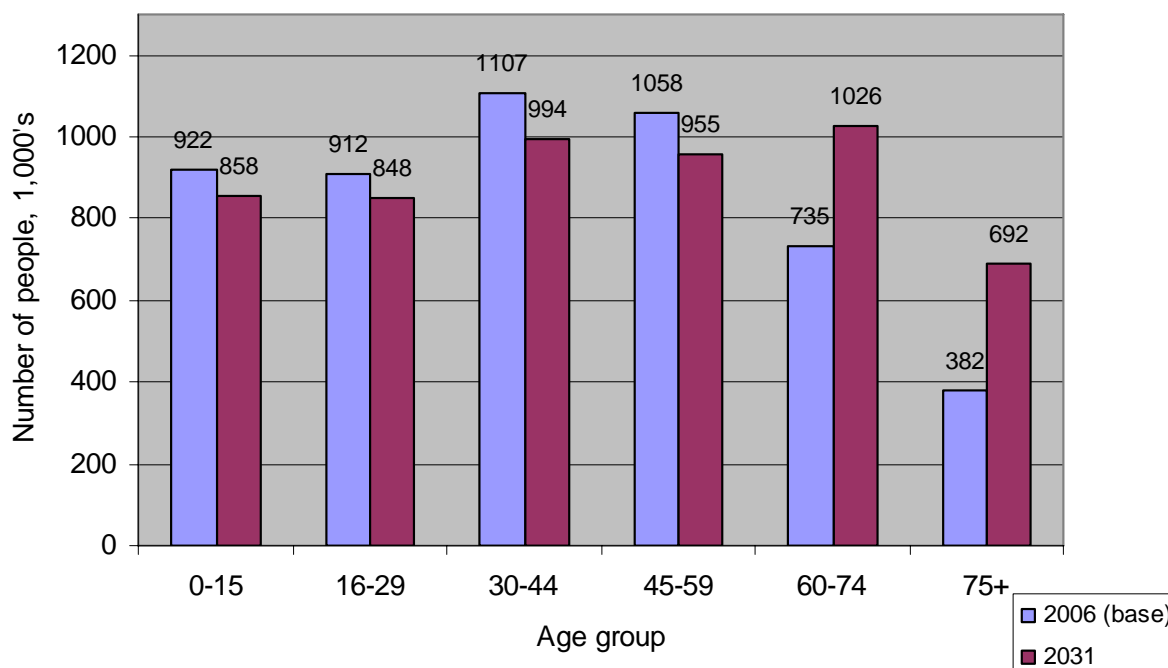
Source: based on 2004 based population projections, GROS



More recently, GROS has made new population projections for the whole of Scotland based on 2006 population estimates. **Figure 4.2** below illustrates the predicted changes to different age groups over the whole of Scotland between 2006 and 2031. The figure illustrates that there is expected to be a 40% increase in the number of people aged 60-74 years and an 81% increase in those aged 75 and over in the population. This large increase is thought likely to occur because of the reduction in mortality rates and the 'baby boomer' population entering old age. Council area projections based on 2006 estimates are not available at present. There are likely to be some local variations to this national projection. 2004 population projections for Glasgow city showed relatively little change in the number of people aged 65 and over.

Figure 4.2: Projected population of Scotland, by age group. 2006-2031

Source: GRO figures, 2006 base year



4.2 Dependency ratios

The predicted changes to the age structure of our population outlined above will pose economic and health care challenges in future. One way of illustrating how this might affect us is to use 'dependency ratios'. The GROS has calculated these for local council areas between 2004 and 2024. These ratios illustrate the proportion of young and old to the proportion of working age people in the population.^{xv} A lower ratio in theory reflects lower levels of economic dependency. However, dependency ratios do not take into account those individuals who are of working age but are economically inactive.

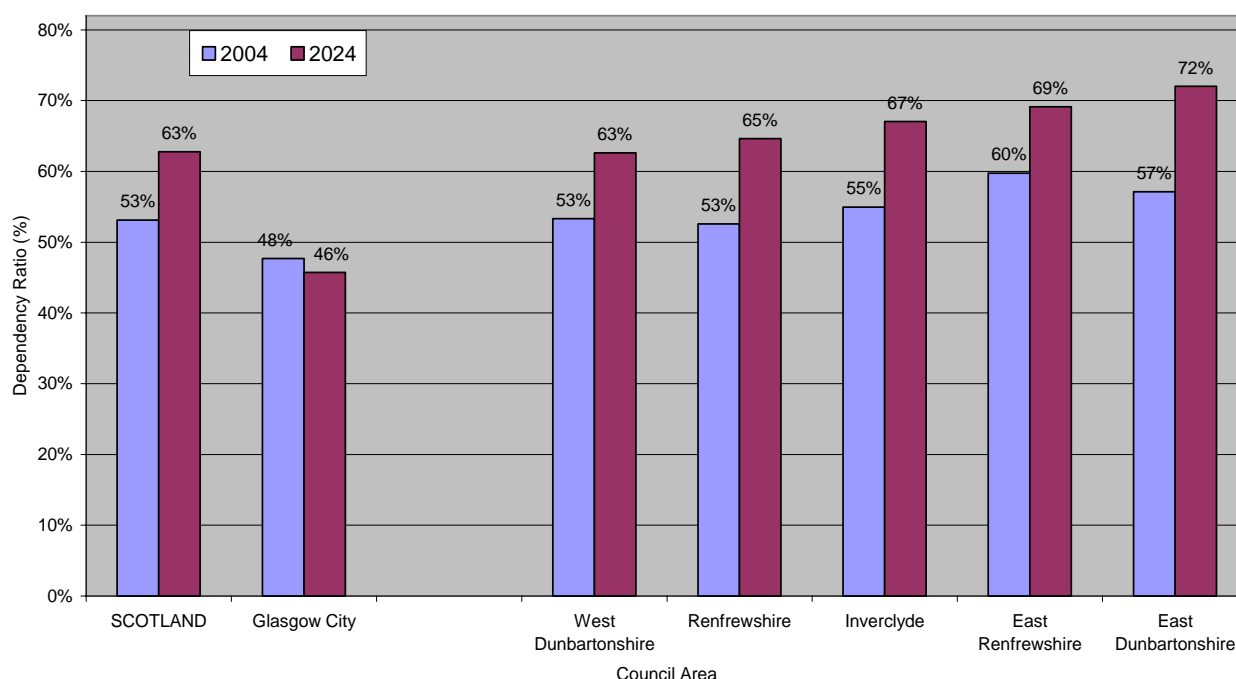
Overall, dependency ratios across most council areas in Scotland and in the country as a whole are expected to slowly increase between 2004 and 2024, reflecting the ageing population.¹ **Figure 4.3** below illustrates the projected change to dependency ratios across the NHS Greater Glasgow & Clyde board area. Glasgow city has the highest proportion of adults aged under 65 and the lowest dependency ratio - a ratio which is predicted to remain unchanged. In contrast, all of the other local authority

^{xv} The dependency ratio = 100 x ('population under 16 yrs' + 'population aged 65 yrs or more')/ population aged 16-64 yrs

areas within NHS GGC have a higher proportion of older adults and children who are not economically active. The dependency ratios in all of these areas are predicted to rise further in the next 20 years.

Figure 4.3: Dependency ratio projections for NHS GGC council areas, 2004 and 2024

Source: 2004 population projections, GRO Scotland



In most parts of Scotland the dependency ratio is predicted to increase slowly over the next 20 years. However, this is not the case in Glasgow City, which already has the lowest dependency ratio in Scotland. In Glasgow City it is expected that the number of people aged over 65 years will not change substantially over the next 20 years. Other council areas have different population structures and it is likely they will face a different mixture of health and social care issues in the future.

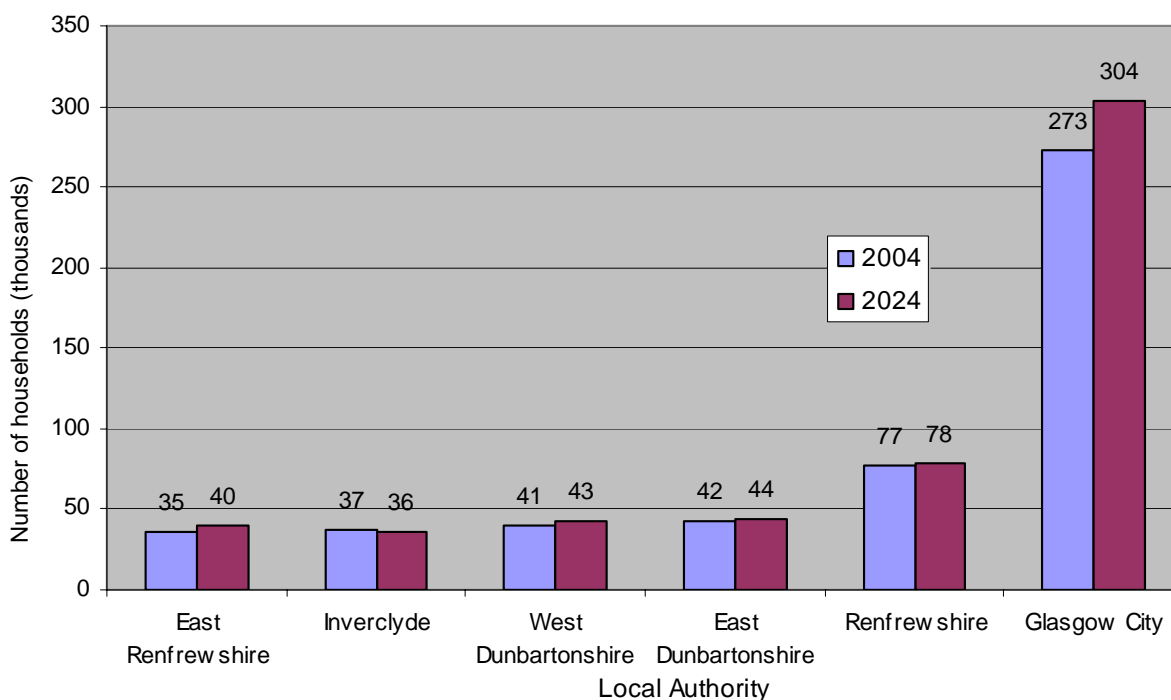
4.3 Households

Over coming years it is predicted that the number of households in Scotland will increase, see **Figure 4.4**. East Renfrewshire is expected to experience the largest change with a 13% increase in households. Glasgow city is also expected to

experience substantial change with a projected 11% increase in households by 2024.

Figure 4.4: Projected change in number of households by Local Authority area, 2004-2024

Source: GROS household projections, 2004



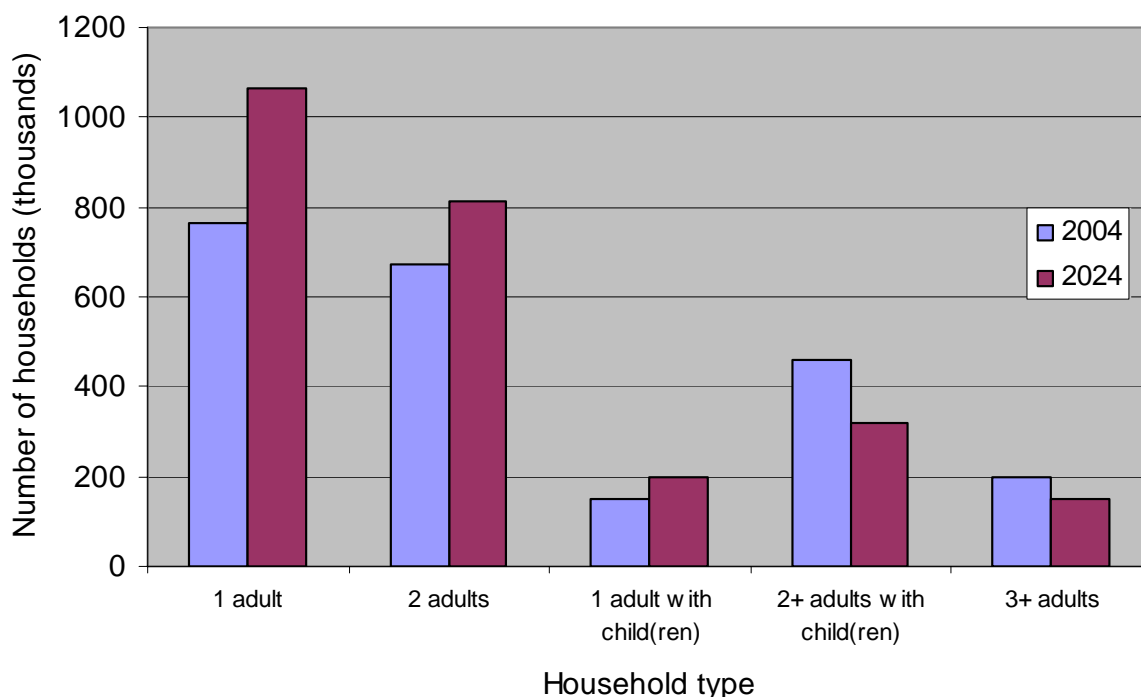
Smaller changes are predicted in the other local authority areas (between 5% increase and 1% decrease). These projections are based on 2004 population estimates.

National projections suggest that there will be a change in household type in future, and these projections are summarised in **Figure 4.5**. The number of single person households in Scotland is expected to increase substantially between 2004 and 2024. The projections also suggest that there will be a fall in the number of households where two adults live together with children and an increase in the number of single parent households. Although these projections may vary according to locality they do provide an overview of the future shape of households in Scotland. There are likely to be an increasing number of older people and single person households in future.

Changes in the age structure of our population and in the number of single person households are likely to impact on health services in the future.

Figure 4.5: Projected number of households in Scotland by household type: 2004 and 2024

Source: GROS household projections 2004



4.4 Migration

Migration is the most difficult part of population change to measure and predict. GROS uses analyses of the trends in migration to and from the UK as well as migration within the UK to create population projections.

Migration to Scotland has increased over the last two years and because GROS projections are based on current trends their most recent report suggests migration numbers will increase in future. The current long term assumption is that an additional 8500 people will migrate to Scotland each year, compared to the assumption of an additional 4000 people in the 2004 projections.

4.5 Asylum seekers

At present, we estimate that approximately 11,200 asylum seekers and refugees are registered with general practices in NHS GGC (see page 18). We do not know whether policies to settle asylum seekers in the city will continue in future. If these policies do continue then the population of asylum seekers and refugees will continue to rise.

4.6 Life expectancy

Although overall death rates are falling, there are considerable variations in life expectancy in different parts of NHS GGC.

An analysis of life expectancy trends by postcode sector in Glasgow^{XVI} showed that males in the most affluent parts of Greater Glasgow can now expect to live to over 76 years, while in Scotland as a whole men can expect to live to just over 73 years. By contrast, in the most deprived quintile, life expectancy is estimated to have dropped slightly in the last 20 years from 65.3 years to 64.4 years. As a result of these opposing trends, the gap in life expectancy for men in Greater Glasgow has widened from 6.9 years to 11.8 years. In other words, the gap in male life expectancy between the most and least affluent parts of Greater Glasgow has widened by five years over the last twenty years. A similar pattern is seen for women, though the gap is not quite as marked. The gap in life expectancy between women in the most and least deprived communities of Greater Glasgow widened from 5.5 to 7.5 years between 1981 and 2002.

Figure 4.6 and **Figure 4.7** illustrate the current variation in life expectancy at birth for men and women born in different CH(C)P areas in NHS GGC.

^{XVI} More detail about this analysis can be found in the 'Let Glasgow Flourish' report. This work was carried out on postcodes within Greater Glasgow only.

Figure 4.6: Male life expectancy at birth, Greater Glasgow & Clyde CH(C)Ps, 2003-5

Source: GROS

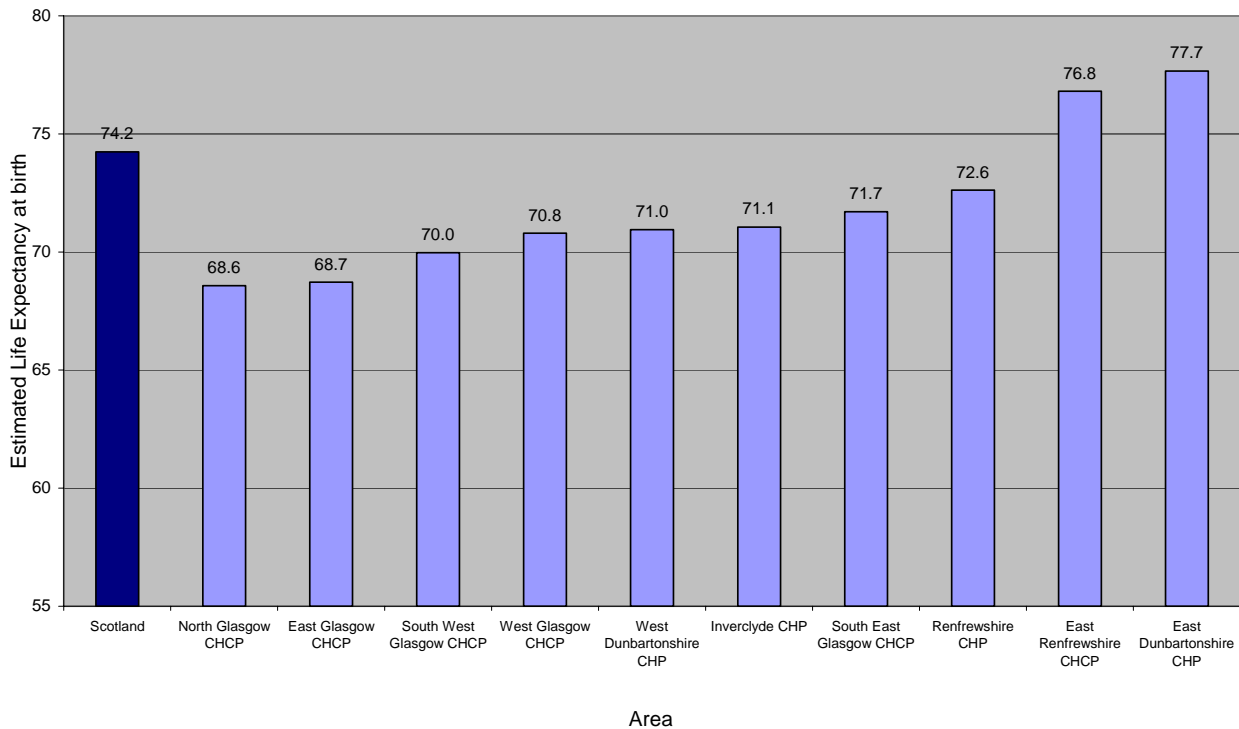
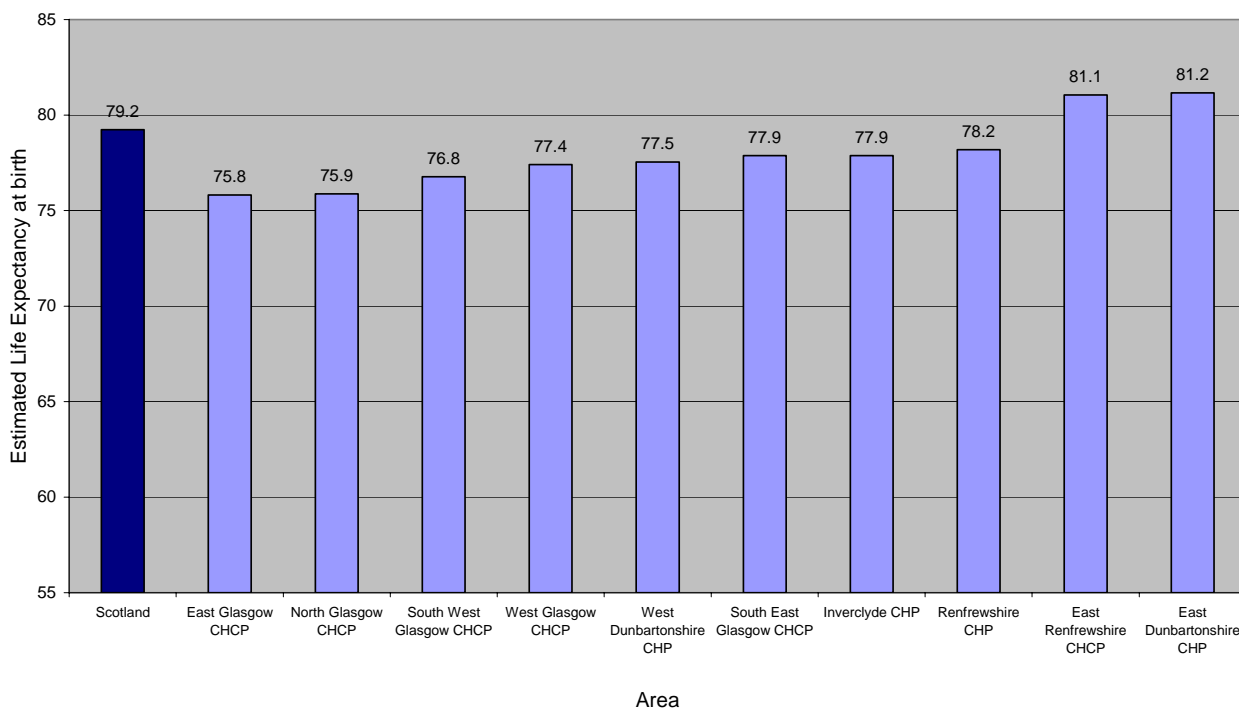


Figure 4.7: Female life expectancy at birth, Greater Glasgow & Clyde CH(C)Ps, 2003-05

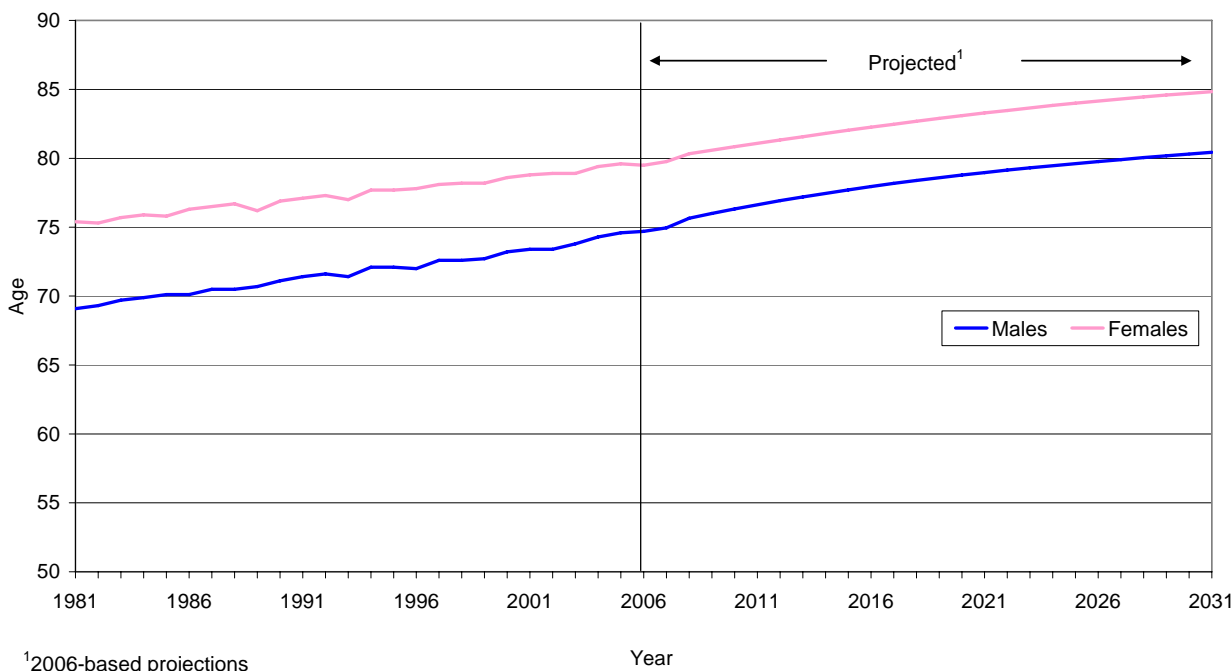
Source: GROS



Across the whole of Scotland it is expected that life expectancy will increase in future from 74.7 years for males in 2005 to 80.4 years in 2031. Life expectancy for females is expected to rise from 79.5 years in 2005 to 84.8 years in 2031.

Figure 4.8: Expectation of life at birth, Scotland, 1981-2031

Source: GROS projected population of Scotland



However, national and local research has shown that both healthy life expectancy and total life expectancy fall as levels of deprivation rise.² It is likely that CH(C)P areas with higher numbers of people living in more deprived circumstances will find it difficult to achieve the same increases in life expectancy as more affluent areas.

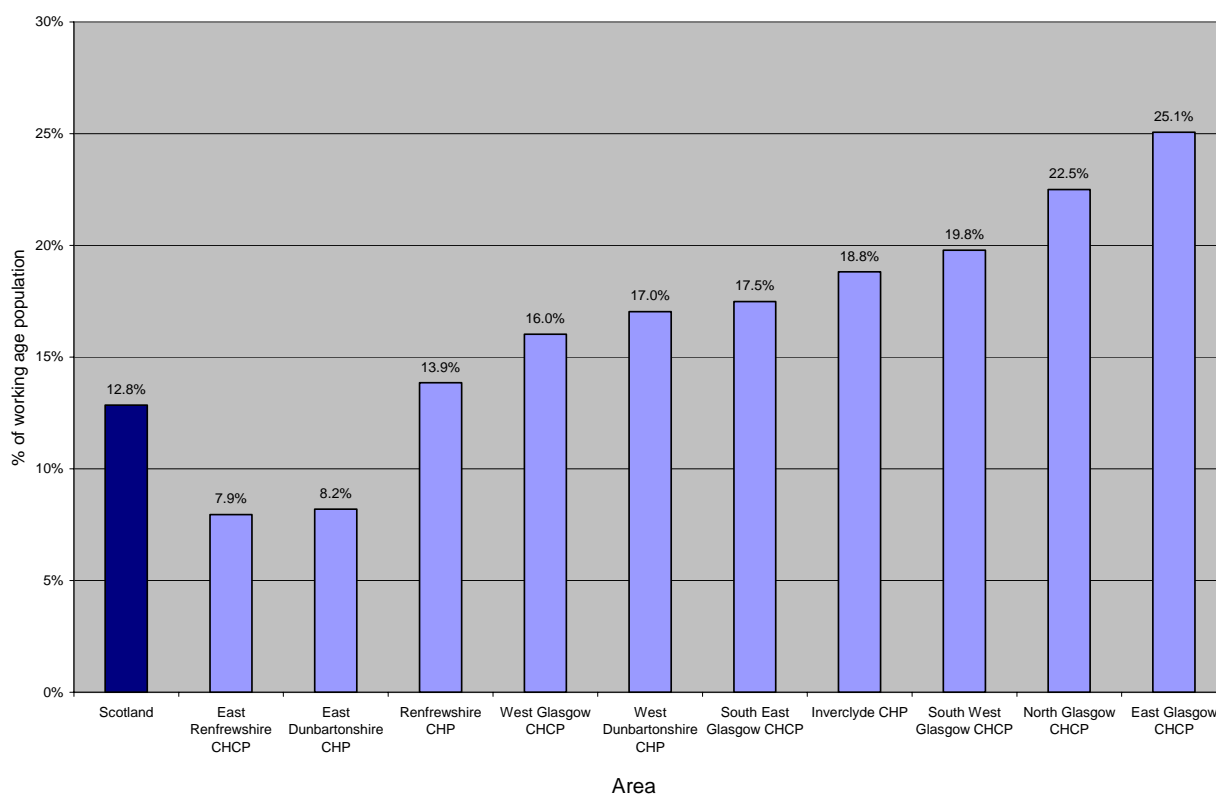
4.7 Employment

The number of jobs in Scotland today is much higher than 10 or 20 years ago. However, recent projections suggest that there will be some slowdown in the growth of employment compared to previous years.³ Most of the growth will be in service industries. A recent report by the Glasgow Economic Forum⁴ stated that almost 80,000 new jobs have been located in the city since 1995 and almost 40,000 extra city residents have found work over this same period. However, the city still needs another 40,000 to 50,000 residents in work to bring employment levels up to the

Scottish and UK averages. In recent years the number of new jobs coming to the city has slowed and Glasgow residents have found it more difficult to find employment since 2004. There may be particular challenges in future supporting people currently receiving incapacity benefit returning to work. Recent research by the Glasgow Centre for Population Health found that although the number of incapacity benefit claimants has fallen in the City, the proportion of claimants reporting 'mental and behavioural disorders' as their main reason for claiming benefit has increased.⁵ Marked variation in employment levels are found in different council areas. The figure below illustrates the percentage of the working population who are considered 'employment deprived'. This means that these people are not in work due to unemployment, illness or disability.^{XVII}

Figure 4.9: Percentage of working age population who are 'Employment Deprived', CH(C)Ps within Greater Glasgow & Clyde, 2006

Source: SIMD
2006



^{XVII} The indicator 'employment deprived' was produced as a component of SIMD. It includes unemployment claimant count, working age incapacity benefit claimants, working age severe disablement allowance claimants and working age compulsory New Deal participants.

There is a marked difference in the proportion of 'employment deprived' people across the CH(C)P areas. There is a threefold difference in the proportion of 'employment deprived' people who are resident in East Renfrewshire and the proportion in East Glasgow. Similarly, there is a threefold variation in the proportion of CH(C)P populations who are affected by 'income deprivation'.^{xviii} Overall, 7.4% of East Dunbartonshire's population are income deprived but in East Glasgow, 29.8% of the population suffer from income deprivation.

4.8 Service delivery

Recent policy documents have signalled a move towards providing more care within communities and away from hospital based care. The Action Plan *Better Health, Better Care* describes the Scottish government's desire to enable ongoing care to be provided at home or within a local community. The document also highlights a desire to increase the targeting of health resources to areas of greatest disadvantage and shifting the balance of care from hospital to community based services.

It will be challenging for CH(C)Ps and services to ensure that these new developments are implemented equitably and without damaging existing services. Key roles for CH(C)Ps include ensuring population level health improvement in local communities and playing a central role in service redesign. Co-ordination of social care and health care services will be important within all CH(C)P areas. However, perhaps an even greater challenge to CH(C)Ps will be to ensure that health improvement approaches and health services are co-ordinated across the health board area.

The number of women in employment has increased in recent years in Glasgow. In 1981 47.5% of the jobs in Glasgow city were held by women. This increased to 51.5% of jobs by 2003.¹ Even more dramatic changes have been reported within the general practitioner workforce. In 1985 approximately a third (34%) of new GPs given certificates to practice that year were women. By 2004 58% of new GPs given certificates to practice were women. Figures from the BMA in 2004 showed that 62%

^{xviii} The indicator 'income deprived' was produced as a component of SIMD. It includes the number of adults claiming income support, those claiming guaranteed pension credit, children dependant on a claimant of income support, adults claiming Job Seekers Allowance and the number of children dependent on a claimant of Job Seekers Allowance.

of successful applicants to medical schools in the UK were female. The RCGP believes that part of the reason so many female doctors are choosing to work in general practice is because of the availability of flexible working. The proportion of women working in general practice is likely to continue to rise and this suggests that flexible working is likely to continue to be an important factor in future workforce planning.

A number of recent developments describe alternative roles for primary care staff in the future. These include the piloting of physician assistants in Scotland, GPs with a special interest and practitioners with a special interest. These may provide alternatives for CH(C)Ps to consider.

4.9 Sustainability

Climate change is one of the greatest challenges facing the world today. The NHS will be at the frontline of responding to people whose health might be affected by a warmer, more variable climate.⁶ In addition we are faced with rising costs of energy and recognition that fossil fuels are a finite energy source. Although there is no immediate threat to the supply of petrol this may not always be the case. Over future years, it may become more difficult for patients and primary care professionals to travel to see each other. All health services need to consider how best to ensure they can react to changing circumstances, to ensure patients can still receive the health and social care they need.

The NHS can also contribute to reducing environmental impacts and long term energy costs by making all new buildings energy efficient and insulated. Most NHS waste is sent to landfill sites. The NHS confederation, covering England and Wales suggests organisations should review their waste plans to reduce, recycle and reuse as much as possible.

4.10 Chronic diseases

As the population ages and health services become better at dealing with life threatening illnesses more people will survive with long term conditions. One of the questions included in the Scottish Health Survey⁷ asked participants to report any

long standing illnesses. In 2003, 41% of men and 42% of women reported a long-standing illness and overall 25% of men and 28% of women said that they were suffering from a *limiting* long-standing illness. Key attributes associated with primary care services include the provision of long term care focused on individuals and ensuring coordination of care. These key attributes are essential for ensuring good quality primary care for individuals living with long term conditions.

Primary care services are now being specifically rewarded for monitoring patients with specified long term conditions through the Quality Outcomes Framework and Locally Enhanced Services. Caring for patients with these conditions is likely to continue to pose challenges to primary care services in future.

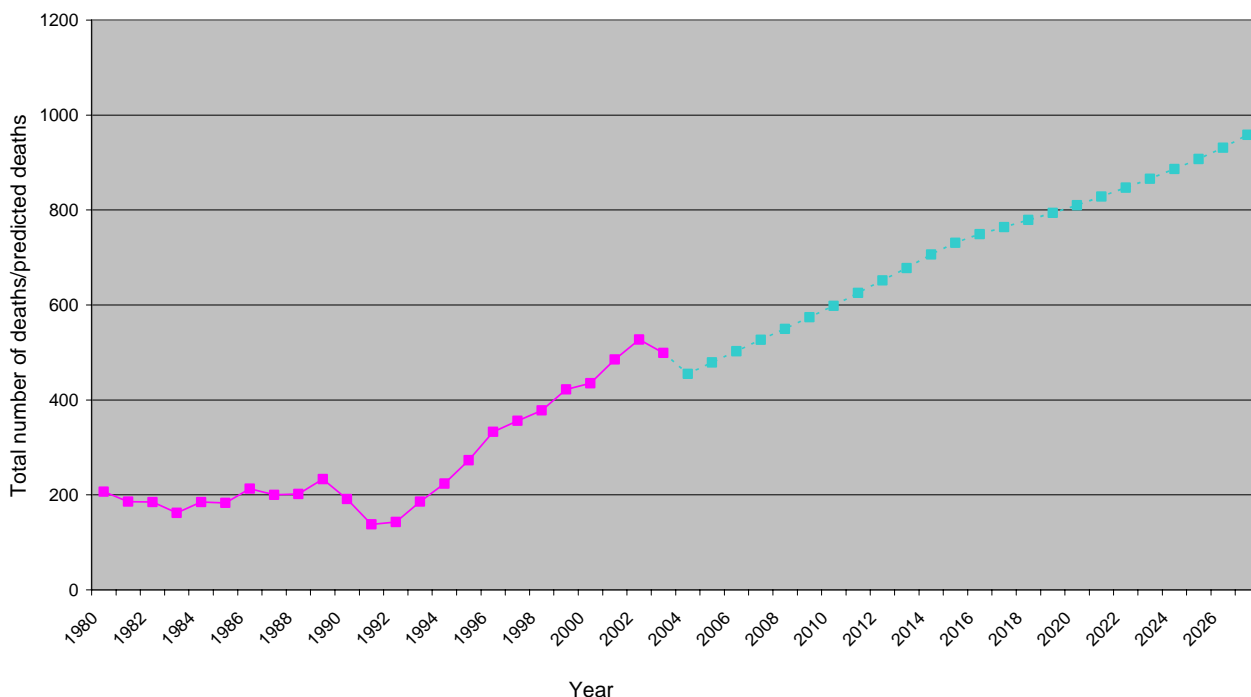
4.11 Population health

Alcohol

Trends in health behaviour will also have an impact on future disease and mortality levels. Some behavioural trends are of particular concern for future population health. Since the early 1990s there has been a marked increase in the number of alcohol related deaths and hospitalisations in Scotland. There are estimated to be more than 13,500 'problem alcohol users' resident within Glasgow City. Simple projections of alcohol related deaths based on recent trends suggest that the number of alcohol related deaths in Greater Glasgow could double in the next twenty years.

Figure 4.10: Alcohol related mortality, Greater Glasgow: deaths 1980-2003 and projections 2004-2027

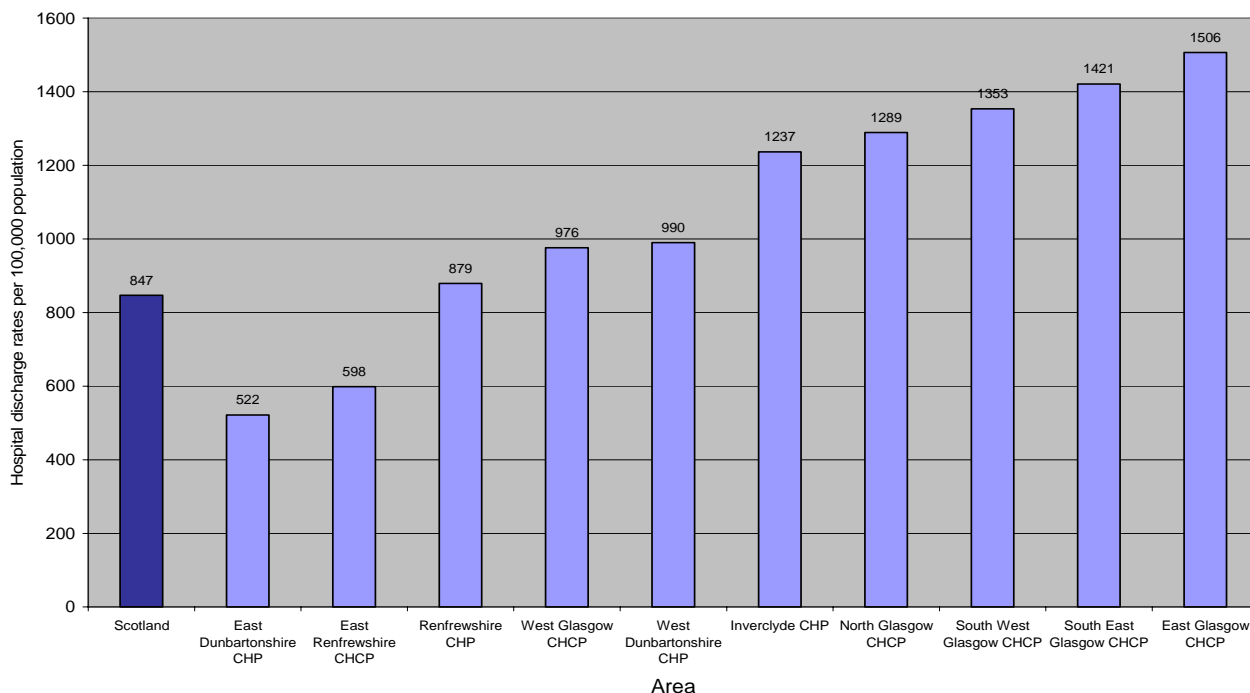
Source: GROS/NHSHS



We know there is considerable variation in the number of patients hospitalised due to alcohol related conditions across CH(C)P areas, **Figure 4.11** below summarises the rates of patients discharged annually for alcohol related and attributable conditions. People living in East Glasgow CH(C)P are almost three times as likely to be admitted to hospital as are those living within East Dunbartonshire CHP. All but two of the CH(C)P areas within NHS GGC area have patient admission rates above the Scottish average for these conditions.

Figure 4.11: Patient discharge rates for patients admitted to hospital with alcohol related and attributable conditions 2004-6. Rates standardised for age and sex.

Source: ISD Scotland, SMR1/01 3 year annual average



However, the relationship between deprivation and alcohol consumption is complex. The Scottish Health Survey in 2003^{XIX} found that women in the two *least* deprived quintiles of the population reported higher average consumption than those in the three *most* deprived quintiles. For men there was little variation in reported consumption between deprivation quintiles. However, men and women living in the most deprived quintile were most likely to report binge drinking (46% men and 34% women).

We do not know if the different patterns of drinking behaviour (as opposed to overall levels of consumption) might explain some of the variation in hospital discharge rates between CH(C)P areas.

Drugs Misuse

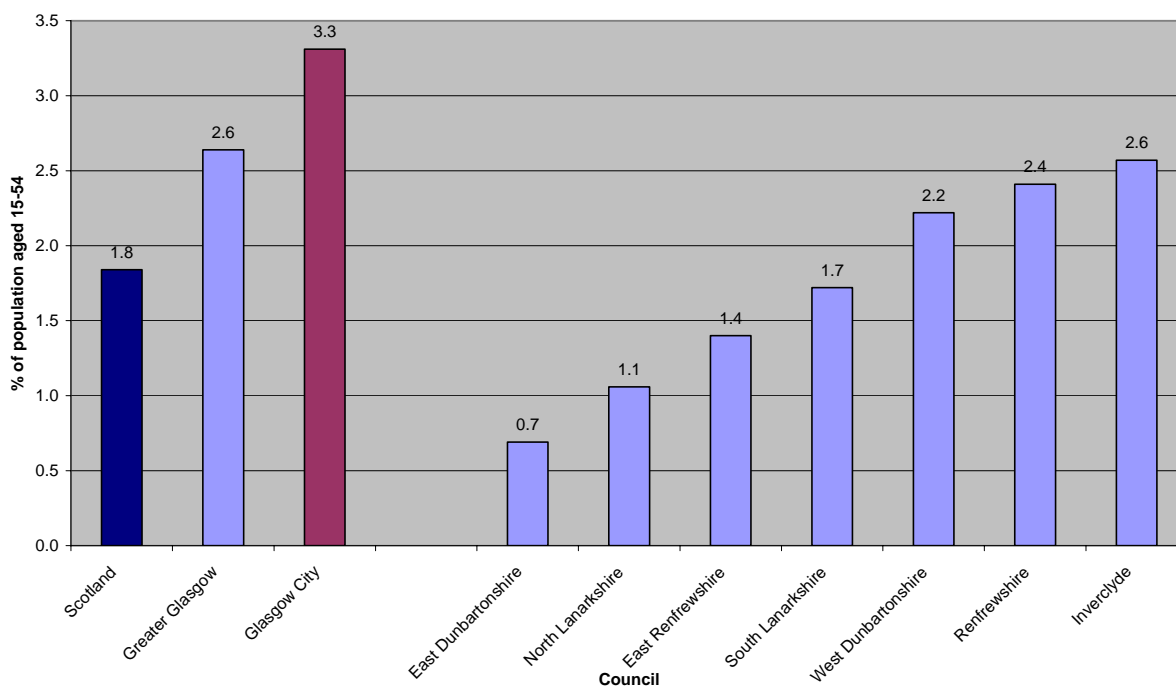
The report 'Estimating the National and Local Prevalence of Problem Drug Misuse in Scotland'⁸ collected information about the number of people using opiates or benzodiazepines over the whole of Scotland. The authors estimated that there were

^{XIX} There are difficulties in asking people to recall how many alcoholic drinks they have consumed. People tend to under-report and miscalculate the number of units they have drunk.

approximately 51,582 problem drug users in Scotland in 2003. Figure 4.12 below summarises the findings for council areas within NHS GGC. Glasgow City Council had the highest prevalence of problem drug use in Scotland.

Figure 4.12: Estimated proportion of 'problem drug users' (aged 15-54), 2003

Source: Glasgow University/SCIEH



The study also reviewed changes in the prevalence of drug misuse between 2000 and 2003. The researchers found that there was a significant fall in the number of problem drug users in Glasgow (prevalence fell by 15%, from 3.8% to 3.3%). Overall, there was no significant change in the prevalence of problem drug misuse across Scotland.

Figure 4.13 summarises the drug related death rate over 10 years by CH(C)P area in NHS GGC. This figure demonstrates a wide variation in drug related death rates in different CH(C)Ps. There is a three fold variation between the Scottish death rate and that seen in East Glasgow CHCP. The contrast between death rates in East Dunbartonshire and East Glasgow is even more striking.

Figure 4.13: Drug related deaths over 10 years (1997-2006) per 100,000 population. Greater Glasgow & Clyde CH(C)Ps

Source: GRO(S)

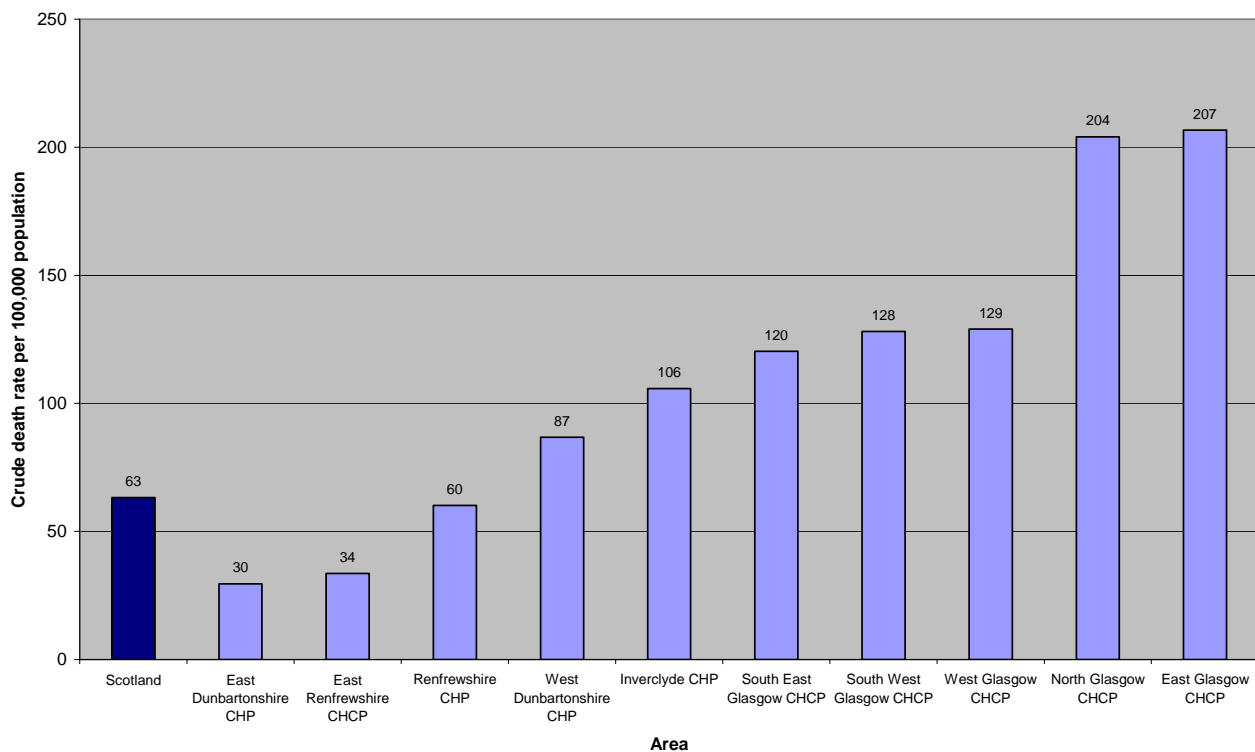
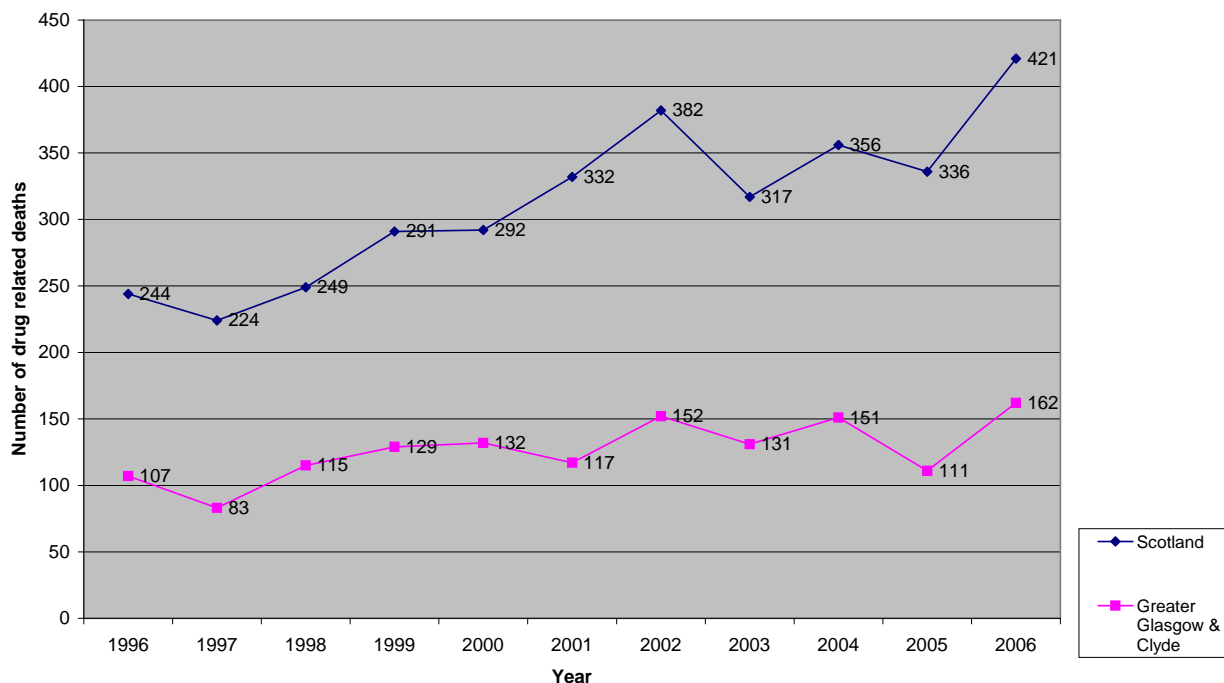


Figure 4.14 below summarises the trend in drug related deaths between 1996 and 2006 in NHS Greater Glasgow & Clyde and Scotland. The numbers of deaths recorded has varied year-to-year. Overall, the total number of deaths across Scotland and NHS GGC has increased over the time period by approximately 50%.

Figure 4.14: Drug related deaths, Scotland, 1996-2006.

Source: Drug Misuse Statistics, ISD Scotland 2007



Obesity

Another health risk of increasing concern is the number of overweight and obese people in our communities. The number of people in Scotland who are either overweight or obese^{XX} has increased over recent years. The proportion of men in Scotland aged 16-64 who were overweight or obese increased from 56% to 64% between 1995 and 2003. In women the proportions increased from 47% to 57%.⁶ This may be part of the reason an increasing number of people are being diagnosed with type 2 diabetes, which is associated with obesity.^{XXI}

There is also evidence of an association between increasing levels of deprivation and obesity. The Scottish Health Survey found that 25.6% of men in the most deprived quintile were obese compared to 20.4% in the least deprived quintile. However for women, 31.8% of those living in the most deprived quintile were obese

^{XX} People are described as overweight or obese if their Body Mass Index is above 25 (overweight) or above 30 (obese). Body Mass Index is calculated by dividing a persons weight (kg) by their height (m²).

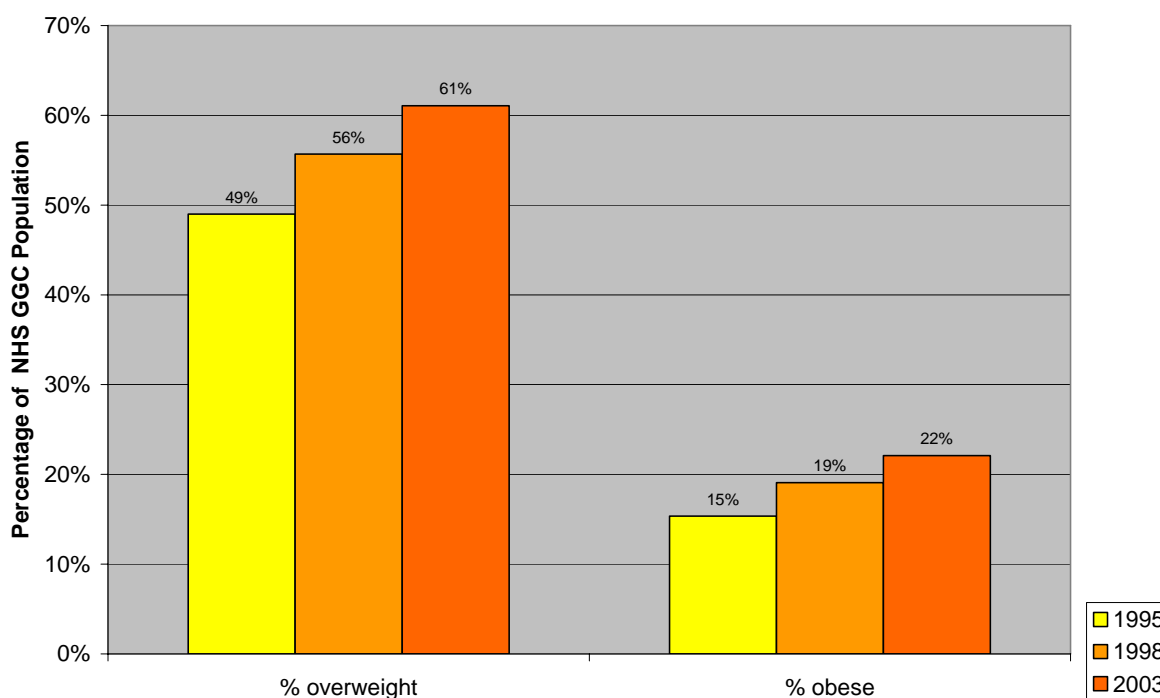
^{XXI} Further information can be found on, the [ScotPHO](#) website

compared to 21% of women in the least deprived quintile. If we move from a focus on obesity, to include also those who are overweight, the relationship with deprivation is more complex. Among women, those living in the least deprived quintile were less likely to be overweight or obese than those in more disadvantaged areas. However, among men those from the least deprived quintile of the population were more likely to be either overweight or obese. At the moment we do not have information about the numbers of people affected by obesity within individual CH(C)P areas.

Figure 4.15 below illustrates the changing proportion of adults in NHS GGC who were found to be overweight or obese during Scottish Health Survey years.

Figure 4.15: The proportion of adults in NHS Greater Glasgow & Clyde who were overweight or obese in 1995, 1998 and 2003

Source: Scottish Health Surveys, 1995, 1998 and 2003. Based on Body Mass Index (BMI)



Foresight is a programme run by the UK Government which recently produced a report modelling future trends in obesity and population health.⁹ Although this report is based on information collected in England, it is likely that similar predictions will apply to the Scottish population. Foresight estimate that by 2050. 60% of men and 50% of women in England will be obese. The impact of this on health will be considerable. For example, Foresight also estimates that the number of people with

diabetes might increase by 70% by 2035. Numbers of people with coronary heart disease and stroke will also increase, though to a lesser extent.

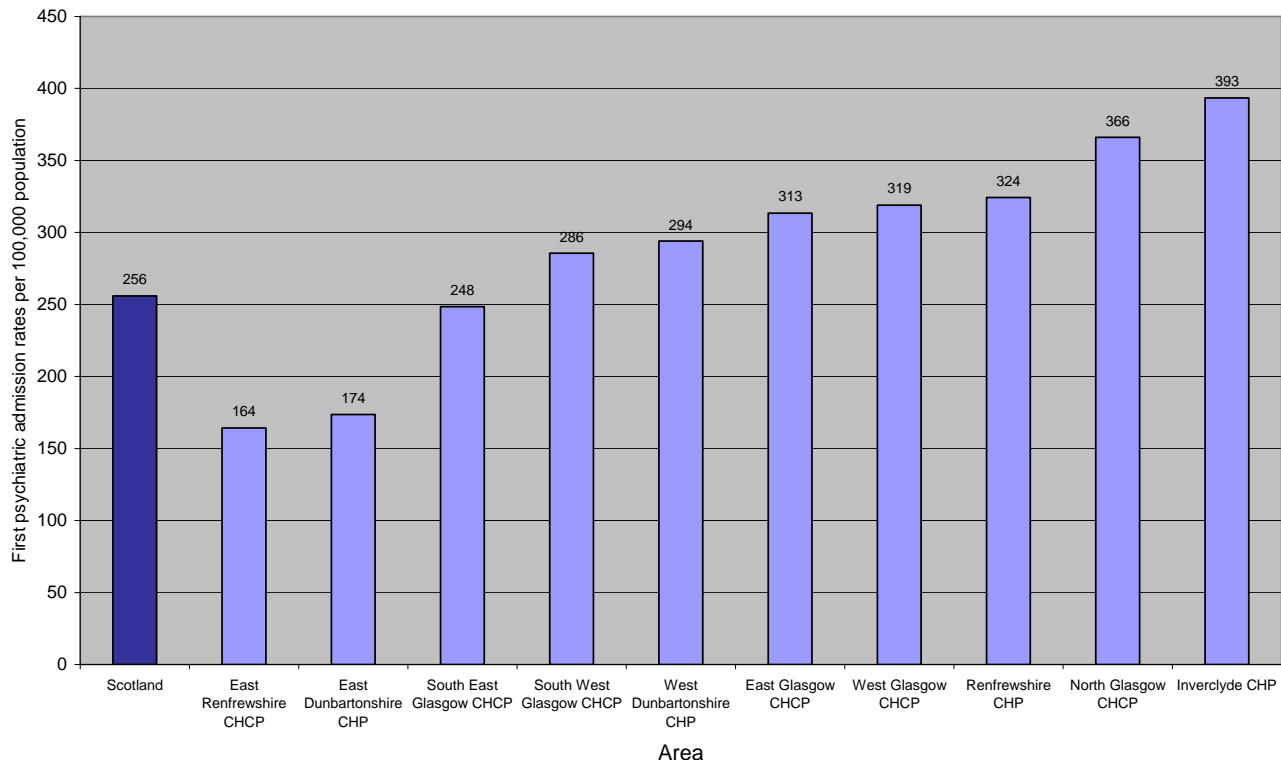
Mental Health

The Scottish Health Survey uses the General Health Questionnaire (GHQ12) to describe the proportion of the population suffering from mental distress. The proportion of individuals with a score indicating mental distress remained constant in 1995, 1998 and 2003. The surveys showed that there has been an increase in the number of people with a zero score, suggesting fewer people are reporting any mental distress. GHQ12 scores for Greater Glasgow were analysed recently using SHS data.¹⁰ In each of the survey years the proportions of men and women with a GHQ score of 4 or more has been higher in Greater Glasgow than for the rest of Scotland combined. The proportion of people with high GHQ12 scores was greater for those living in the most deprived areas of Glasgow. Encouragingly, the surveys did show decreases in the proportion of people from Glasgow with high GHQ12 scores over time. This analysis has not been carried out for individual CH(C)P areas.

We have been able to compare routinely available hospital activity information at CH(C)P level. There are considerable variations in first psychiatric admission rates between CH(C)P areas and these are summarised in **Figure 4.16** below. People living in Inverclyde CHP area are more than twice as likely to be admitted to psychiatric hospital as those living in East Renfrewshire CHCP.

Figure 4.16: First psychiatric admission rates by CH(C)P area, 2003-6. Standardised for age and sex.

Source: ISD, SMR04 data

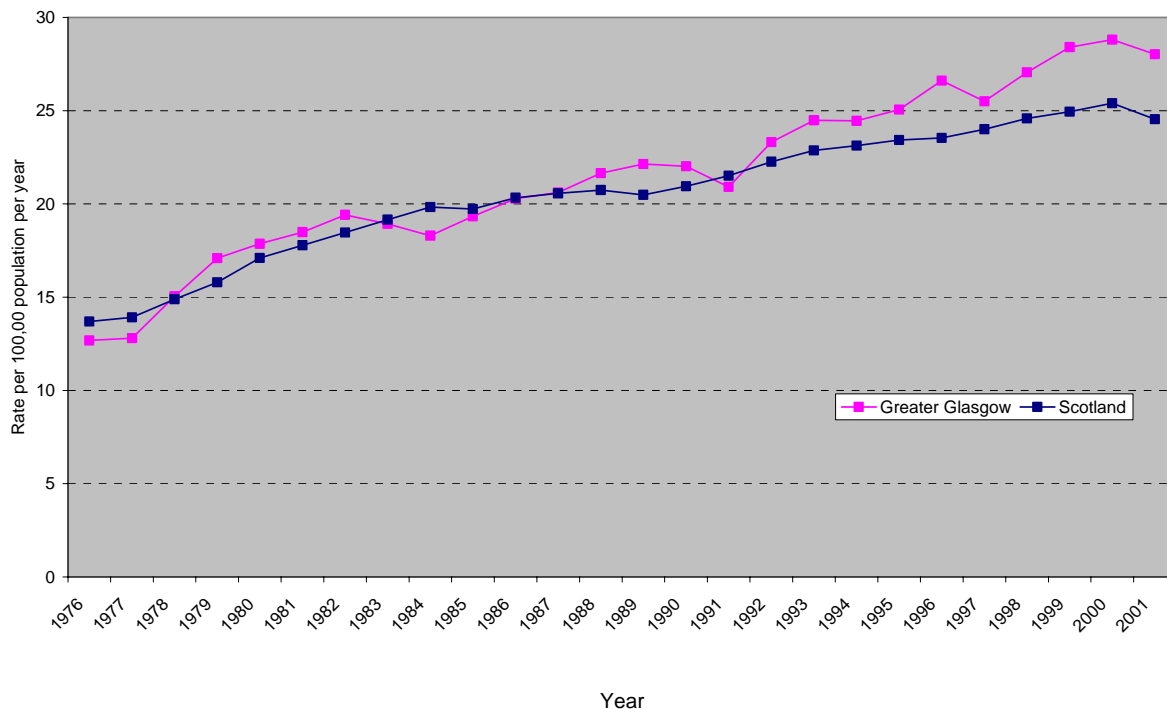


The majority of CH(C)P areas across NHS GGC have higher first admission rates than the Scottish average. At a national level, there has been a reduction in the total number of psychiatric admissions since the 1980s.¹¹ This matches a fall in the number of first psychiatric admissions for women; admissions for men have been more stable over the same time period.

Not all people who commit suicide have a mental illness. However, there is a strong link between mental illness and suicide. Suicide is the most common cause of death for men aged 15-44 in Scotland.¹² **Figure 4.17** below shows the increasing trend in suicides among men between 1976 and 2001.

Figure 4.17: Suicide rates, standardised for age, Greater Glasgow & Scotland, 1976-2001. Males 17-74yrs.

Source: GROS

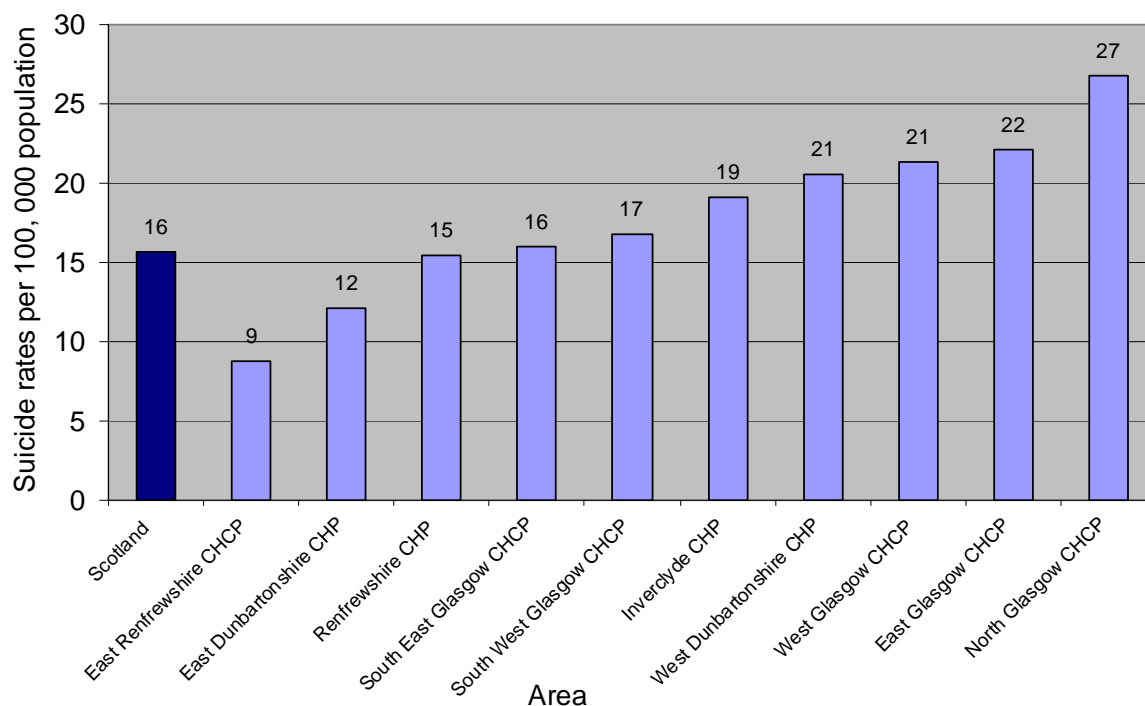


Across Scotland, suicide rates rose by 22% for men between 1989 and 2004, for women they rose by 6%. In Glasgow City, suicide rates were significantly above the Scottish average for all years of study for both men and women. In West Dunbartonshire suicide rates were also above the national average.

Suicide rates can also be described by CH(C)P area (see **Figure 4.18** below) and a wide variation in rates is seen between localities. There is a threefold difference between East Renfrewshire CHCP and North Glasgow CHCP suicide rates. Interestingly, the distribution of suicide rates does not closely match psychiatric discharge rates. Inverclyde CHP has the highest hospital discharge rates but has the fifth highest suicide rates of all Greater Glasgow & Clyde CH(C)P localities (see **Figure 4.16**). A similar difference is seen for Renfrewshire CHP area.

Figure 4.18: Suicide rates by CH(C)P area, standardised for age and sex;
2001- 5

Source: GROS



4.12 What characteristics will future primary care services need?

The best estimates available suggest that our population is getting older, though the pattern may be different in different CH(C)P areas. Primary care services are best placed to support long term health care focussed on individuals. Our existing services are already providing care for people living with long term conditions but we need to ensure that key role co-ordinating and providing continuity of care is maintained. Demographic changes affecting the health and social care professions have implications for skill-mix and the best use of available professional skills within care teams. There is a need for greater sharing of good practice and the evaluation of new developments in joint working in all areas of primary care.

There will be workforce challenges for general practice in the future. Current information sources are not able to tell us how best to respond to this challenge. Further work will be needed to establish how we can ensure universal coverage is maintained and to address population health needs.

Political drivers suggest that active intervention to prevent illness in primary care will continue to be supported. We need to make sure that the model(s) used in the health board area are effective and efficient.

There will be new challenges to population health, some of which have been outlined above. Responses must come from society as well as health services. There remains a need to strengthen existing services by continuing to improve interfaces between secondary care, social services, and other partnership organisations and out of hours services.

4.13 Discussion

There will be new challenges that the NHS will face in future. It is likely that over the next twenty years our population will get older and more of us will be living in single person households. The number of children being raised by single parents is expected to increase. These patterns of demographic change will not be uniform however, and some CH(C)Ps will see more marked changes than others. Primary care will need to remain flexible and able to adapt to these population changes. Migration from outside the UK is expected to continue and it will be important that our health and care services are supported to deal with this challenge. Life expectancy already varies considerably across different CH(C)P areas in NHS Greater Glasgow & Clyde. The gap in life expectancy between affluent and deprived areas has actually increased over the last 20 years and this will be difficult to narrow. It is currently difficult to know how additional resources may best be used to enable the primary care system to meet future needs of the population. Policy documents have identified the importance of primary care within the NHS. They emphasise the importance of targeting resources to areas of greatest need and providing care that is more able to intervene to prevent illness or treat it in the earliest stages.

4.14 Conclusion

The NHS has always been a large organisation, involving community-based services working with secondary care colleagues. It is an organisation that has evolved since 1948 mostly through self-organisation until the 1990s when a series of reorganisations began. The introduction of innovations, like NHS 24, new arrangements for out of hours care and new community based services have

resulted in the removal of tasks from existing services. The overall effect has been to introduce instability to the system as well as bringing about necessary change. The community based NHS system is increasingly complex with different component parts providing 'wrapped' components of care for patients. This has created a real challenge for patients and their doctors trying to work out which sub-component of the organisation is best placed to provide care for a patient.

In future, we will face an increasingly dependent population, the arrival of migrants, rising levels of alcohol misuse and obesity, all of which cause substantial challenges for primary care. NHS Greater Glasgow & Clyde faces additional challenges as a result of the high concentration and severity of deprivation in the population it serves. This causes higher levels of ill health, including mental health problems, multiple morbidity and premature mortality.

Research suggests that people living in communities of relative deprivation live more of their life with chronic long term illnesses than in other communities. There is a real opportunity for primary care to impact on the health of our more deprived communities. Current policy drivers are encouraging anticipatory care and targeting resources to areas of greatest disadvantage. This report has demonstrated that there are large gaps in basic information available at CH(C)P level about the number of people working in primary care, activity levels and expenditure. These gaps in information make it difficult to review, plan and target the use of resources according to the needs of local populations. At present it is not possible to ensure that the primary care workforce is aligned to target areas of increased need.

There is a need to bring together all of the information sources at our disposal to monitor the effectiveness of our healthcare system. In some areas, particularly the new community based services, we do not have standardised information collection available to describe activity. This could be addressed in an incremental way, across all CH(C)P areas, with the introduction of a few key measurements eg total number of patients in each organisation's caseload (defined in a standardised way for *all* community based organisations). This report provides several indirect indications of unmet need in primary care in NHS Greater Glasgow & Clyde but additional work is

needed in this area. The disaggregated nature of general practice is associated with large variations in activity and outcomes, which are not explained by factors such as age, gender and deprivation. Better information is needed to understand and reduce this variation. Research has already provided some valuable insights into health care delivery in primary care in NHS Greater Glasgow & Clyde. A number of important questions remain, however, including the following:

- How can scarce professional skills and experience best be deployed to address the needs of patients? (ie best skill mix)
- What is the best use of additional resources to address unmet need?
- What are the strengths and weaknesses associated with smaller practice size and how should these be addressed?
- What interventions are effective in reducing the extent of unexplained variation in primary care activity and outcome?
- What interventions are effective in addressing the needs of patients with multiple problems, including psychological morbidity?
- How should we develop information systems for CH(C)Ps?
- What can be learned about the operation of primary care as a “whole system”? This could involve more detailed analysis of the relationships between prescribing, emergency medical admissions and new out-patient referrals
- Can we identify and analyse system pressure points?

Those seeking to act on the findings of this report should not take these questions as prescriptive, but rather as illustrative of the areas in which further understanding is needed. We already have a number of information sources that can be utilised to support our primary care services, some of which have been highlighted in this report. These could be developed into a much more sophisticated information system incorporating targets of interest. Such a system would enable us to plan more effectively to manage changing circumstances and to support better coordination and continuity of care. Ultimately we still struggle to understand how patients are cared for by the whole primary care system and this is a key area for future research.

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The shape of primary care
22nd April 2008

Appendix 1: CH(C)P practice based populations broken down by age group

Source: CHI extract June 2007

Figure 1a

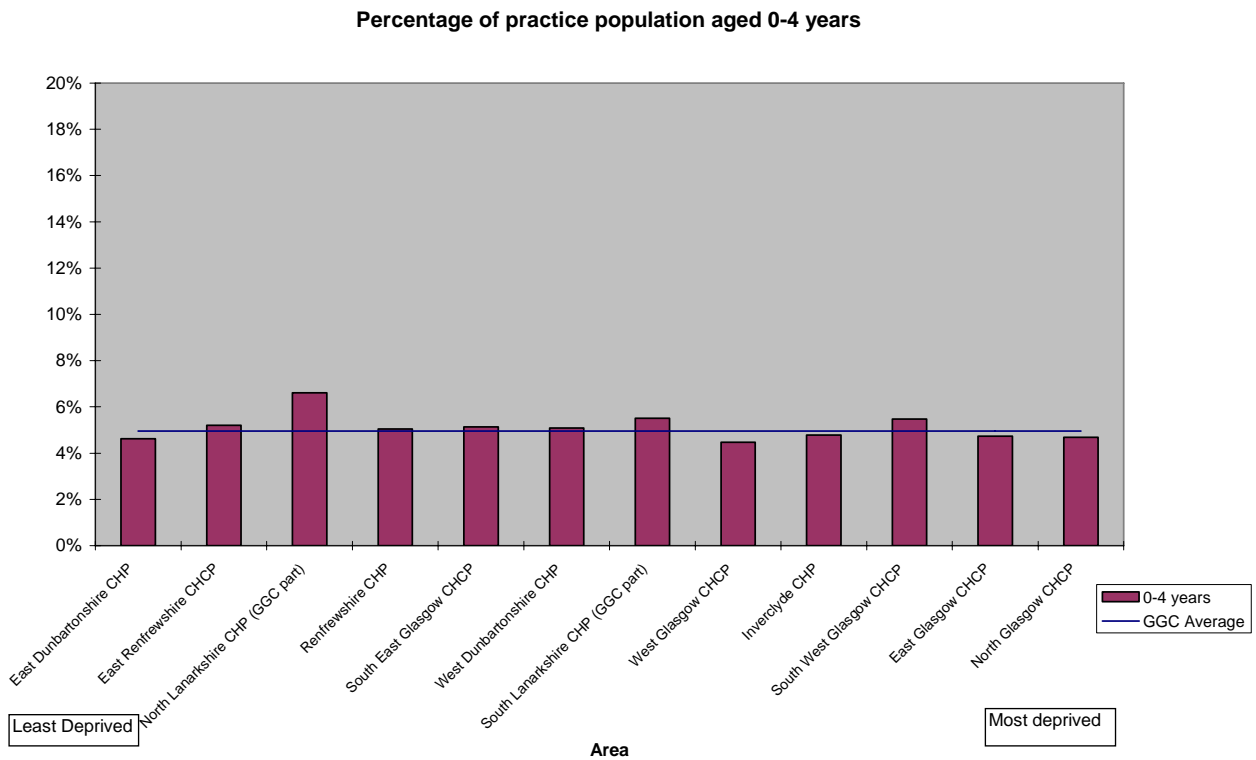


Figure 1b

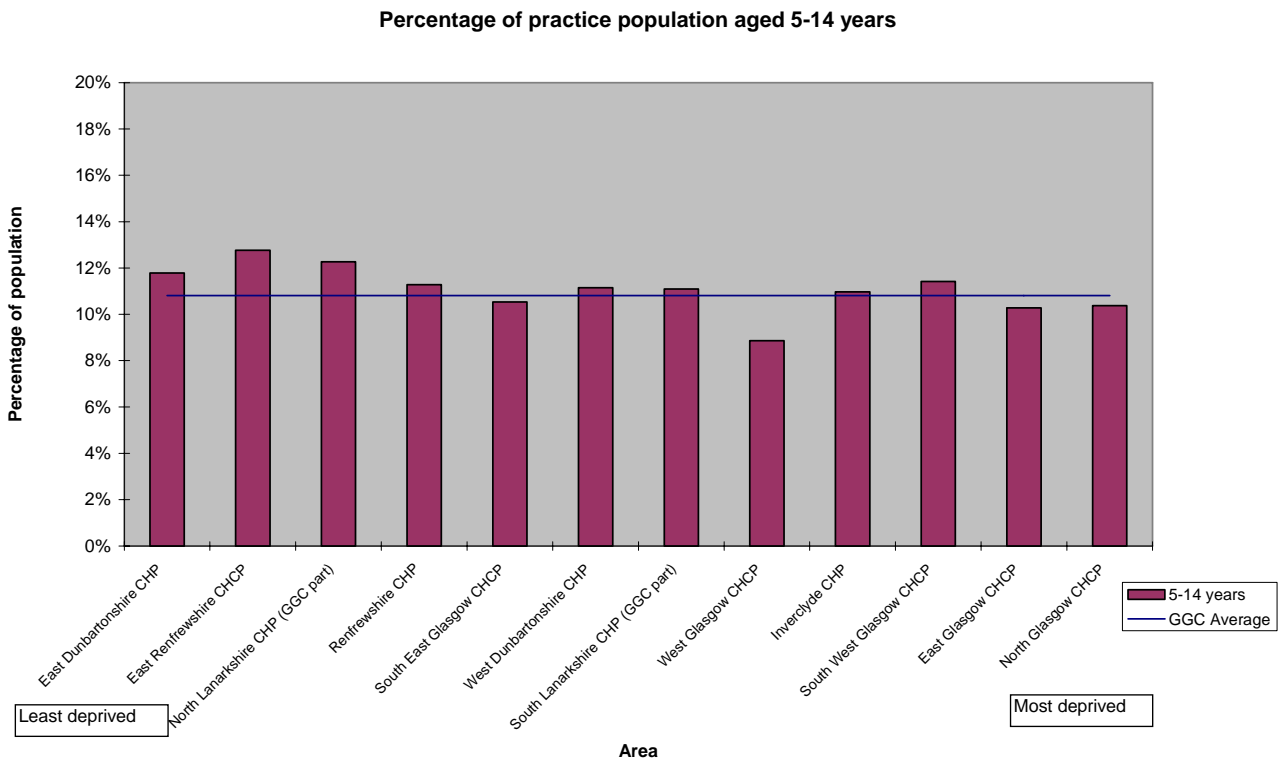


Figure 1c

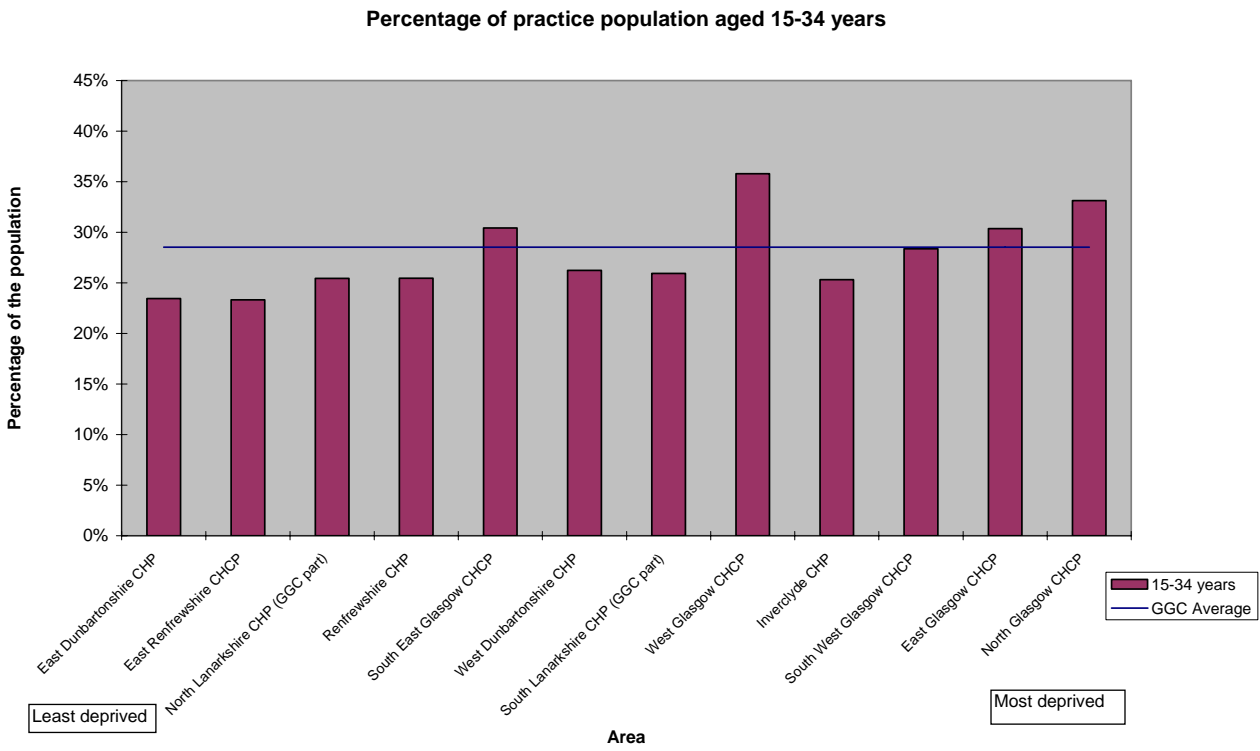


Figure 1d

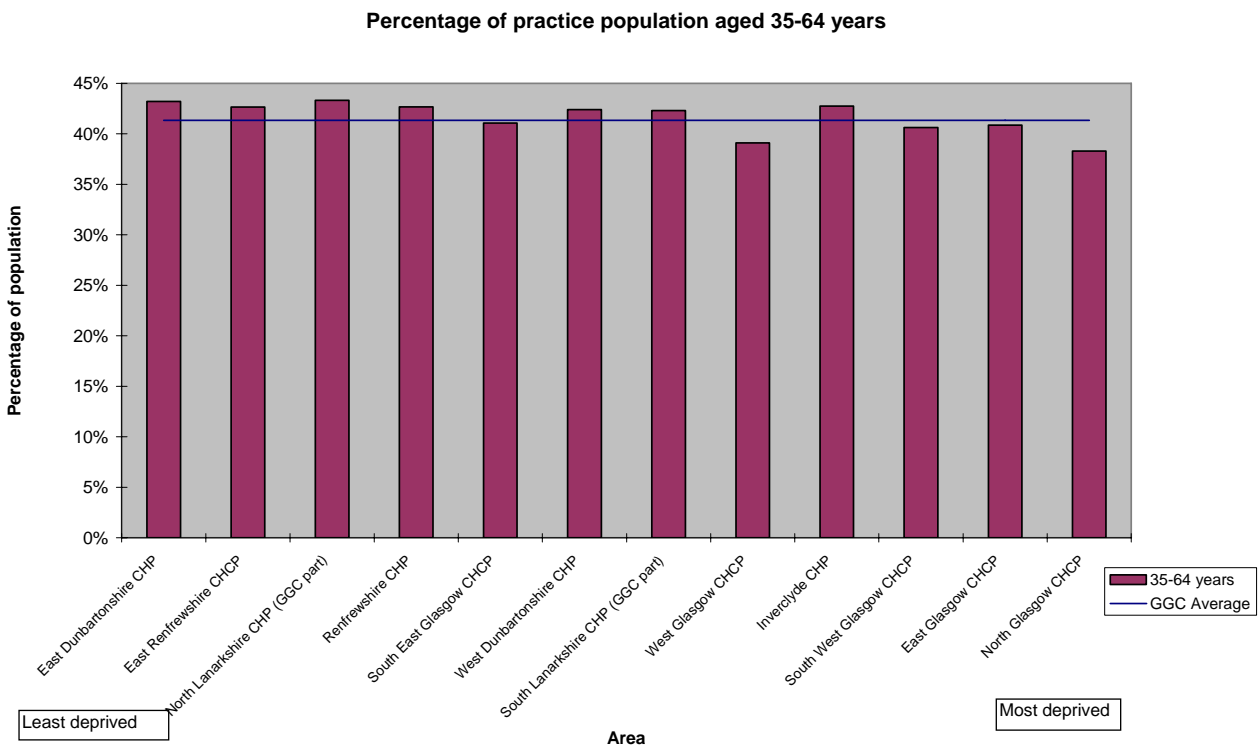


Figure 1e

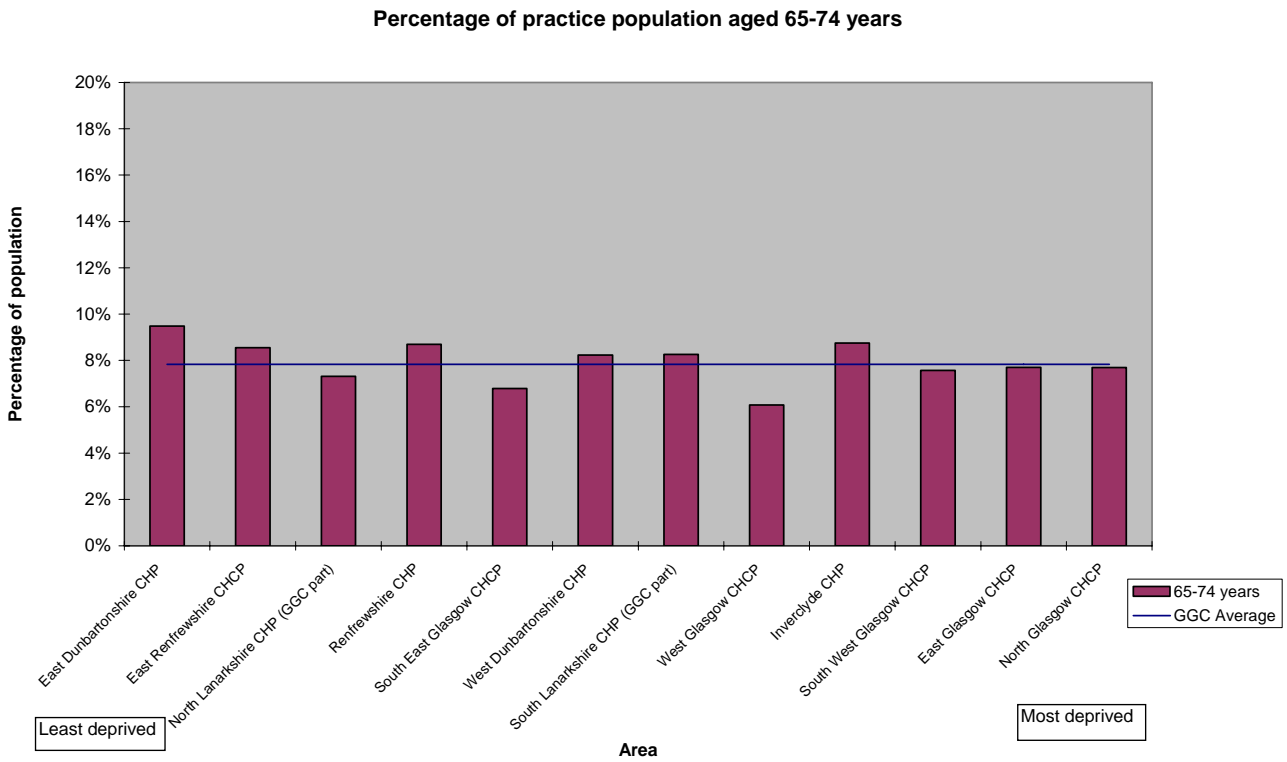
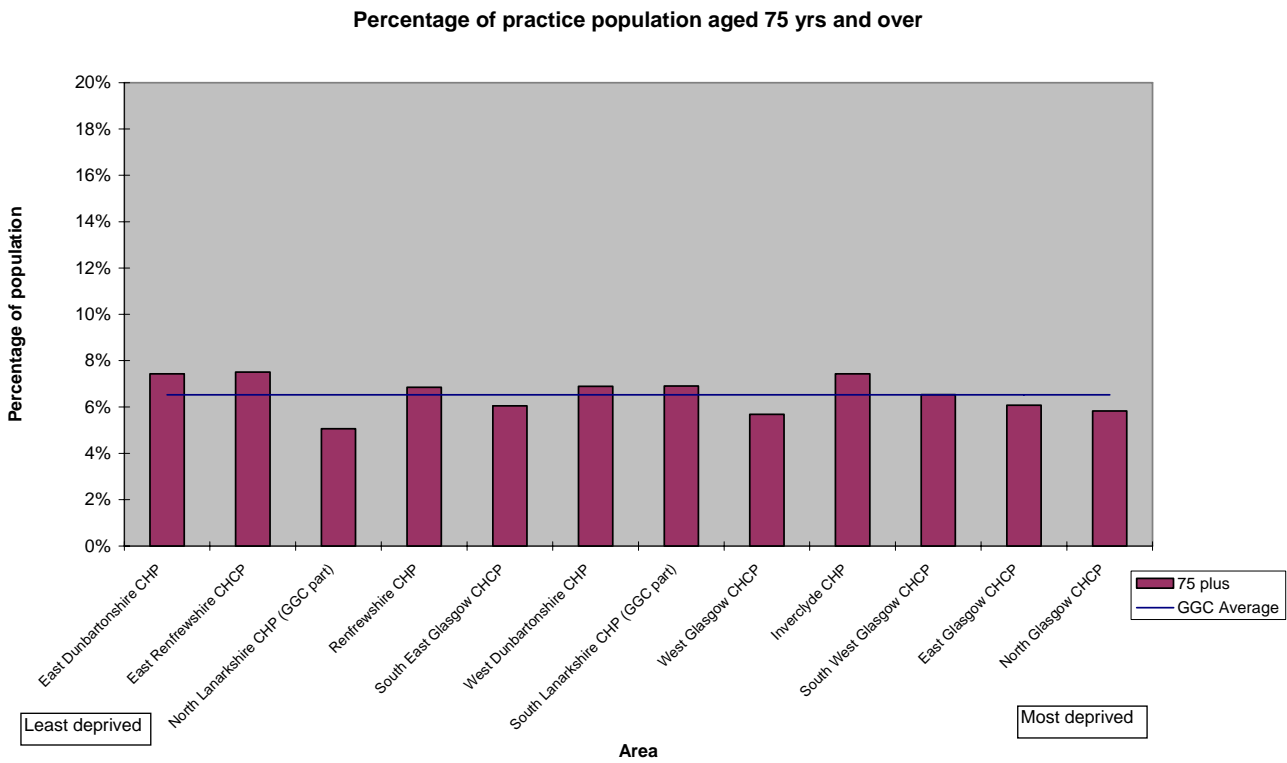


Figure 1f



Appendix 2: WTE CH(C)P staffing groups

Source; payroll extract March 2007.

Figure 2a

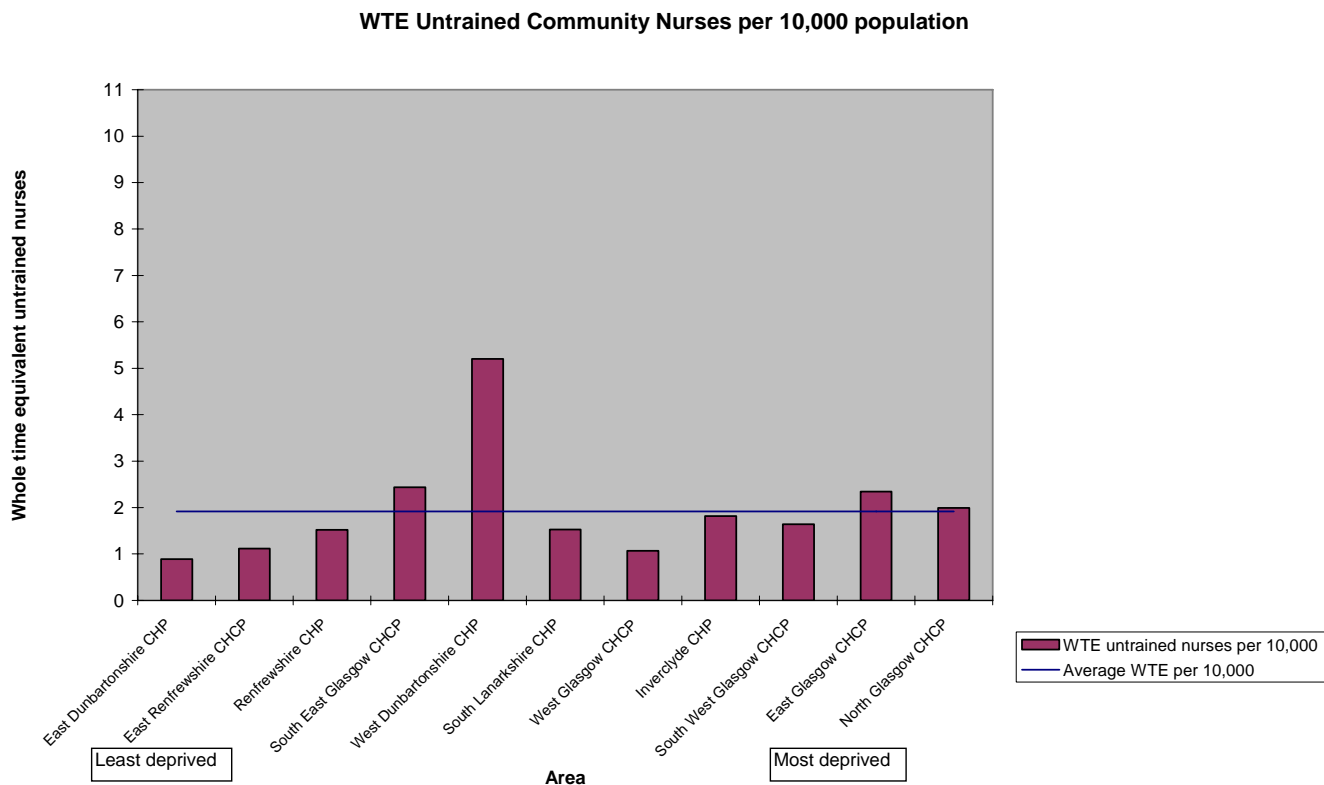


Figure 2b

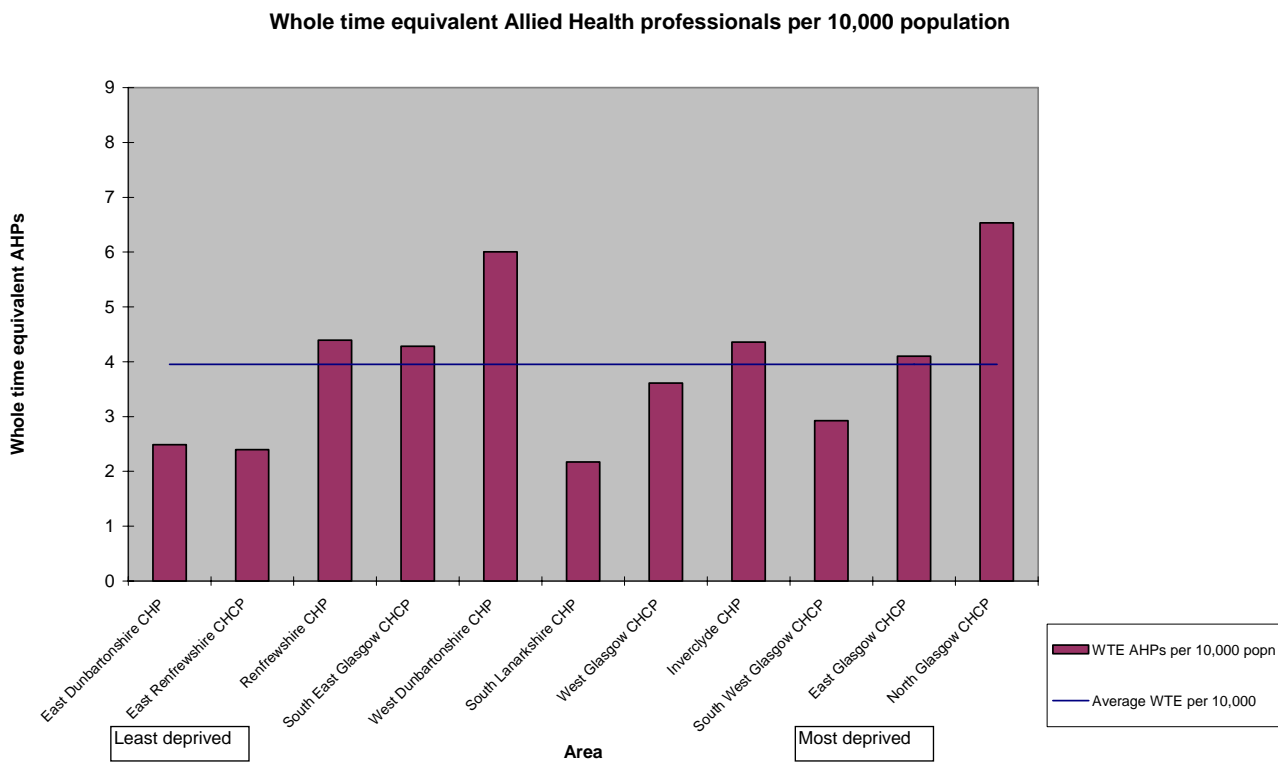
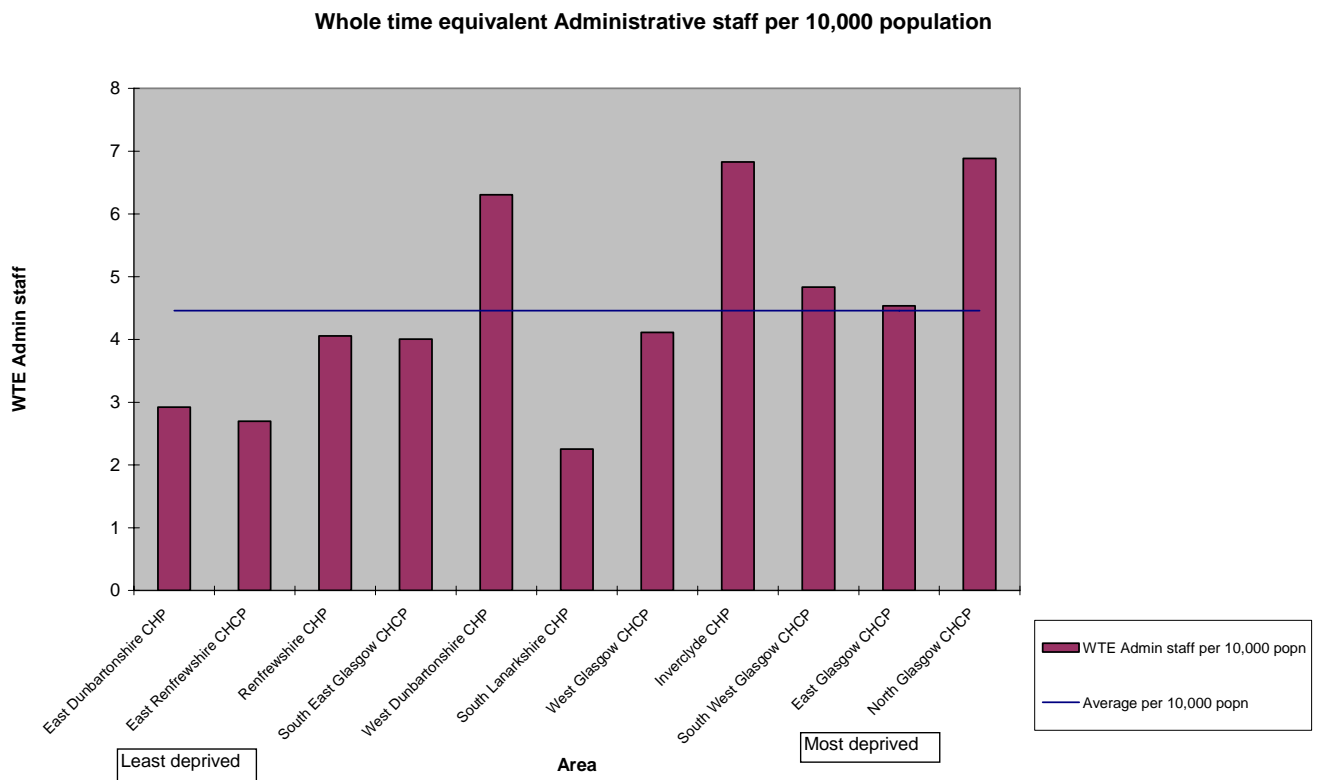


Figure 2c



Appendix 3: Number of GPs by age group and sex

Source: Information for all figures from ISD, September 2006

Figure 3a

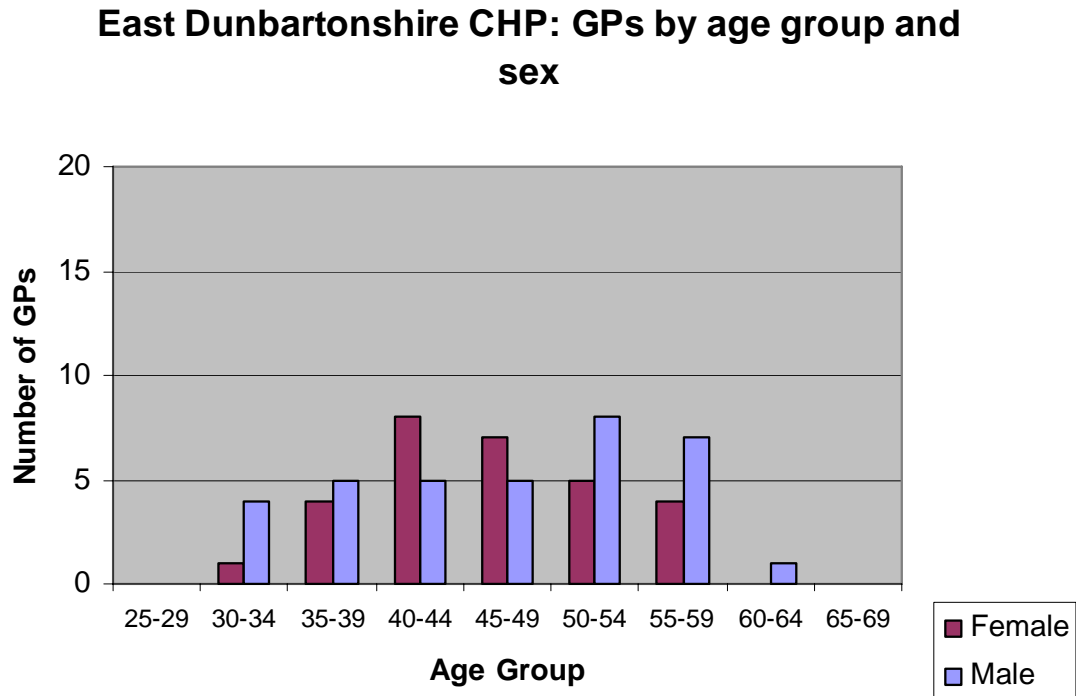


Figure 3b

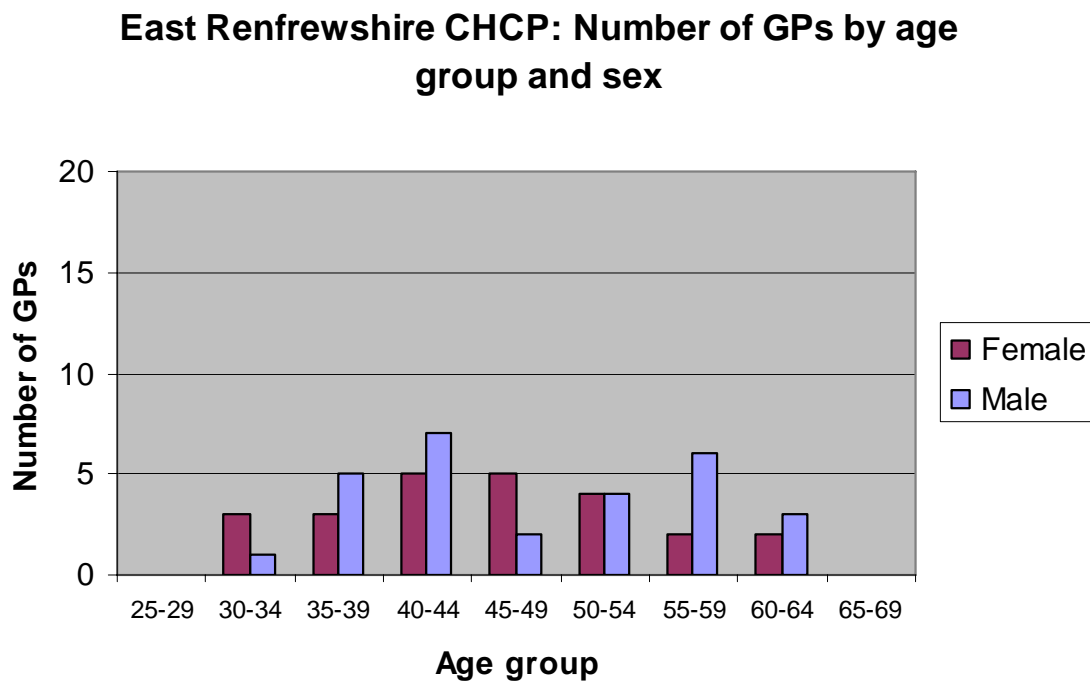


Figure 3c

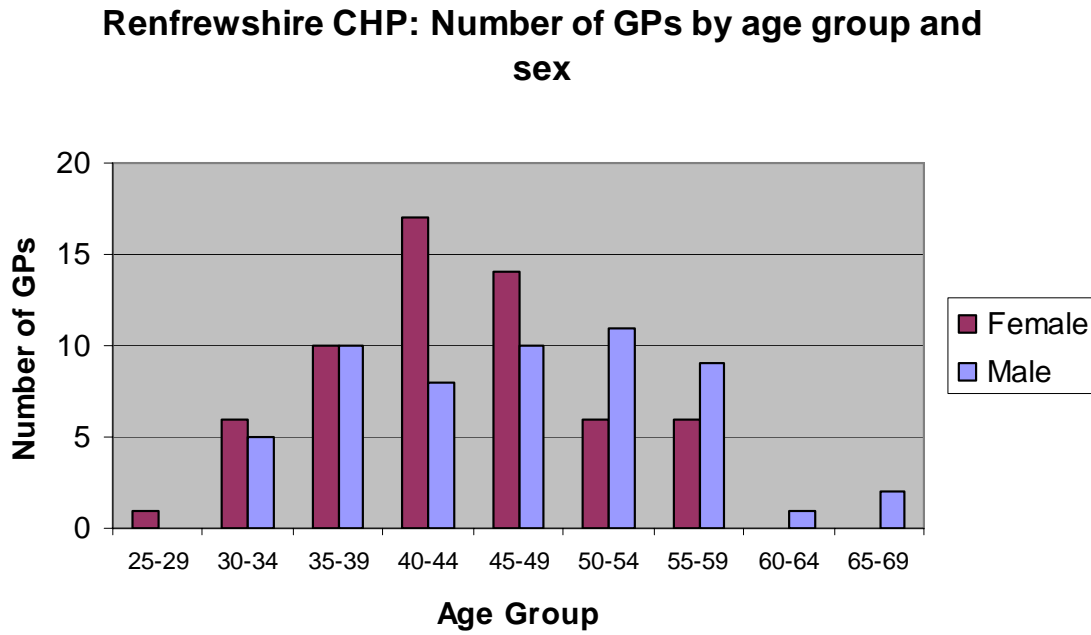


Figure 3d

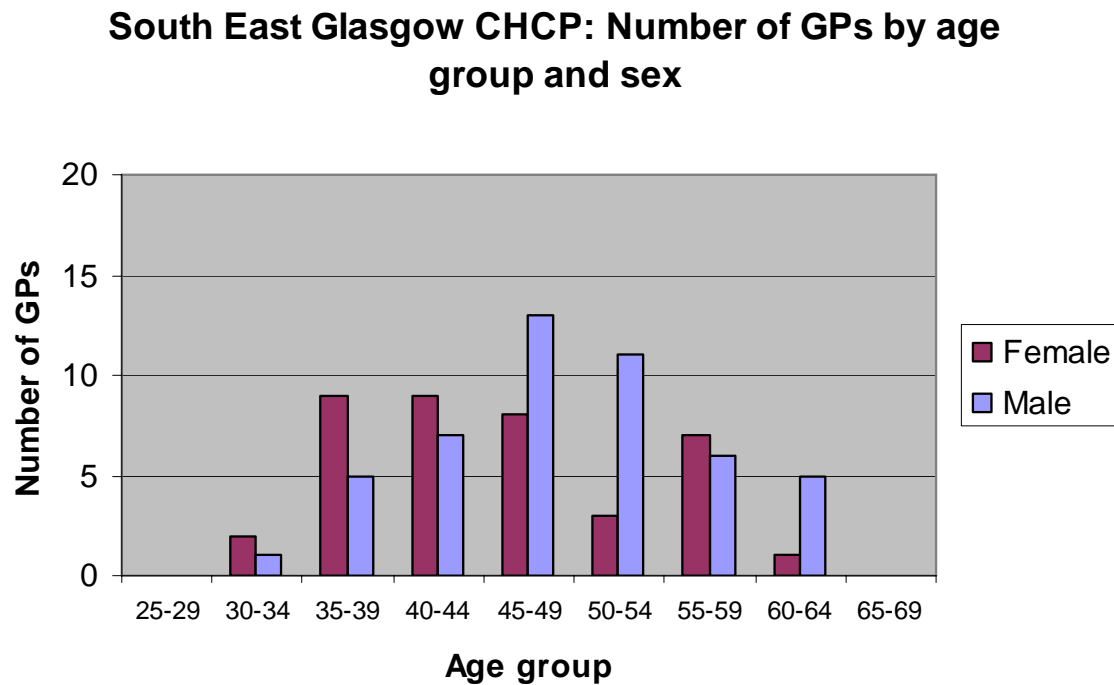


Figure 3e

West Dunbartonshire CHP: Number of GPs by age group and sex

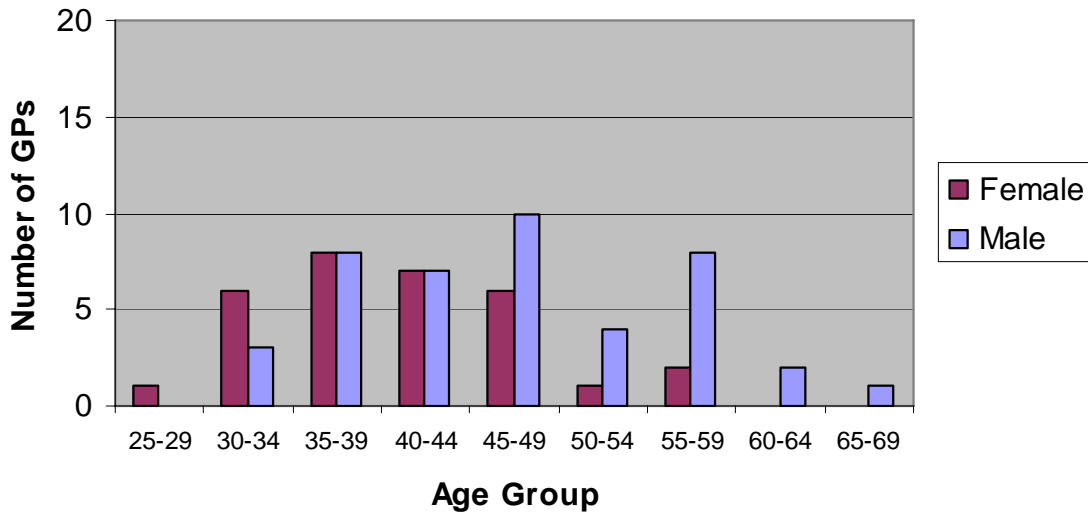


Figure 3f

South Lanarkshire CHP (pt): Number of GPs by age group and sex

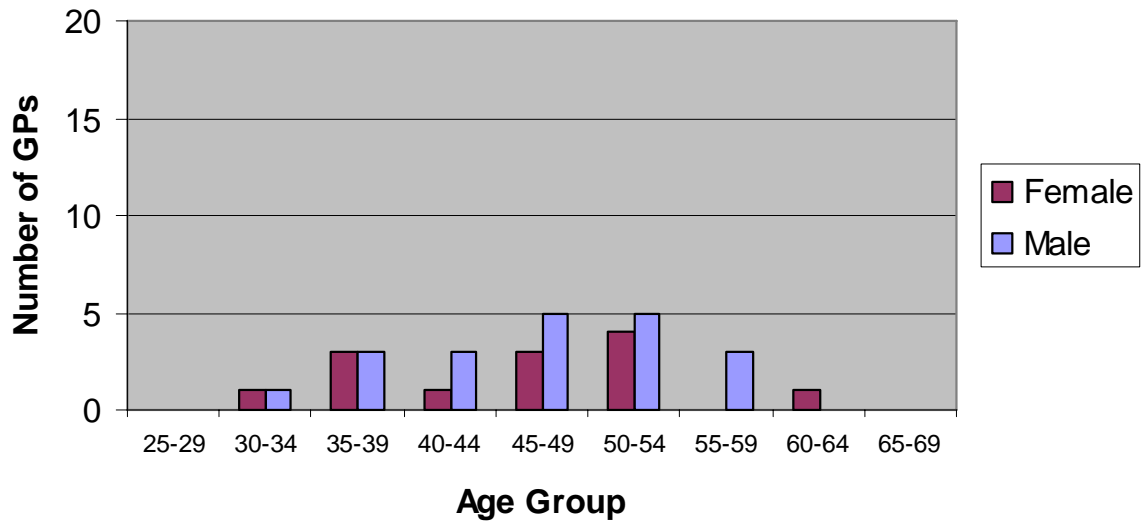


Figure 3g

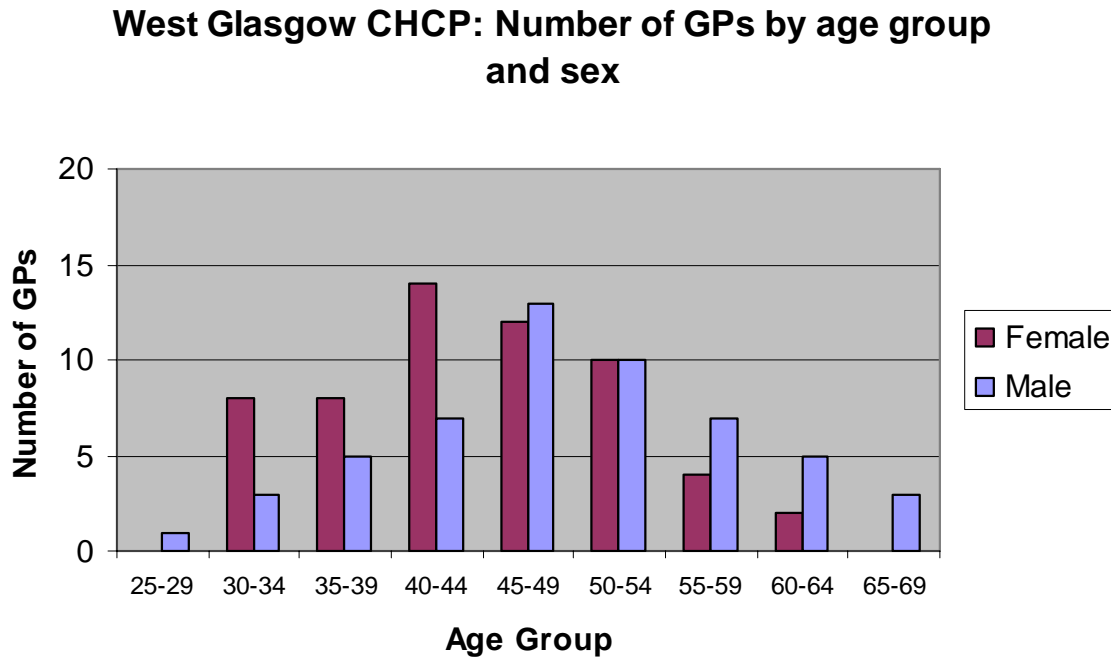


Figure 3h

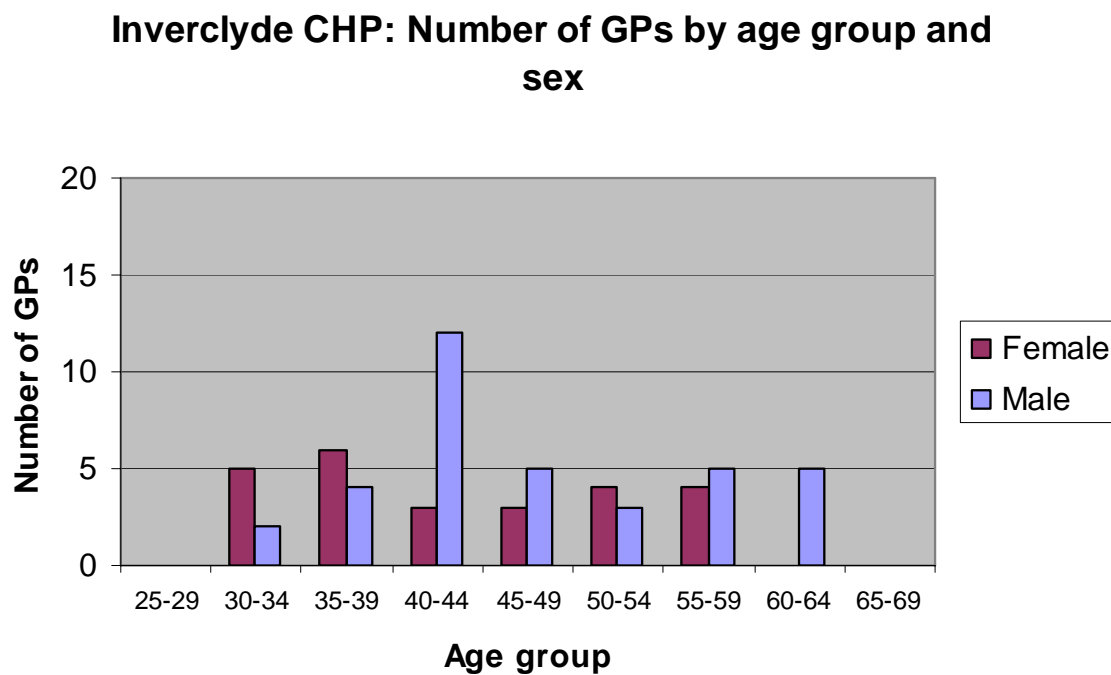


Figure 3i

South West Glasgow CHCP: Number of GPs by age group and sex

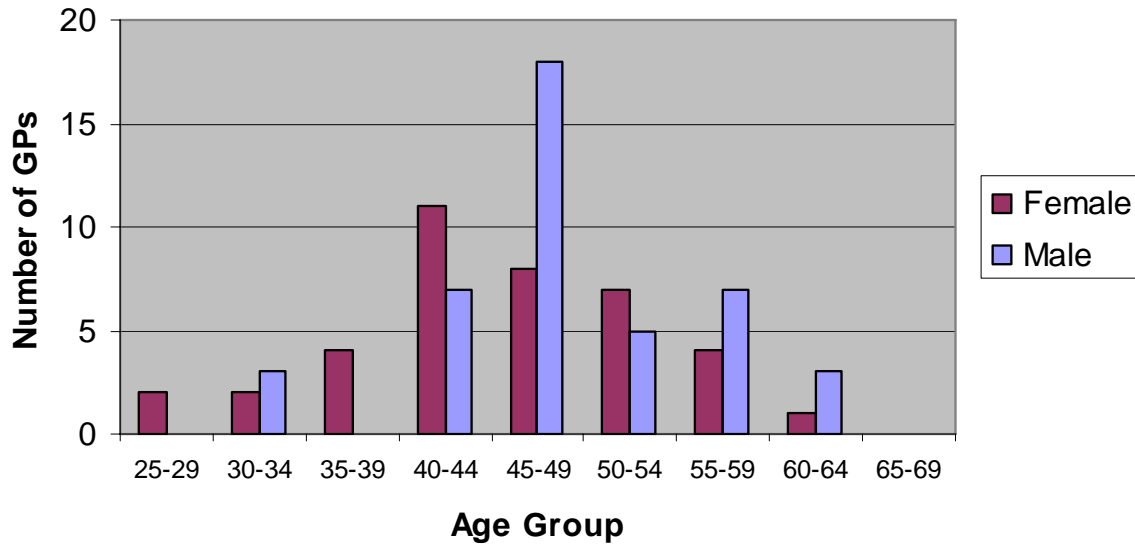


Figure 3j

East Glasgow CHCP: Number of GPs by age group and sex

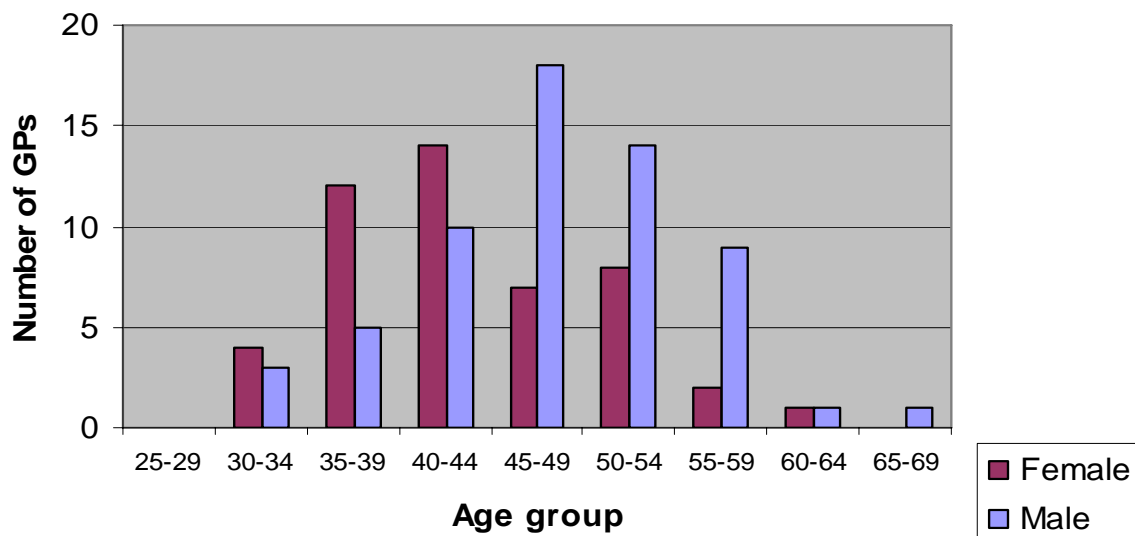
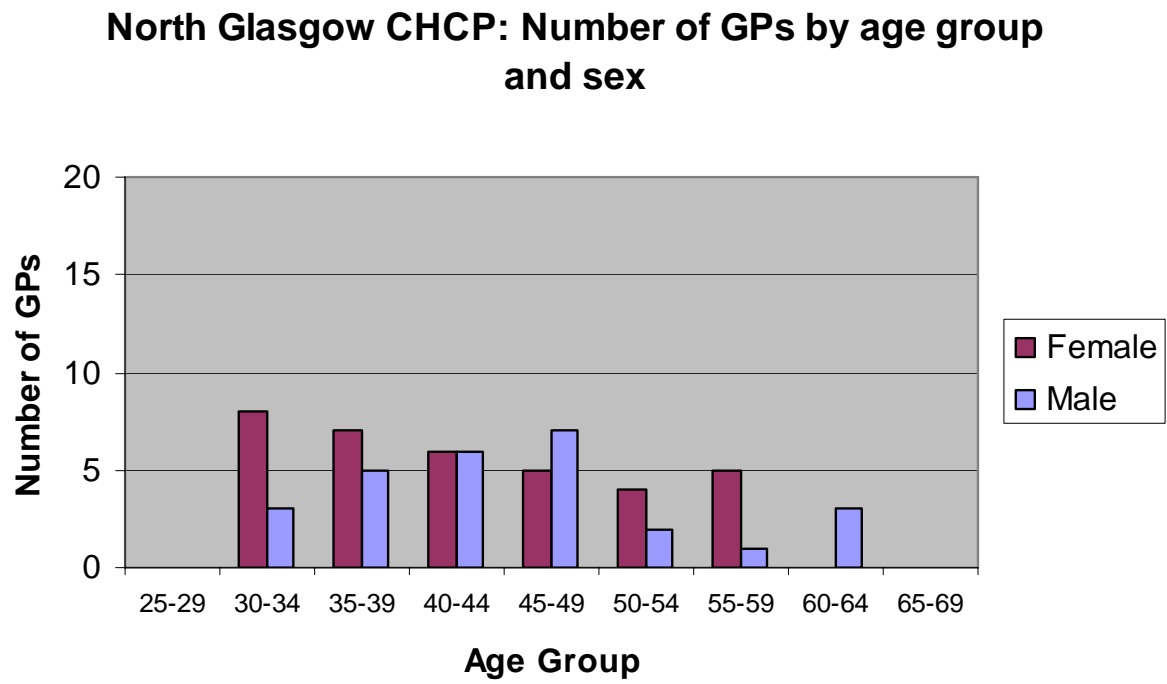


Figure 3k

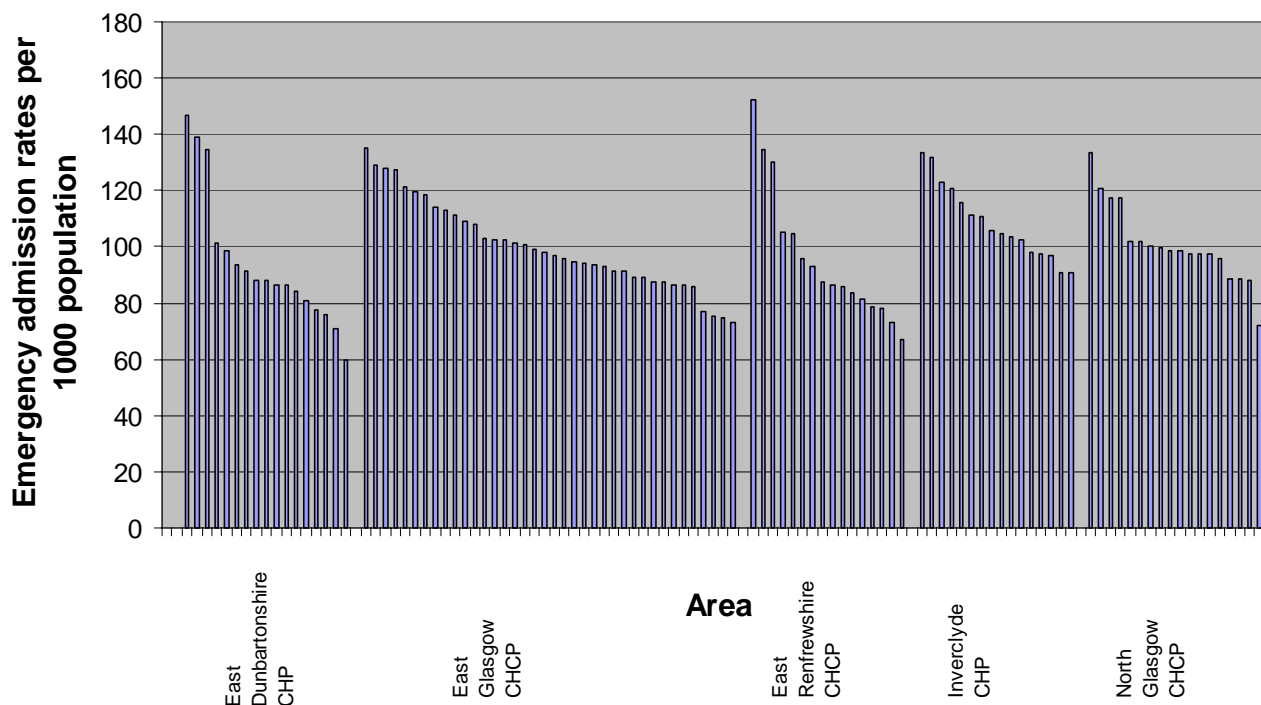


Appendix 4: Emergency admission rates by GP surgery and CH(C)P

Source: Information for these figures was provided by the Delivering for Health Information team in ISD. All rates are for 2005. North Lanarkshire practices are contained within East Glasgow CHCP. Rates have been indirectly standardised for age, sex and deprivation.^{xxii}

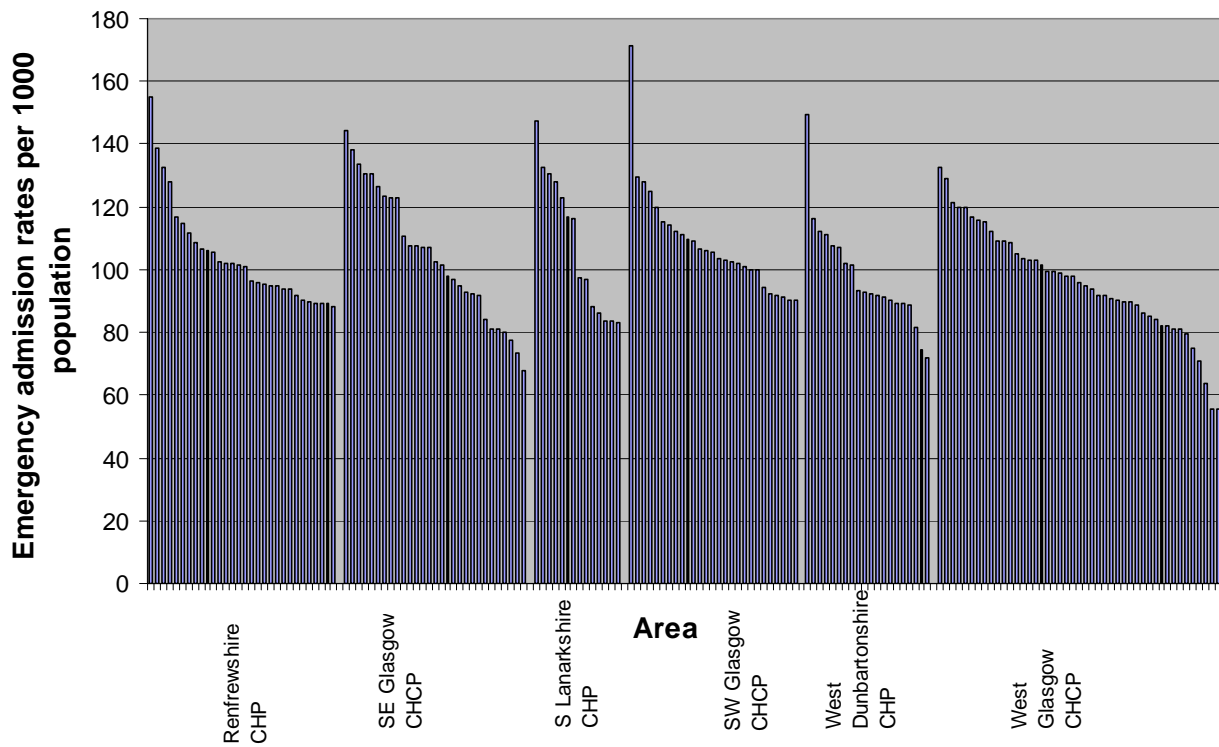
Figure 4a

Emergency admission rates by GP surgery and CH(C)P area, 2005 : NHS GGC area part 1



^{xxii} Practices are ordered from highest to lowest EMA rate within each CH(C)P area.

Emergency admission rates by GP surgery and CH(C)P area, 2005: NHS
GGC area part 2

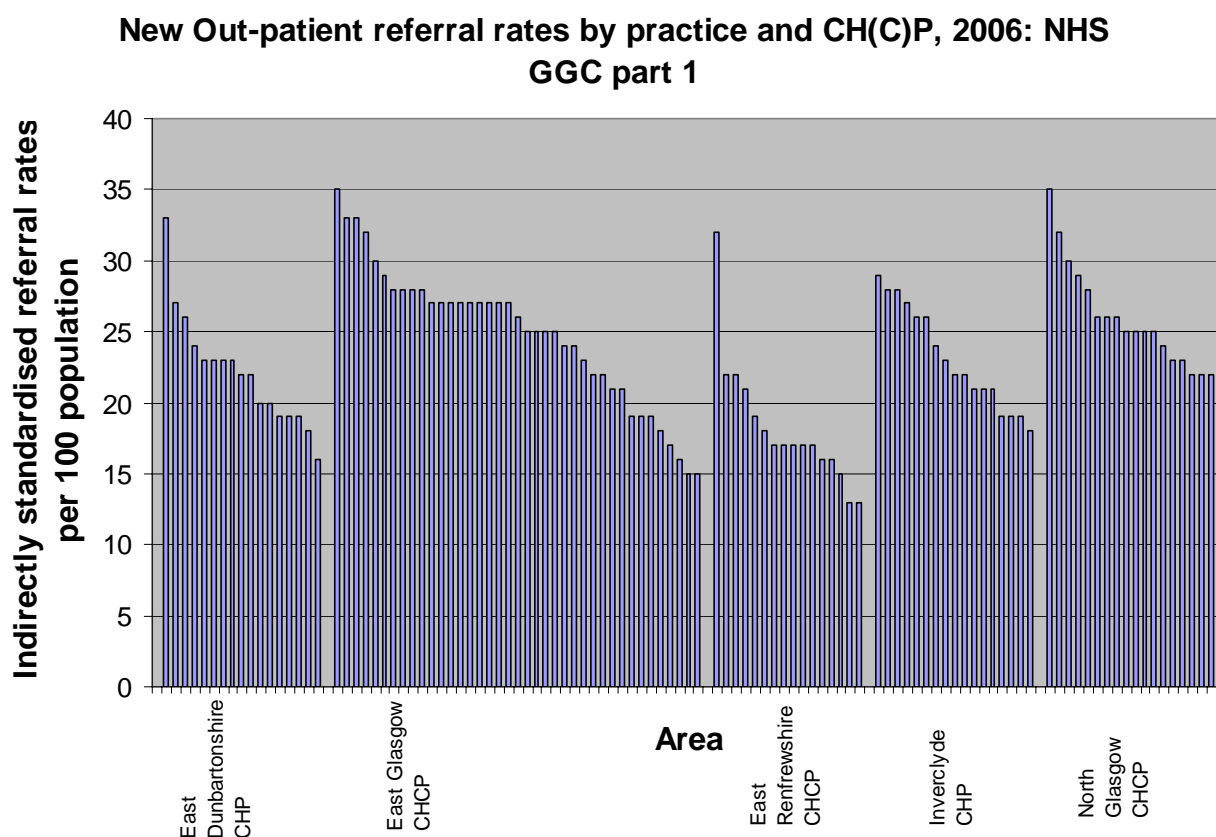


Appendix 5: New out-patient referral rates by general practice and CH(C)P

Source: All information for the figures below was obtained from ISD. Referral rates have been calculated for all new out-patient appointments made by General Practitioners for the year ending March 2006.

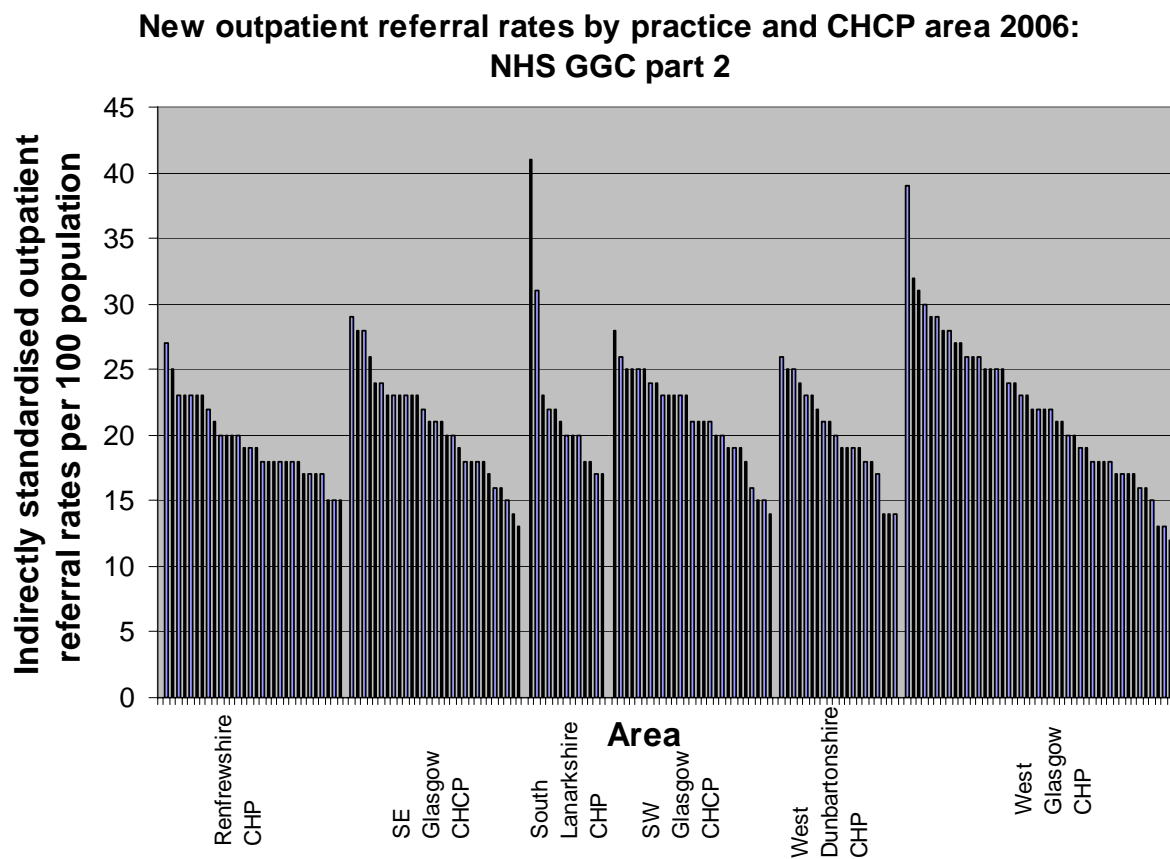
Rates have been indirectly standardised for age and sex.^{XXIII}

Figure 5a

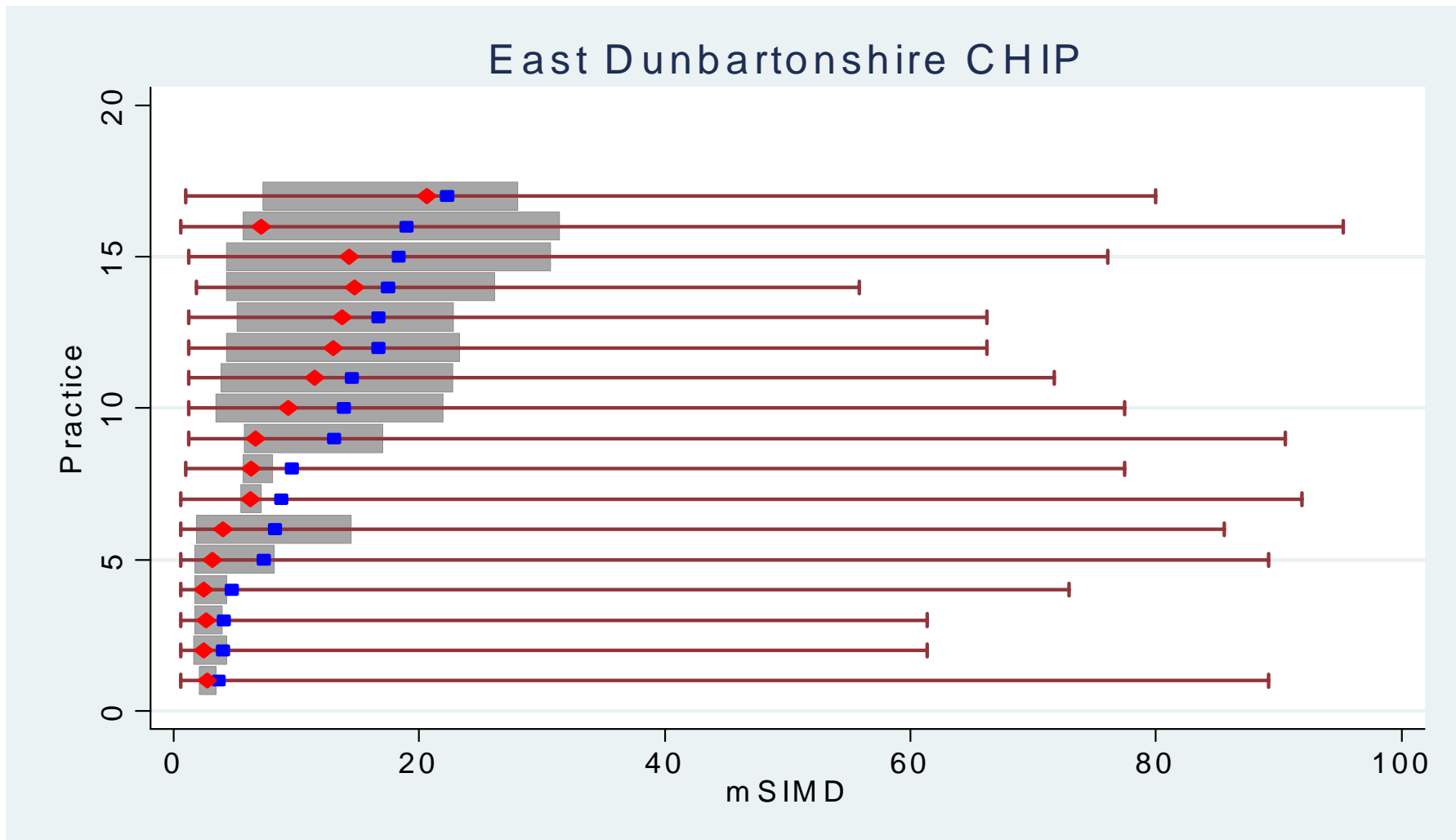


^{XXIII} Practices are ordered from highest to lowest outpatient referral rate within each CH(C)P area.

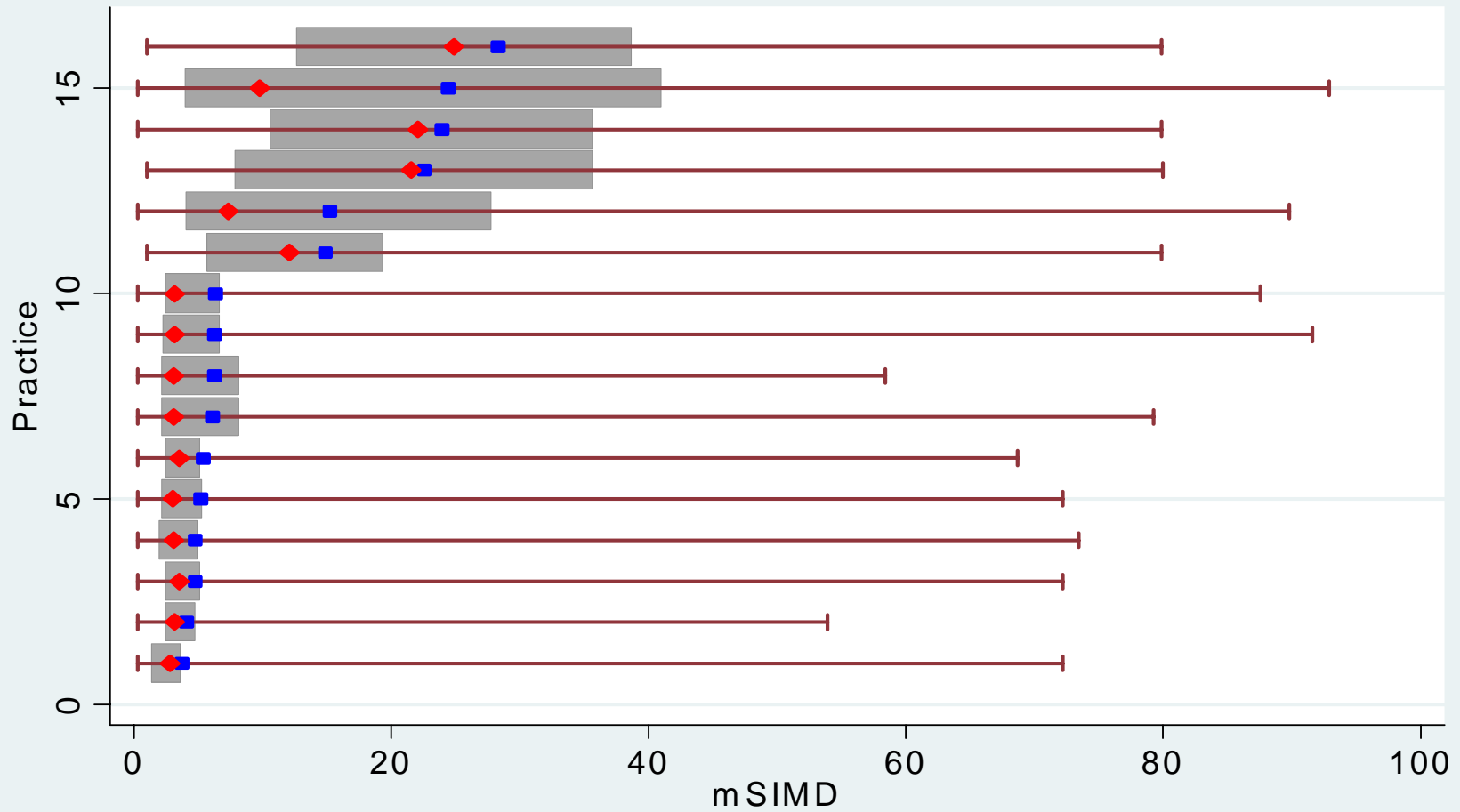
Figure 5b



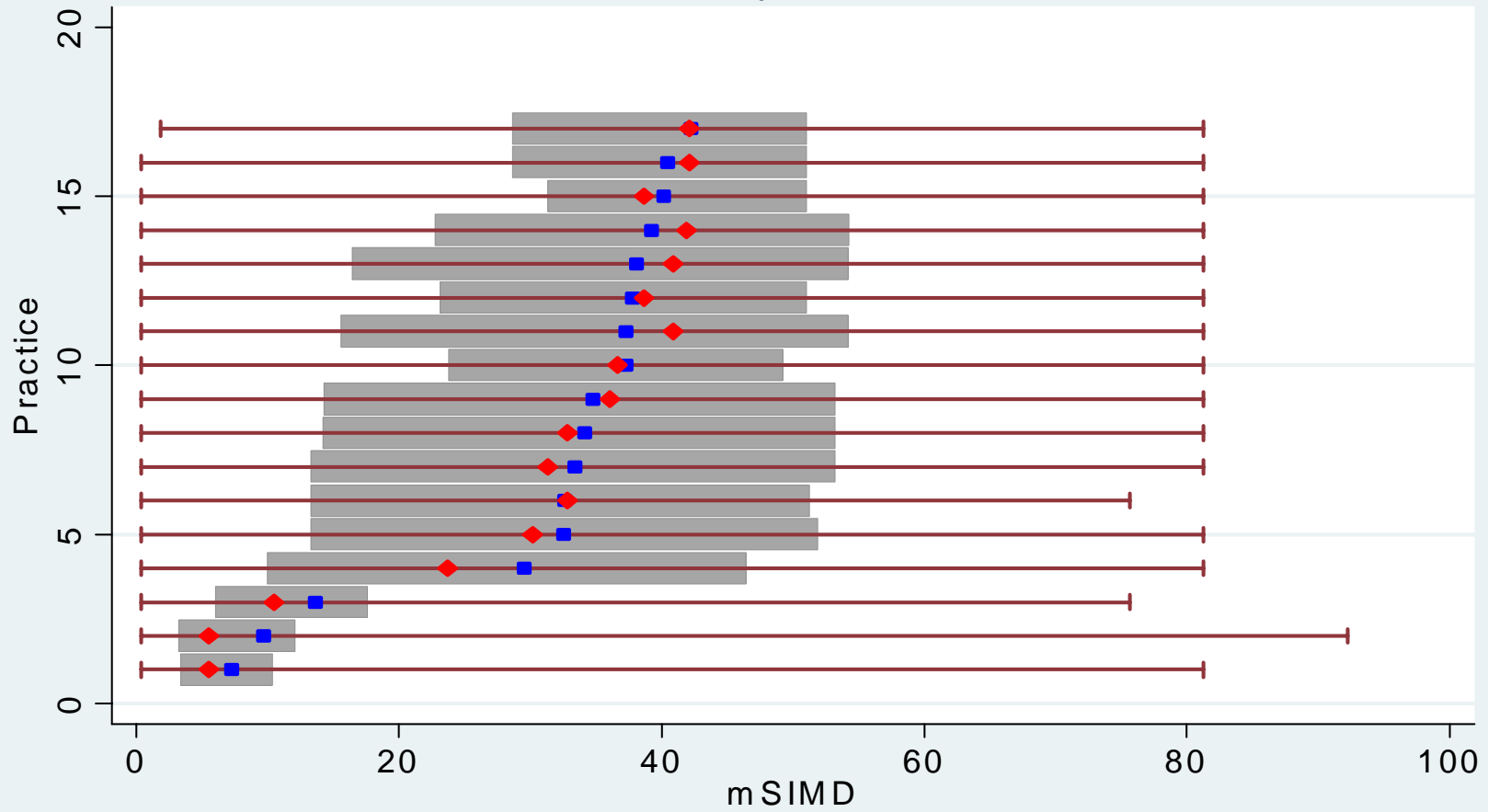
Appendix 6: Deprivation score by practices and CH(C)P



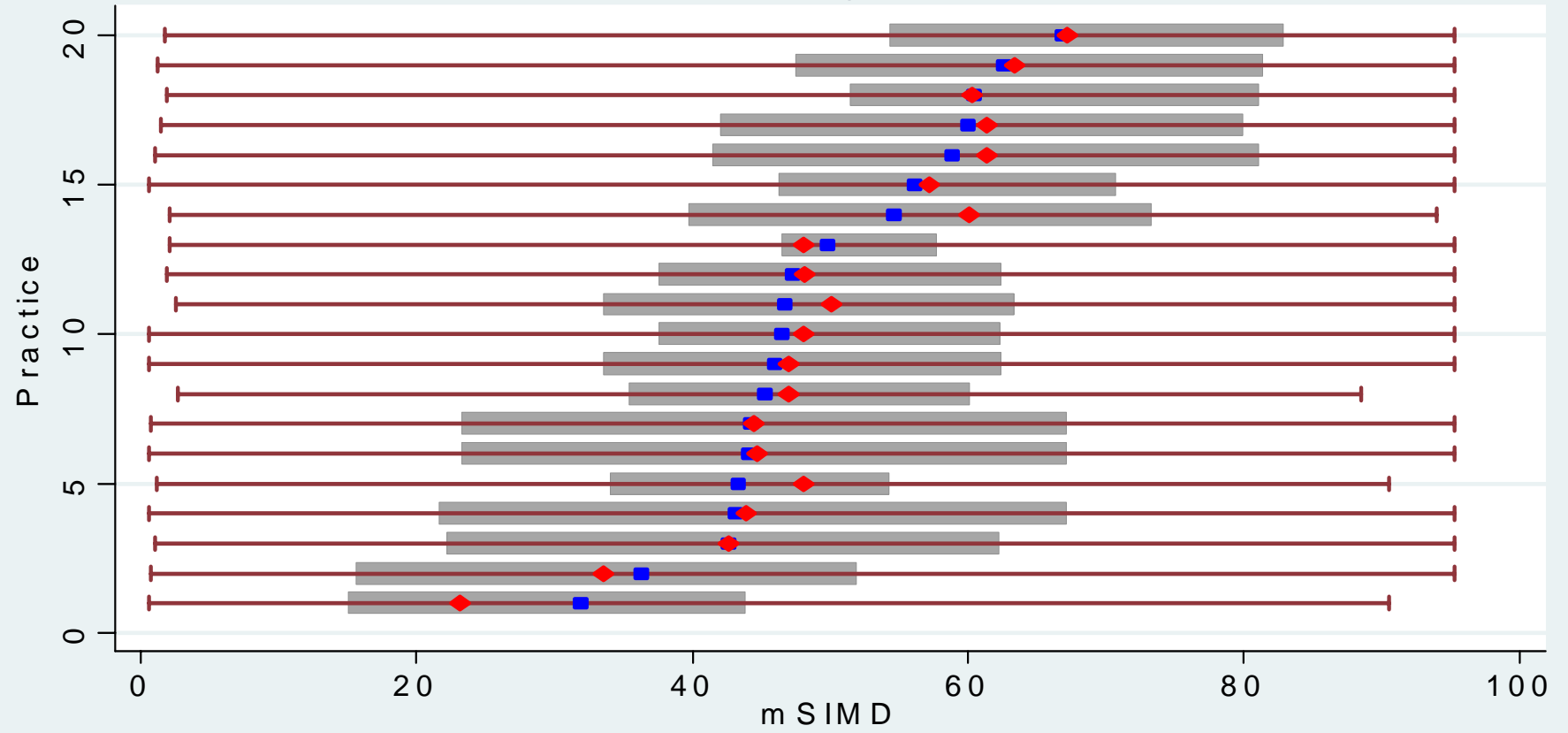
East Renfrewshire CHIP



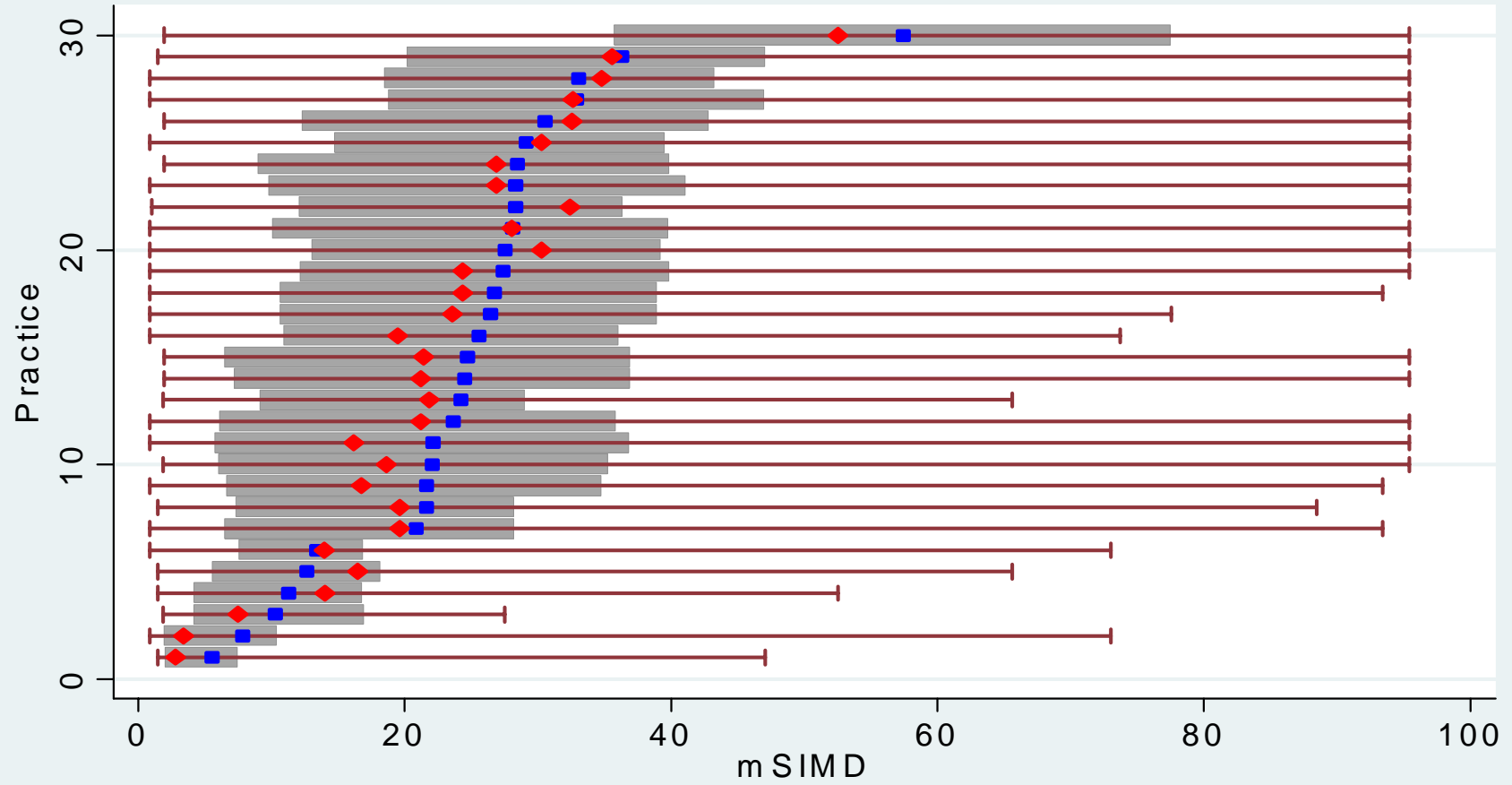
Inverclyde CHIP



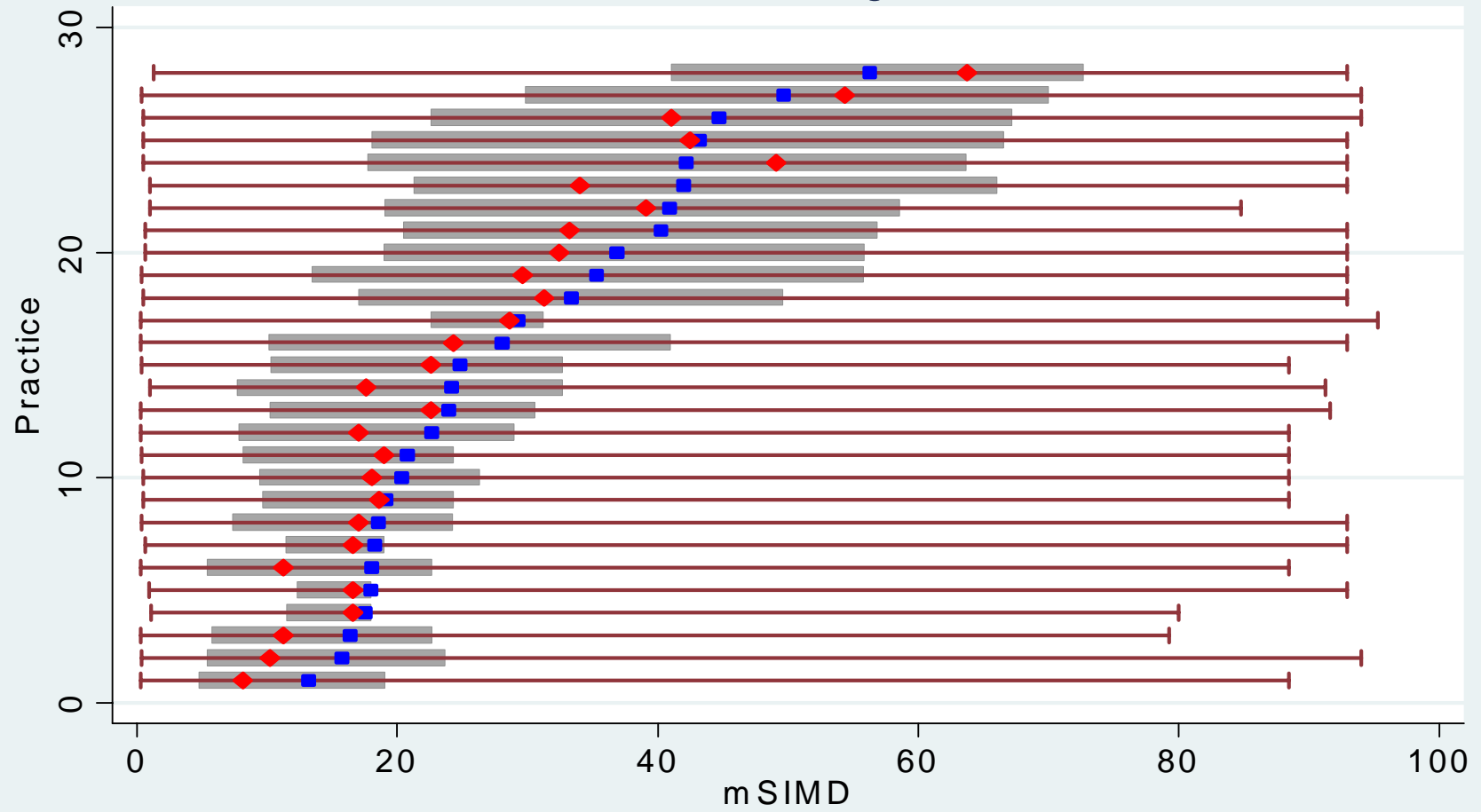
North Glasgow CHIP



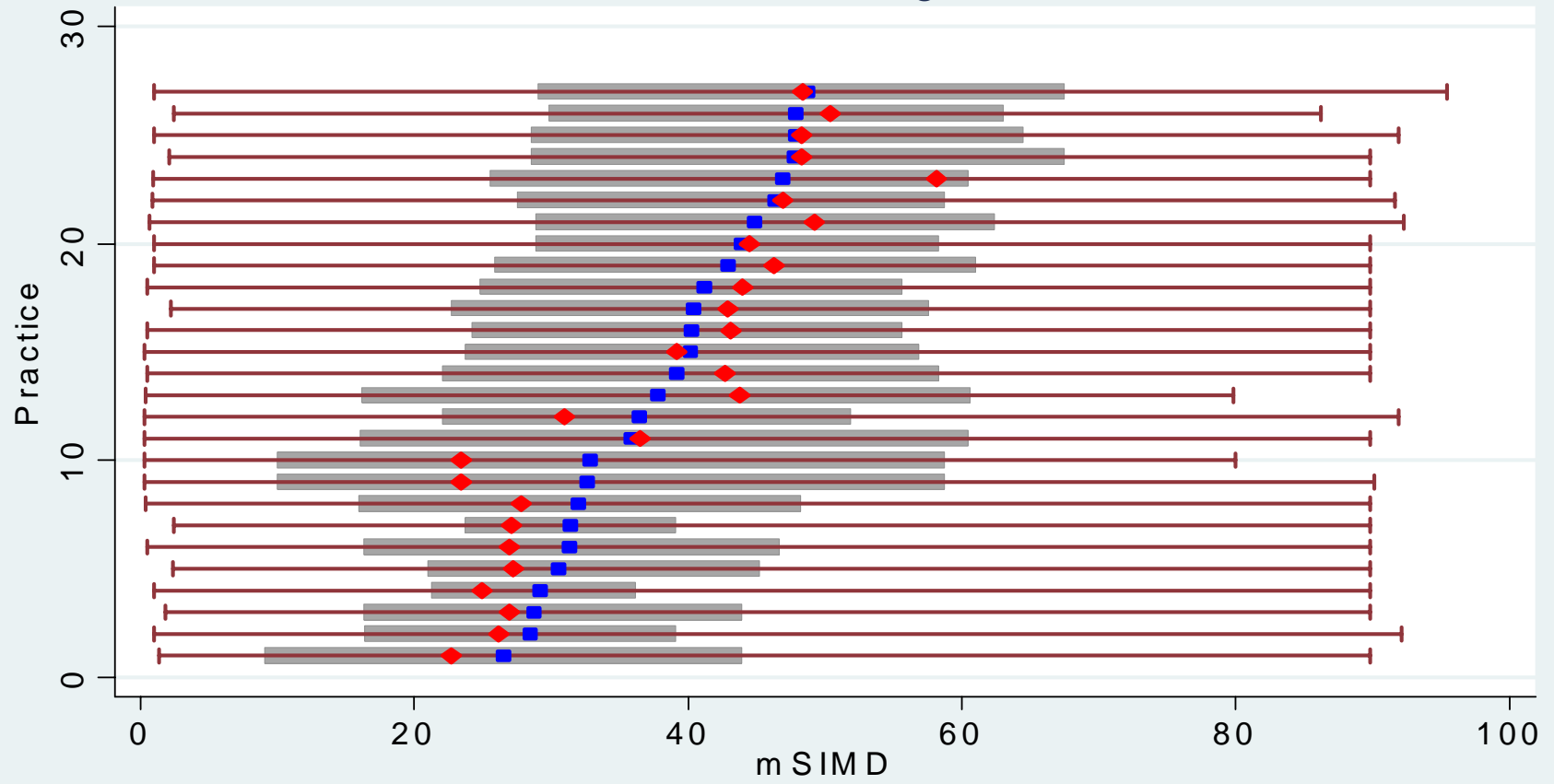
Renfrewshire CHIP



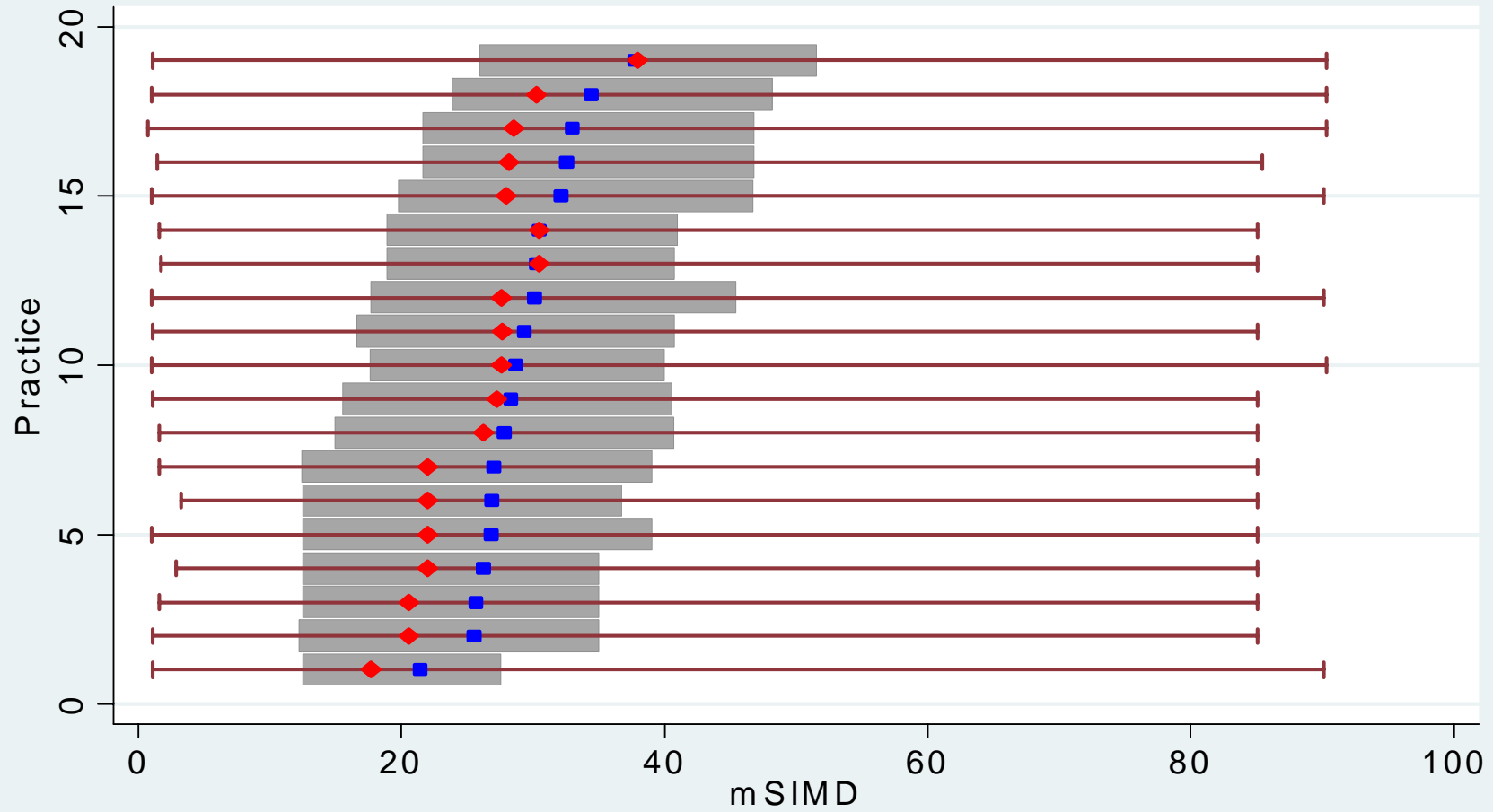
South East Glasgow CHIP



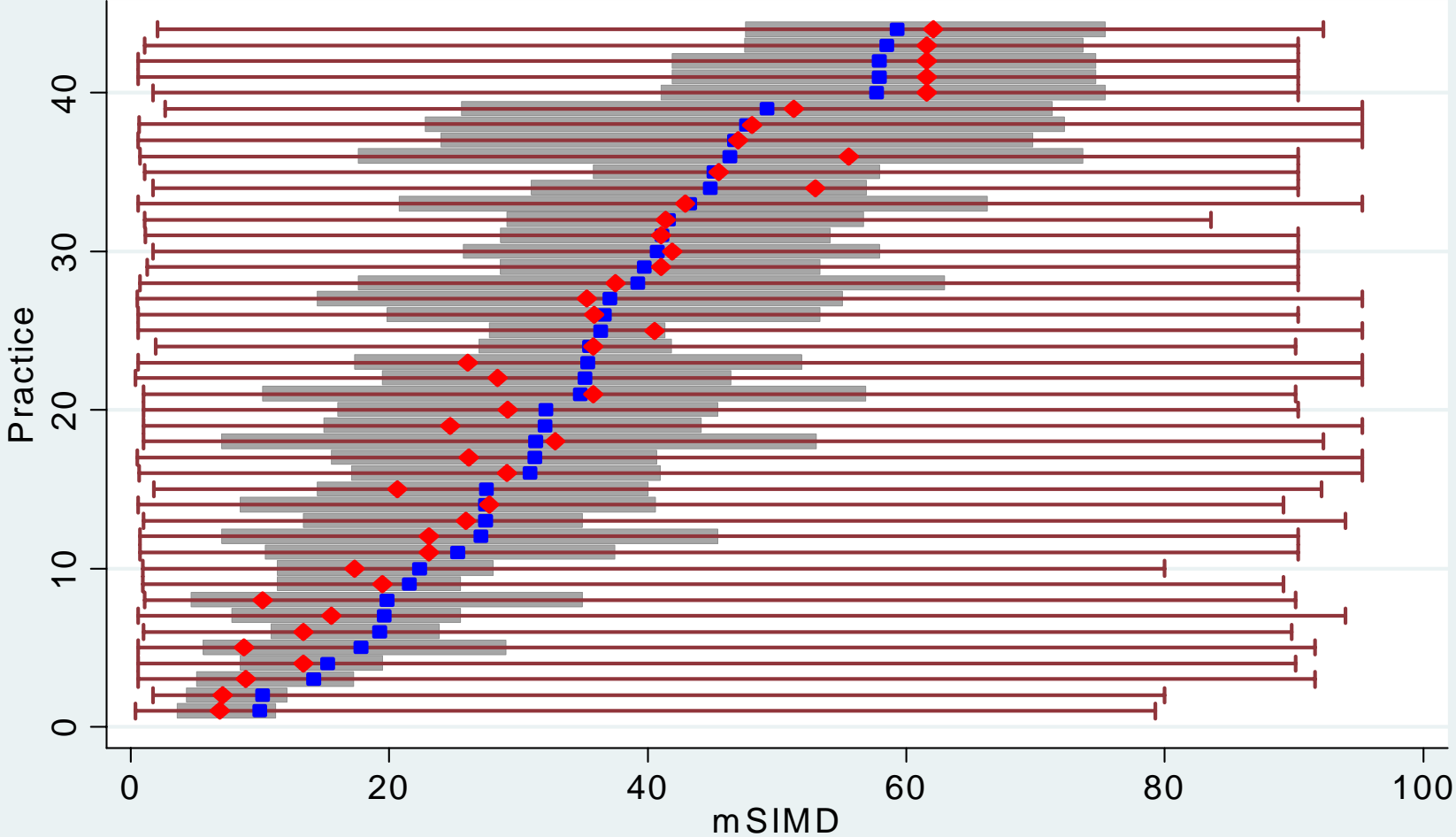
South West Glasgow CHIP



West Dunbartonshire CHIP



West Glasgow CHIP



Appendix 7: Summary of recent research

For the past decade, the Department of General Practice (now the Section of General Practice and Primary Care) at Glasgow University has carried out research on factors contributing to health outcomes in deprived areas, principally in the priority areas of cancer, heart disease and mental health.

- 3.2.1 An investigation into the prevalence of chest pain in affluent and deprived areas demonstrated a higher proportion of presentations with chest pain among socio-economically deprived people, but no difference between their general practitioners (GP) in the proportions given a provisional diagnosis of ischaemic heart disease (3-5). Men were more likely than women to present with chest pain and to receive a provisional diagnosis of heart disease. Further qualitative work suggested that patients may limit their own progress through the health care system (e.g. for further cardiovascular investigation and treatment), via different ideas, concerns and expectations.
- 3.2.2 Analyses carried out using the MIDSPAN study data set have contributed to our understanding of risk of ischaemic heart disease and outcomes in individuals who appear to have a visible high risk (based on smoking and obesity) and those who do not (6). Although public perceptions of risk may be influenced by exceptions to the rule (e.g. people who die from CHD without visible risk factors, and people with visible risk factors who do not die of CHD), visible risk factors are nevertheless associated with a substantially higher risk of CHD.
- 3.2.3 A qualitative study of family histories of heart disease revealed that perceptions of family history were complex, and even when participants judged that heart disease ran in their family they did not always perceive themselves to be at increased risk because they differed in crucial ways from affected relatives (7). These perceptions differed for men and women (8) This study raised many questions about healthy life behaviours and why individuals may choose to adopt them. Findings from the study were incorporated in health promotion materials produced by GGHB.
- 3.2.4 An RCT of two strategies of feedback to improve the management of elderly hypertensives (HYPER trial) demonstrated that providing practitioners with patient specific feedback improved population control of blood pressure (9). Data from this study have been used to demonstrate the link between deprivation and co-morbidity.
- 3.2.5 Evaluation of the predictive value of Framingham-based guidelines for the management of CHD risk has shown that such guidelines significantly under-predict events in deprived areas, and that their use may lead to a widening of health inequalities (10). This work prompted similar analyses, based on the Scottish Heart Health Extended Cohort, and the subsequent development of a new Scottish CHD risk score, ASSIGN, which is similar to Framingham but includes deprivation and family history as risk factors for cardiovascular disease. Implementation of ASSIGN will have substantial implications for the

numbers of men and women with CVD risks high enough to merit long term treatment and follow-up.

3.2.6 Women with breast cancer from deprived areas have poorer survival outcomes than women from affluent areas. An exploration of this revealed greater co-existing physical and psychological morbidity in deprived women to be an explanatory factor (11,12). Women with breast cancer consulted their GPs more frequently after diagnosis with breast cancer than before diagnosis and deprived women even more frequently than affluent women.

3.2.7 The psychological content of general practice consultations has been demonstrated to be greater in areas of socio-economic deprivation (13). Average consultation times are shorter in such areas. A short-term pilot RCT of increasing consultation length found that practitioners did not make full use of the extra available time.

3.2.8 A series of related descriptive studies on consultation quality showed :

- i. GPs in deprived areas report time and stress as significantly more important constraints on the quality of 'complex' consultations (involving psycho-social issues) than GPs in more affluent areas (14),
- ii. patients in deprived areas highly value empathic, holistic consultations, with time and continuity being two key aspects (15-19)
- iii. actual consultations in deprived areas are characterised by more need and demand for complex consultations than in affluent areas, but with poorer access and shorter consultations resulting in increased GP stress and lower patient enablement (20)
- iv. Wide variations exist between GPs in consultation quality, relating to time, continuity, attitudes, and morale (20)

3.2.9 An evaluation of the benefits of longer consultations targeted at complex consultations in one of the most deprived areas in Scotland (Keppoch Medical Practice, Possilpark) showing that relatively small increases in consultation length delivered in a sustainable and systematic way is associated with significant reduction in GP stress and significant increases in patient enablement (21).

3.2.10 An evaluation of the use of out of hours medical emergency services in Glasgow demonstrated an increase in uptake in areas of socio-economic deprivation (22). Patients from deprived areas had greater difficulty in accessing services during the day time (23). Questions remain about the access that patients in deprived areas have to high quality care

3.2.11 Single handed and small practices (<3 WTE GP partners) comprise 45% of all general practices serving urban areas (24). Single handed practices had larger list sizes per WTE GP and were less likely to participate in voluntary quality practice schemes. Single handed practices achieved comparable

results with larger practices for the clinical components of the Quality and Outcomes Framework, but scored less on organisational components of care.

3.2.12 Unpublished data, based on 37 Scottish general practices taking part in the practice team information (PTI) scheme show that 7% of patients are responsible for 30% of consultations in general practice. In these practices, the proportion of recorded patient encounters carried out by practice nurses, rather than general practitioners, varied from 20-40%.

In addition to the above studies, researchers in the section have been principal investigators for a series of randomised controlled clinical trials (asthma management, depression, Bell's Palsy) involving large numbers of participating general practices, many serving very deprived populations. Although such populations are under-represented in the research literature, our experience is that such research is feasible, with careful planning, adequate resource and good relationships between the academic centre and participating practices.

3.2.13 Summary

From the studies described above, several common themes emerge :-

- The added value of qualitative studies set in a precise epidemiological context, and thus, the need for a multi-disciplinary approach
- The importance of “facts on the ground”, complementing desk and record-based studies, with explanations of individual patient and professional experience
- The high prevalence of co-morbidity (i.e. people with several problems), requiring a holistic, co-ordinated response, cutting across disease-specific guidelines, clinics, programmes etc
- The shortage of time within consultations, and the implications for effective communication between patients and professionals
- Obstacles to effective communication when patients and professionals have different levels of knowledge, ideas, concerns and expectations

Based on these studies, the issue of “access to quality care” needs to be considered broadly, including not only practical issues of availability, accessibility and acceptability, but also what happens after initial access has been achieved, particularly when high quality care depends on effective inter-personal communication, continuity and co-ordination.

These issues are particularly important in areas of severe socio-economic deprivation, where ineffective communication, lack of continuity and poor co-ordination are all likely to result in unmet need (need being defined as the ability to benefit from health care). Conversely, the west of Scotland is an excellent setting, not only to provide local solutions to these problems, but also to provide evidence that will be relevant in similar settings elsewhere.

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Appendix 8: Figures and Tables

Figure	Page
Figure 1.1: An average-sized practice in NHS GGC	10
Figure 1.2: NHS Greater Glasgow & Clyde and CH(C)P boundaries.....	11
Figure 1.3: Percentage of CH(C)P practice population in most deprived SIMD quintile	13
Figure 1.4: Percentage of CH(C)P practice population in least deprived SIMD quintile	14
Figure 1.5: Age structure of CH(C)P practice based populations, June 2007	16
Figure 1.6: A CH(C)P view of the mental health network in NHS Greater Glasgow	20
Figure 1.7: Current model of out of hours care in Scotland	24
Figure 1.8: Number of GPs per 10,000 population, April 2007	28
Figure 1.9: Whole time equivalent number of GPs per 10,000 population, 2004	29
Figure 1.10: Number of Dentists registered to provide NHS services per 10,000 population, May 2007	30
Figure 1.11: Number of community pharmacies per 10,000 population, May 2007	31
Figure 1.12: Number of Practice Nurses per 10,000 population, July 2007	32
Figure 1.13: Whole time equivalent trained community nurses per 10,000 population	33
Figure 1.14: WTE general practitioners in NHS Greater Glasgow and NHS Argyll and Clyde, 1996-2005	34
Figure 1.15: General practices in NHS GGC broken down by the number of GPs working together	35
Figure 1.16: Proportion of the population cared for by practices with different numbers of GPs	35
Figure 1.17: Proportion of practices with different list sizes in NHS GGC and the Rest of Scotland	36
Figure 1.18: Number of General Practitioners in NHS GGC, by age group and sex	38
Figure 2.1: Estimated PTI contact rates for males, by SIMD quintile 2004; year ending 31 st March 2006.	42
Figure 2.2: Estimated number of PTI contacts, Females, by SIMD quintile 2004; year ending 31 st March 2006/	43
Figure 2.3: Estimated contact rates with General Practitioners, Males, by SIMD quintile 2004; year ending 31 st March 2006.....	44
Figure 2.4: Estimated contact rates with General Practitioners, Females, by SIMD quintile 2004; year ending 31 st March 2006.....	45
Figure 2.5: Comparison of three practice populations with different socio-economic profiles	47
Figure 2.6: NHS Greater Glasgow & Clyde, Ordered highest to lowest rates of emergency admission by practice, 2005. Figure shows crude rates and rates standardised for age, sex and SIMD.	54
Figure 3.1: Variation in Practice Deprivation across NHS GGC by CH(C)P area.....	63
Figure 3.2: Variation in practice based health measures by CH(C)P area	64
Figure 3.3: Greater Glasgow & Clyde population by decile of deprivation and age group	65
Figure 3.4: Variation in deprivation scores for individual patients within practices in South East Glasgow.....	66
Figure 3.5: Age & Sex standardised 2001 health census measures by Greater Glasgow & Clyde deprivation decile	67
Figure 3.6: QOF points achieved, broken down by participation in voluntary activities and deprivation quintile	78
Figure 4.1: Projected Population Changes in Scotland, 2004-2024; NHS Greater Glasgow & Clyde council areas.....	82
Figure 4.2: Projected population of Scotland, by age group. 2006-2031	83
Figure 4.3: Dependency ratio projections for NHS GGC council areas, 2004 and 2024	84
Figure 4.4: Projected change in number of households by Local Authority area, 2004-2024	85

Figure 4.5: Projected number of households in Scotland by household type: 2004 and 2024	86
Figure 4.6: Male life expectancy at birth, Greater Glasgow & Clyde CH(C)Ps,	88
Figure 4.7: Female life expectancy at birth, Greater Glasgow & Clyde CH(C)Ps, 2003-05...	88
Figure 4.8: Expectation of life at birth, Scotland, 1981-2031	89
Figure 4.9: Percentage of working age population who are 'Employment Deprived', CH(C)Ps within Greater Glasgow & Clyde, 2006	90
Figure 4.10: Alcohol related mortality, Greater Glasgow: deaths 1980-2003 and projections 2004-2027	94
Figure 4.11: Patient discharge rates for patients admitted to hospital with alcohol related and attributable conditions 2004-6. Rates standardised for age and sex.	95
Figure 4.12: Estimated proportion of 'problem drug users' (aged 15-54), 2003.....	96
Figure 4.13: Drug related deaths over 10 years (1997-2006) per 100,000 population. Greater Glasgow & Clyde CH(C)Ps	97
Figure 4.14: Drug related deaths, Scotland, 1996-2006.	98
Figure 4.15: The proportion of adults in NHS Greater Glasgow & Clyde who were overweight or obese in 1995, 1998 and 2003	99
Figure 4.16: First psychiatric admission rates by CH(C)P area, 2003-6. Standardised for age and sex.	101
Figure 4.17: Suicide rates, standardised for age, Greater Glasgow & Scotland, 1976-2001. Males 17-74yrs.	102
Figure 4.18: Suicide rates by CH(C)P area, standardised for age and sex;.....	103

Table	Page
Table 1.1: Comparison of CH(C)P populations.....	12
Table 1.2: The number of people and percentage of total CH(C)P practice based population living in the most and least deprived quintiles.....	15
Table 1.3: Contribution of age groups to overall CH(C)P practice based populations.....	16
Table 1.4: Number of asylum seekers in each CH(C)P area.....	17
Table 1.5: An estimate of the total number of refugees, asylum seekers and failed asylum seekers in Greater Glasgow.....	18
Table 1.6: Caseload of selected Community services in GG (& C) and General Practices...22	22
Table 1.7: Social work clients with an open event at March 2007, by CH(C)P area.....	22
Table 1.8: Number of patient contacts with GEMS and A&E services.....	25
Table 1.9: Summary of practice based staff and wider community based services	27
Table 1.10: Age profile of GPs in NHS GGC, September 2006.....	37
Table 2.1: Proportion of population ¹ seen face to face by practice team in the year, and median number of contacts per person ² 2005/6 ^P	41
Table 2.2: Estimated PTI contact rates, Males, per 1000 population; year ending March 31 st 2006.....	43
Table 2.3: Estimated PTI contact rates, Females, per 1000 population; year ending March 31 st 2006.	43
Table 2.4: Estimated GP contact rates, Males, per 1000 population; year ending March 31 st 2006.	44
Table 2.5: Estimated GP contact rates, Females per 1000 population; year ending March 31 st 2006.	45
Table 2.6: Comparison of PTI and GP contact rates by SIMD	46
Table 2.7: Age structure of three selected practice populations in NHS GGC	47
Table 2.8: Number of estimated face to face contacts in selected practices	49
Table 2.9: Number of estimated face to face contacts for selected medical conditions in 1 week.....	50
Table 2.10: Estimated number of people with mental health problems, Scottish Health Survey, by decile of deprivation (mSIMD).....	50
Table 2.11: Budget summary for NHS GGC Community Health and Care Partnerships 2006/7	51
Table 2.12: Number of items dispensed per 1000 patients by selected practices, 2006/7	52
Table 2.13: Number of Emergency Medical admission patients and number with 2 or more emergency admissions, by CH(C)P area. Rates for each area standardised for age and sex per 100,000 population.....	53
Table 2.14: Average annual Emergency Medical Admission rates per 1000 population (rates indirectly standardised for age and sex)	55
Table 2.15: New Out-Patient referral rates per 1000 population (indirectly standardised for age and sex)	56
Table 3.1: Distribution of Scottish general practices by Health Board and by deciles of the Scottish population stratified by mean practice population deprivation scores	61
Table 3.2: 100 practices serving the most deprived populations in Scotland broken down by Health Board area	61
Table 3.3: Age distribution of Greater Glasgow & Clyde practice based populations by decile of deprivation. Rows show total number of people in each age group (and row percentage of total).	65
Table 3.4: Most deprived 20% of GG&C population by CH(C)P area	68
Table 3.5: Number of patients with at least one diagnosis of coronary heart disease, by age and quintile of deprivation, NHS Greater Glasgow	69
Table 3.6: Number of patients with at least one CHD diagnosis, prevalence rates, number of practices and practitioners by quintile of deprivation, NHS Greater Glasgow.....	70

Table 3.7: Prevalence of Anxiety and Depression among patients with coronary heart disease by deprivation quintile, NHS Greater Glasgow	71
Table 3.8: Trends in statin prescribing by deciles of deprivation, NHS Greater Glasgow & Clyde, 2001-6. (Defined Daily Doses are shown as rates per weighted practice population)	71
Table 3.9: Emergency medical admission rates, death rates for coronary heart disease and angina rates for patients under 70 yrs old, by NHS GGC decile of deprivation	72
Table 3.10: Number of patients with Coronary Heart Disease prescribed a statin, by gender and deprivation quintile, Paisley.....	73
Table 3.11: Number of patients without a coronary heart disease diagnosis and prescribed statin medication, by gender and deprivation quintile, Paisley.....	73
Table 3.12: Proportion of Paisley population receiving a statin, by quintile of deprivation	74
Table 3.13: Number of men recommended for statin medication using Framingham risk tool at 30% and 20% risk thresholds and ASSIGN 20% risk threshold for Coronary Vascular Disease (CVD), NHS Greater Glasgow & Clyde.....	74
Table 3.14: Overall number of activities and average QOF points achieved in practices by CH(C)P area, NHS Greater Glasgow & Clyde	76
Table 3.15: Number of practices taking part in defined voluntary activities in NHS Greater Glasgow & Clyde	76
Table 3.16: Number of voluntary activities and QOF points achieved, by Greater Glasgow & Clyde deprivation quintile	77