



Projections of regional demand and workforce requirements for general practice in Ireland, 2023–2024: Based on the Hippocrates model

**SHEELAH CONNOLLY, THEANO KAKOULIDOU AND
ELLEN MCHUGH**



PROJECTIONS OF REGIONAL DEMAND AND WORKFORCE REQUIREMENTS FOR GENERAL PRACTICE IN IRELAND, 2023–2040: BASED ON THE HIPPOCRATES MODEL

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November 2025

ESRI SURVEY AND STATISTICAL REPORT SERIES NUMBER 136

Available to download from www.esri.ie

<https://doi.org/10.26504/sustat136>

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Whitaker Square, Sir John Rogerson's Quay, Dublin 2



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ACKNOWLEDGEMENTS

Financial support for this research was provided by the Department of Health. The authors would like to thank personnel from the Department of Health and the Health Service Executive and members of the Department of Health/ESRI Research Programme Steering Group for their input and direction in completing this analysis. The authors also acknowledge the significant contribution of Anne Nolan of the ESRI and an anonymous reviewer.

This report has been accepted for publication by the Institute, which does not itself take institutional policy positions. All ESRI Research Series reports are peer reviewed prior to publication. The authors are solely responsible for the content and the views expressed.

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FOREWORD

This report was prepared by researchers at the Economic and Social Research Institute (ESRI) for the Department of Health. The report is published as an ESRI Survey and Statistical Report and should be read in conjunction with the recently published *Projections of national demand and workforce requirements for general practice in Ireland, 2023–2040: Based on the Hippocrates model*. This report analyses demand for general practice services in 2023 at the HSE health region level and projects demand and workforce requirements to 2040.

The Hippocrates Model was developed at the ESRI under the ESRI/Department of Health Research Programme in Healthcare Reform. The Hippocrates Model is a tool which can: inform health and social service planning in Ireland; inform financial planning for the healthcare system; inform planning for capacity, services and staffing; identify future demand pressures; and provide a framework in which to analyse the effects of potential system changes and reforms. The latest project was overseen by the Department of Health with input from the Health Service Executive.

The ESRI is responsible for the quality of this research, which has undergone peer review prior to publication. This report was prepared by Dr Sheelah Connolly, Dr Theano Kakoulidou and Ellen McHugh and reflects their expertise and views. The views expressed in this report are not necessarily those of other ESRI researchers, the HSE, the Minister for Health, Department of Health or other organisations represented on the Department of Health/ESRI Research Programme Steering Group.

ABBREVIATIONS AND ACRONYMS

CDTP	Chronic Disease Treatment Programme
CHN	Community Healthcare Network
CHO	Community Health Organisation
COPD	Chronic Obstructive Pulmonary Disease
DNE	Dublin and North East
DML	Dublin and Midlands
DSE	Dublin and South East
ED	Electoral Division
GMS	General Medical Services
GP	General Practitioner
GPN	General Practitioner Nurses
GPNM	General Practice Nurses and Midwives
GUI	Growing Up in Ireland
HSE	Health Service Executive
ICGP	Irish College of General Practitioners
IGPNEA	Irish General Practice Nurses Educational Association
IHA	Integrated Healthcare area
LHO	Local Health Office
MW	Mid West
NMBI	Nursing and Midwifery Board of Ireland
PBRA	Population-Based Resource Allocation
SILC	Survey of Income and Living Conditions
SWITCH	Simulating Welfare and Income Tax Childcare and Health
SW	South West
WNW	West and North West

EXECUTIVE SUMMARY

INTRODUCTION

In recent decades, the Irish healthcare system has undergone a number of structural and regional reconfigurations, the most recent of which was the implementation of six HSE health regions. This report is part of a new series of reports that uses the ESRI Hippocrates model to provide up-to-date projections for three service areas (public acute hospitals, general practice and older people's services) at both the national and regional level. Focusing on general practice, this report extends the national-level analysis published in June 2025, by estimating regional baseline utilisation profiles for 2023, and providing medium-term projections of demand and workforce requirements to 2040 in each of the six HSE health regions.

Similar to the national-level analysis, the analysis in this report was undertaken at a time of great uncertainty for the health system due to the aftermath of the COVID-19 pandemic, high population growth and policy reforms, including the extension of eligibility for GP visit cards and the introduction of health regions. While available national-level data on general practice are limited, data availability at the health region level is even more limited. Consequently, the findings in this report should be interpreted with caution. It is anticipated that as the health regions become more embedded into the health system over time, better data will be available, allowing more refined analyses.

METHODS

The methods outlined in this report should be read in conjunction with the national-level report, which provides a very detailed description of the data sources and methods of analysis.

The projections use the ESRI's healthcare projection tool, the Hippocrates model. The first step is to develop base-year age-specific activity (consultation) rate profiles for General Practitioners (GPs) and General Practice Nurses (GPNs) for each of the six regions. This is done using data from the Healthy Ireland survey and the Growing Up in Ireland (GUI) study, with separate analyses for cardholders and non-cardholders. The base year is 2023, and the projection period is 2024–2040. Baseline estimates of activity are projected based on a range of assumptions, including the size and structure of the population, healthy ageing and uptake for GP visit cards, and the Chronic Disease Treatment Programme (CDTP), with three projection scenarios (low pressure, central and high pressure).

Subsequently, projected increases in activity are converted into workforce requirements over the projection period, based on current regional workforce-to-activity rates. Given significant variation across the regions in the per capita number of GPs and GPNs, an alternative approach to estimating future workforce requirements, based on applying the per capita number of GPs and GPNs from the health region with the highest number of GPs/GPNs to all regions, was also undertaken.

FINDINGS

Between 2023 and 2040, nationally, demand for GP consultations is projected to increase by between 23 per cent and 30 per cent. Projected increases are observed for each of the six health regions with higher increases projected in Dublin North East (DNE) (25 per cent-32 per cent), Dublin Midlands (DML) (28 per cent-35 per cent) and Dublin South East (DSE) (23 per cent-30 per cent) relative to the Mid West (MW) (19 per cent-25 per cent) and West North West (WNW) (19-25 per cent). For the same time period, nationally, demand for GPN consultations is projected to increase by between 32 per cent and 36 per cent. Again, projected increases are observed for each of the six health regions, with greater increases projected for DNE (34 per cent-39 per cent), DML (38 per cent-43 per cent) and DSE (33 per cent-37 per cent) relative to the South West (SW) (28 per cent-32 per cent), MW (28 per cent-32 per cent) and WNW (24 per cent-28 per cent). For both GP and GPN consultations, the largest driver of the projected increases is population growth in each of the six regions.

Reflecting these increases in demand, there will be a need for additional GPs and GPNs in the coming years. By 2040, assuming a constant regional GP-consultation ratio, the number of additional GPs required to meet projected demand (in the central scenario) ranges from 64 in the MW to 228 in DML. For GPNs, assuming a constant regional GPN-consultation ratio, the number of additional GPNs required by 2040 to meet projected demand (in the central scenario) ranges from 61 in the MW to 167 (central scenario) in DML. Differences in the current per capita supply of GPs and GPNs across the regions suggest that some areas are currently better served than others. Significantly more GPs and GPNs would be required in some regions if all regions were to have the same per capita number of GPs and GPNs as the region with the highest per capita numbers.

DISCUSSION

The growing and ageing population will increase demand for general practice services across all six HSE health regions in the coming years. Consequently, the workforce will need to increase substantially in each region to meet this demand. There are, however, some areas of the country that have a higher number of GPs and GPNs per capita than others in terms of the general practice workforce;

immediate action is required to address this to ensure that current difficulties experienced by some individuals in accessing general practice services are not exacerbated as the population grows and ages. The lack of available, regional-level data on general practice presents a major challenge for effective capacity planning. As more comprehensive data become available, the projections in this report should be reviewed and updated accordingly.

CHAPTER 1

Introduction

1.1 OVERVIEW

In recent decades the Irish healthcare system has undergone a number of structural and regional reconfigurations (Walsh and Hill, 2024), the most recent of which was the development of six HSE health regions. Each of these regions is responsible for providing both hospital and community care for people living in that region and has its own budget, leadership team and responsibility for local decision-making.

This report is part of a new series of reports that uses the ESRI Hippocrates model to provide up-to-date projections for three service areas at both national and regional level (Brick and Kakoulidou, 2025; Brick et al., 2025; Connolly et al., 2025; Walsh and Kakoulidou, 2025a; 2025b). Focusing on general practice, this report extends the national-level analysis published in Connolly et al. (2025) by estimating regional baseline utilisation profiles for 2023, and providing medium-term projections of demand and workforce requirements to 2040 in each of the six HSE health regions.

As in the national-level analysis, the regional analysis includes both General Practitioners (GPs) and General Practice Nurses (GPNs); the base year is 2023 and the projection period is 2024-2040. The projections include the most recent population estimates and projections for the health regions,¹ incorporating the increase in the number of people eligible for GP visit cards in 2023 and including assumptions on the potential impact of the chronic disease treatment programme (CDTP) on the demand for general practice services.

The current report, and in particular Chapter 2, Data and methods, should be read in conjunction with the national-level report (Connolly et al., 2025) which provides a detailed description of the data sources and methods of analysis. In general, this report focuses on where and how the methods used for the regional analysis differ from those of the national analysis.

Similar to the national-level analysis, the analysis in this report was undertaken at a time of great uncertainty for the health system due to the COVID-19 pandemic, high population growth, and policy reforms including the extension of eligibility for

¹ The ESRI regional population projections are utilised, see Bergin and García-Rodríguez, 2020; Keegan et al., 2022; Bergin and Egan, 2024; Brick and Kakoulidou, 2025 for more details.

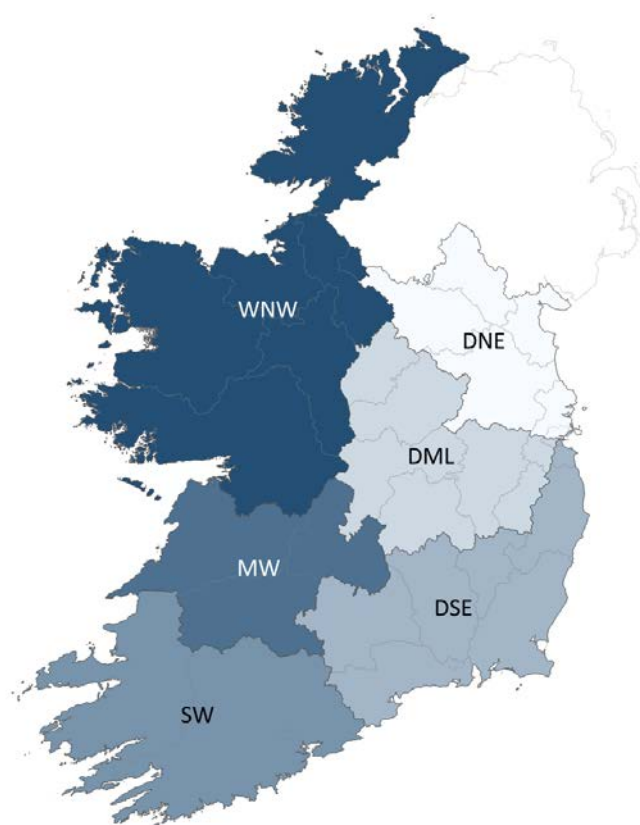
GP visit cards and the introduction of the HSE health regions (Connolly et al., 2025). While availability of national-level data on general practice is limited, data availability at the health region level is even more limited. Consequently, the findings in this report should be interpreted with caution. It is anticipated that as the health regions become more embedded into the health system over time, better data will be available allowing more refined analyses.

1.2 THE SHIFT TO HSE HEALTH REGIONS

The 2017 Sláintecare report committed to the introduction of Regional Health Areas in order to align acute, community, and social care services (Houses of the Oireachtas Committee on the Future of Healthcare, 2017); the report also recommended the introduction of a new funding model based on Population-Based Resource Allocation (PBRA) to allocate funding to the regions. It was anticipated that such a funding model would promote equity of access to health services across the regions by taking into account demographics, deprivation and other indicators of healthcare need (Houses of the Oireachtas Committee on the Future of Healthcare, 2017). In 2022, the Government approved the development of the regional structure (now known as health regions rather than Regional Health Areas) (O'Malley et al., 2023) and in 2024, six HSE health regions were established: Dublin and North East (DNE), Dublin and Midlands (DML), Dublin and South East (DSE), South West (SW), Mid West (MW) and West and North West (WNW). Figure 1.1 shows the geographical distribution of the six health regions. The six regions closely align to county lines; however four counties (Dublin, Cavan, Wicklow and Tipperary) are split across health regions.

Within the six health regions, there will be 96 Community Healthcare Networks (CHNs). Each CHN will deliver primary healthcare services to a population of approximately 50,000. It will include between four and six primary care teams (with GPs involved in delivering services), and Community Specialist Teams for Older Persons and Chronic Disease.²

² Community Healthcare Networks - HSE.ie.

FIGURE 1.1 GEOGRAPHICAL DISTRIBUTION OF THE SIX HEALTH REGIONS

Source: CSO SAPmaps (2022).

Note: Authors' representation of the six health regions.

In terms of previous health geographies, the 32 Local Healthcare Organisations (LHOs) aggregate to the new health regions; however, two of the nine Community Health Organisations (CHOs) (CHO 1 and CHO 8) are split across multiple health regions (Table 1.1). This is relevant to the current analysis, as some of the required data are collected at the LHO/CHO/county level rather than the health region level. As a result, individuals within particular LHOs/CHOs/counties had to be assigned to a corresponding health region.

TABLE 1.1 ALLOCATION OF LHOS AND CHOS TO HEALTH REGIONS

Health region	LHO	CHO
Dublin and North East (DNE)	Cavan/Monaghan	CHO 1
	Meath	CHO 8
	Louth	CHO 8
	Dublin North	CHO 9
	Dublin North Central	CHO 9
	Dublin North West	CHO 9
	Dublin West	CHO 7
Dublin and Midlands (DML)	Dublin South City	CHO 7
	Dublin South West	CHO 7
	Kildare/West Wicklow	CHO 7
	Laois/Offaly	CHO 8
	Longford/Westmeath	CHO 8
Dublin South East (DSE)	Wexford	CHO 5
	Carlow/Kilkenny	CHO 5
	Waterford	CHO 5
	South Tipperary	CHO 5
	Dublin South East	CHO 6
	Dun Laoghaire	CHO 6
	Wicklow	CHO 6
South West (SW)	Kerry	CHO 4
	North Cork	CHO 4
	North Lee	CHO 4
	South Lee	CHO 4
	West Cork	CHO 4
Mid West (MW) (MW)	Limerick	CHO 3
	Clare	CHO 3
	North Tipperary/East Limerick	CHO 3
West North West (WNW)	Donegal	CHO 1
	Galway	CHO 2
	Sligo/Leitrim/West Cavan	CHO 1
	Mayo	CHO 2
	Roscommon	CHO 2

Sources: Introducing HSE health regions; Community Healthcare Organisations in Ireland; The AT Network.

1.3 SOCIO-ECONOMIC AND HEALTH SERVICE UTILISATION AT THE REGIONAL LEVEL

Given the recent establishment of the six HSE health regions, relatively little work has been done characterising the differences and similarities across the regions. Walsh and Hill (2024), however, found that the percentage of adults living in the most deprived quintile was highest in DNE and the WNW. Based on the 2022 Census, the Central Statistics Office (CSO) has recently compiled a profile of the

varying Irish health geographies, including the six HSE health regions.³ Based on the CSO analysis, Table 1.2 shows the percentage of the population in each of the health regions reporting particular health and socio-economic characteristics. Overall, no single region consistently showed higher/lower percentages relative to the others. In general, a relatively small proportion of the population reports their health as bad/very bad, and there was relatively little difference across the regions (ranging from a low of 1.6 per cent in the SW to a high of 1.9 per cent in the MW). The percentage of the population who smoke daily/occasionally varied from 12.5 per cent in the WNW to 13.8 per cent in DML. The percentage of the population unemployed was lowest in the SW; however, that region did have one of the highest proportions of the population that were unable to work – a similar pattern was observed for the MW. The percentage of the population born outside of Ireland varied from a high of 23.5 per cent in DNE to 16.4 per cent in the MW. It should be noted that the ‘average’ number for each health region can mask significantly higher/lower levels at the smaller area level.

TABLE 1.2 PERCENTAGE OF THE POPULATION REPORTING SELECTED HEALTH, SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS, HEALTH REGION, 2022

	General health – bad/very bad (%)	Smoking – daily/occasionally (%)	Unemployed – short and long- term (%)	Unable to Work (%)	Born outside Ireland (%)
DNE	1.7	13.3	4.6	4.2	23.5
DML	1.7	13.8	4.5	4.6	20.6
DSE	1.7	12.8	4.1	4.4	18.6
SW	1.6	12.9	3.6	4.9	17.9
MW	1.9	13.1	4.1	5.2	16.4
WNW	1.8	12.5	4.4	4.8	19.7

Sources: HSE health region, IHA, CHN and ED Profiles.

Table 1.3 shows the proportion of the population in each health region, by age-group, holding a medical or GP visit card. Very high rates are observed across all regions for the groups aged 0-7 and 70+, given their automatic entitlement for a card. For the other age-groups, MW and WNW tend to have a higher proportion of cardholders relative to the national average.

³ HSE health region, Integrated Healthcare Areas (IHA), CHN and Electoral division (ED) Profiles.

TABLE 1.3 PERCENTAGE OF THE POPULATION WITH A MEDICAL OR GP VISIT CARD BY HEALTH REGION, JUNE 2025

	DNE (%)	DML (%)	DSE (%)	SW (%)	MW (%)	WNW (%)	National (%)
0-7	92	90	102	97	97	98	96
8-17	37	38	36	37	40	43	38
18-29	19	19	20	21	23	26	21
30-39	21	21	24	23	27	30	23
40-49	24	25	25	26	28	31	26
50-59	29	30	28	30	32	36	30
60-69	36	36	35	37	38	42	37
70+	97	98	100	99	99	98	98

Source: Authors' calculation based on a special data request from PCRS and ESRI population estimates.

There is a small but growing evidence base on utilisation of general practice services at the HSE health region level. McCarthy et al. (2022), for example, using data from the Healthy Ireland survey for the years 2015-2019, found that the proportion of the population regionally that had visited the GP in the year before the survey varied from a low of 56 per cent in DNE to a high of 64 per cent in the MW. Also, using data from the Healthy Ireland survey, Walsh and Hill (2024) found that the average annual number of GP visits for adults ranges from a low of 4.4 in DML to 5.5 in the MW.

Earlier work looking at the supply of GPs across counties found sizeable differences in the number of population-adjusted GPs (relative to the national average) with fewer GPs in Dublin commuter areas, including Meath and Kildare, and higher population-adjusted numbers in counties along the west coast (Smith et al., 2019). More recent work has highlighted significant variation in the supply of both GPs and General Practice Nurses and Midwives (GPNMs) across CHNs (Coy and Tanwir, 2025). The authors explored whether higher GPNM numbers in some areas may offset lower GP numbers and found that this may be the case in some areas. However, in other areas, the population-adjusted numbers for both GPs and GPNMs were found to be low.

1.4 STRUCTURE OF THE REPORT

The rest of the report is structured as follows:

- Chapter 2 describes the methods and data of the analysis as they apply to the health regions;
- Chapter 3 details the findings;
- Chapter 4 concludes, providing a summary of the findings, identifies the limitations of the analysis and discusses key policy implications.

CHAPTER 2

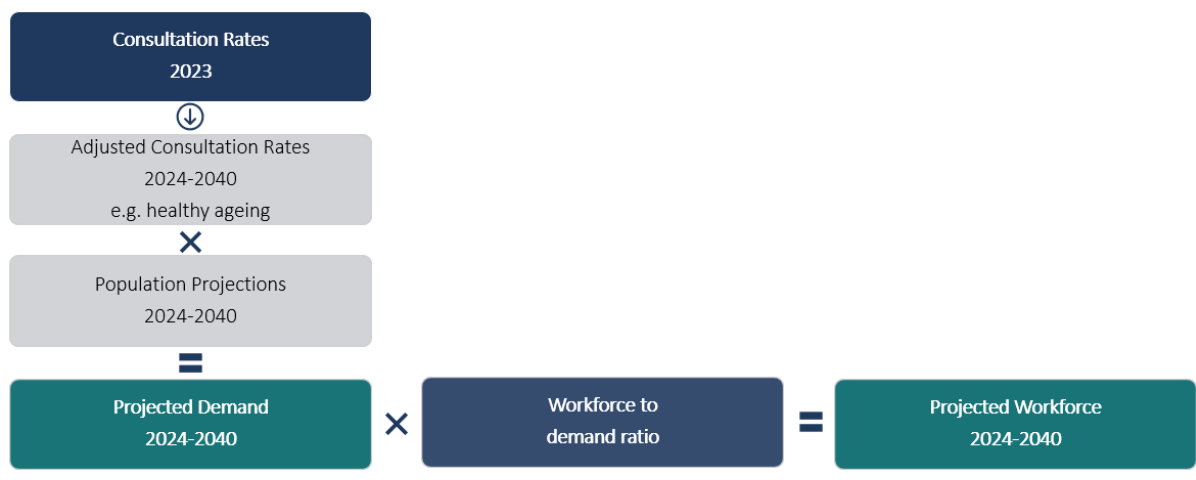
Data and methods

2.1 OVERVIEW OF APPROACH

The methodology used to project demand and workforce requirements in general practice at the regional level in this report very closely mirror those in the report by Connolly et al. (2025) which projected demand and workforce requirements at the national level. In this report, details specifically relating to the regional analysis will be included, with the reader referred to Connolly et al. (2025) for additional detail on the overall methodology.

The projections of demand and workforce included in this report use the ESRI’s healthcare projection tool, the Hippocrates model. Figure 2.1 provides an overview of the model and describes the steps in the modelling process which is applied to the analysis for each health region.

FIGURE 2.1 HIPPOCRATES MODEL – DIAGRAMMATIC REPRESENTATION 2023–2040



Source: Authors’ representation of the Hippocrates model.

The first step is to develop base-year age-specific activity (consultation) rate profiles for GPs and GPNs for each of the six regions. While this was done for medical card holders, GP visit card holders and non-cardholders separately in the national analysis, in the regional analysis it is only possible to divide the population into cardholders (medical card holders and GP visit cardholders combined) due to very small numbers in some age-groups regionally. Another difference with the national report is that due to the small number of observations in some age-groups, male and females are aggregated. Consequently, age-specific, and not age and sex specific, activity rate profiles are created.

The base year is 2023 and the projection period is 2024–2040. Baseline estimates of activity are projected based on a range of assumptions including the size and composition of the population, healthy ageing and other factors which influence the utilisation of general practice services. Subsequently, projected increases in activity are converted into workforce requirements over the projection period, based on current regional workforce-to-activity rates.

2.2 BASELINE ESTIMATES OF ACTIVITY

2.2.1 GP utilisation rates

Data on GP consultations by health region were estimated from the Healthy Ireland survey. Given the year-on-year fluctuations in GP consultations in the survey (see Connolly et al., 2025 for more detail), data from multiple waves were pooled and treated as a single dataset to increase the robustness of the estimates. For adults the following waves were used: Wave 1 (2014/2015), Wave 2 (2015/2016), Wave 4 (2017/2018), Wave 5 (2018/2019), Wave 8 (2021/2022) and Wave 9 (2022/2023). Wave 3 did not include any questions on GP consultations, Wave 6 was cancelled due to the COVID-19 pandemic, and Wave 7 was not included as the consultation rates in that survey were low due to the COVID-19 pandemic and are unlikely to be relevant to the projection period. For children, Wave 5 (2018/2019) and Wave 9 (2022/2023) were used as these are the waves of the survey which include questions on children’s GP consultations.

Only Wave 8 of the Healthy Ireland survey includes detail on the respondents’ HSE health region of residence. The other waves included different regional geographies including local health office (LHO), community healthcare organisation (CHO) or county (Table 2.1). Consequently, it was necessary to undertake an exercise to assign survey respondents from Waves 1, 2, 4, 5 and 9 to a HSE health region.

TABLE 2.1 REGIONAL BREAKDOWNS INCLUDED IN DIFFERENT WAVES OF THE HEALTHY IRELAND SURVEY

	LHO	CHO	HSE health region	County
Wave 1-5	✓	✓		
Wave 7				✓
Wave 8			✓	
Wave 9				✓

Source: Authors’ analysis.

Waves 1 to 5 of the Healthy Ireland Survey involved face-to-face interviews, with those administering the survey assigning respondents to LHOs and CHOs using the Central Statistics Office (CSO) Small Area codes, which were obtained using the

participants' exact addresses and/or Eircode. As the boundaries of the six health regions align with the existing boundaries of the 32 LHOs, survey respondents could be accurately allocated to one of the six health regions for the waves that included LHOs.

The transition to remote interviewing from Wave 7 resulted in a substantial decrease in the proportion of respondents with a recorded Eircode, compared to earlier survey waves. Consequently, the regional variables in later waves are somewhat less precise. County of residence was used in Wave 9 and, as noted in Chapter 1, four counties (Dublin, Cavan, Wicklow, and Tipperary) are split across health regions. For these counties, therefore, assumptions had to be made about the proportion of respondents within a county allocated to a particular health region. This was done using population estimates from 'Small Areas' – the smallest available administrative units in Ireland (nested within the health regions and counties). Geographic Information Systems were used to assign each Small Area to a county and health region, using population data from the 2022 Small Area Population Statistics (SAPS). The percentage of the county population in each health region was estimated using data on county populations, Small Area populations, and shapefiles mapping Small Areas to health regions obtained from the HSE Health Atlas and the CSO website.⁴ The relevant percentage of respondents within each split county was assigned to a health region, looping the command and using the 'average' allocation to improve the robustness of the assignment. This random allocation is imperfect and does not account for issues such as unevenness in the spatial distribution of healthcare utilisation across a county. As an example, Table 2.2 provides the allocation of the population of county Cavan (under 18s and 18 and over) across the DNE and WNW. It shows, for example, that 98.55 per cent of adults in Cavan were allocated to the DNE, while 1.45 per cent were allocated to the WNW region.

TABLE 2.2 THE NUMBER AND PERCENTAGE OF CAVAN POPULATION ALLOCATED TO THE DNE AND WNW HEALTH REGIONS

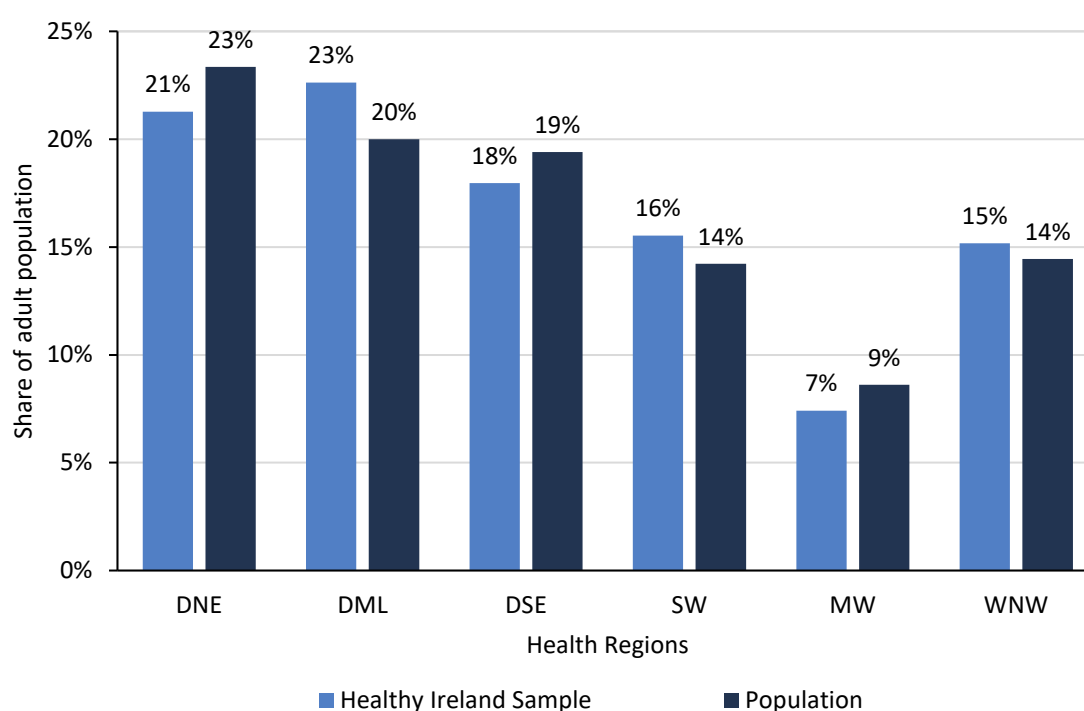
	Cavan population	
	Under 18	18 and over
Dublin North East (DNE)	21,176 (99.09%)	58,459 (98.55%)
West and North West (WNW)	194 (0.91%)	875 (1.45%)
Total	21,370	60,334

Source: 2022 Small Area Population Statistics, and Health Atlas Ireland Finder; authors' calculations.

⁴ <https://finder.healthatlasireland.ie/>
<https://www.cso.ie/en/census/census2022/census2022smallareapopulationstatistics/>.

Figure 2.2 shows the estimated distribution of the adult sample (from the included waves) of the Healthy Ireland Survey across health regions, compared with the 2022 distribution of the national adult population, based on data from the HSE Health Atlas Ireland Finder. The differences between the distributions are relatively small, with no difference exceeding 2 per cent. When Wave 9 is examined alone (relating to the period 2022/2023), the differences between the Healthy Ireland data and the Health Atlas Ireland national data are smaller than those shown in Figure 2.2 for all waves combined. This suggests that much of the discrepancy in the combined data may be due to population movement between counties in the years between earlier survey waves and the 2022 Census data collection.

FIGURE 2.2 ALLOCATION OF ADULT POPULATION ACROSS HEALTH REGIONS



Source: Authors' analysis of the Healthy Ireland Survey, Waves 1, 2, 4, 5, 8, 9 and Health Atlas Ireland Finder <https://finder.healthatlasireland.ie>.

Consultation rates were estimated by age-group (<6, 6-7, 8-17, 18-29, 30-39, 40-49, 50-59, 60-69, 70+) and card status (card and no card). Rates cannot be split by sex, as the number of observations is too small for some regions (for some age-groups) to ensure robust estimates.

Estimates of the proportion of the population with a card are derived from Wave 9 of the Healthy Ireland survey (2023). In the national analysis, eligibility was estimated using the Simulating Welfare and Income Tax Childcare and Health

(SWITCH)⁵ model, with relevant uptake rates applied (Connolly et al., 2025). However, this was not possible for the regional analysis due to the lack of a health region variable in SWITCH. Consequently, the regional analysis reflects actual card uptake in the baseline period, rather than estimated eligibility. The increase in eligibility in the second half of 2023 was incorporated into the projections of demand (see Section 2.3.3).

Estimates of consultation rates were applied to the 2023 population to estimate consultation volumes in 2023. Given the somewhat different levels of aggregation for the national and regional analysis (including the combination of males and females, and medical and GP visit card holders in the regional analysis due to small numbers), the number of GP and GPN consultations estimated at the national level differ slightly to the combined estimates for the six health regions. Given the greater level of disaggregation and the better availability of data at the national level, it is assumed that the national-level estimate is more accurate than the estimate from the combination of the six regions. Consequently, to ensure consistency between both analyses, the estimated number of GP and GPN consultations at the regional level were scaled to ensure that the total number of consultations for the regions equates to the total from the national-level analysis.

2.2.2 GPN utilisation rates

Data on health region GPN consultations were obtained from the Healthy Ireland survey and the Growing Up in Ireland (GUI) study. Five waves of the Healthy Ireland survey were combined to estimate regional age-specific GPN consultation rates for adults;⁶ these were Wave 1 (2014/2015), Wave 2 (2015/2016), Wave 4 (2017/2018), Wave 5 (2018/2019) and Wave 9 (2022/2023). Survey respondents were allocated to one of the six health regions as detailed in the previous section.

There is a lack of recent data on GPN consultation rates for children in Ireland (Connolly and Flanagan, 2024). While in the national analysis, data from the GUI study were used, this was not possible in the regional analysis given the absence of any health regional variables in that study. Consequently, it was necessary to use the national GPN consultation rates for children for each of the six health regions (Connolly et al., 2025).

⁵ The SWITCH model is a tax benefit micro-simulation model that has been developed to simulate Irish households' tax liabilities and social welfare entitlement (Keane et al., 2023).

⁶ Similarly with the GPs, it was not possible able to differentiate the estimates based on sex due to the low number of observations in some regions for some age-groups.

2.3 DEMAND PROJECTIONS

Similar to the national analysis, the projections of demand at the regional level in this report are based on a range of assumptions on the following variables: population growth and structure, healthy ageing, eligibility for GP services and the impact of the chronic disease treatment programme (CDTP). These assumptions are grouped to create three projection scenarios – low-pressure, central and high-pressure scenario (Table 2.3). Each of the factors are discussed in detail in the following sections.

TABLE 2.3 PROJECTION SCENARIO ASSUMPTIONS

		Scenarios		
		Low pressure	Central	High pressure
Population growth and structure		Central	Central	High
Healthy Ageing		Moderate healthy ageing	-	-
Eligibility for a GP visit card – for newly eligible (2023)	Age: Starting in 2024, uptake of a GP visit card for 6/7-year-olds is assumed to be:	85%	85%	95%
	The number of GP/GPN consultations for this group will increase in line with existing card holders			
	Income: Starting in 2025, uptake of a GP visit card for newly eligible groups is assumed to be:	50%	60%	70%
	The number of GP/GPN consultations for this group will increase in line with existing card holders in the same age-group			
Chronic disease treatment programme (CDTP)	Starting in 2023, uptake rate is assumed to be:	85%	85%	85%
	CDTP consultations are modelled separately	2 GP and 2 GPN consultations per annum	2 GP and 2 GPN consultations per annum	2 GP and 2 GPN consultations per annum
	It is assumed that per annum for participants in the CDTP, the programme is associated with:	1 less regular GP consultation	1 less regular GP consultation	No change in the number of regular GP consultations
		No change in the number of GPN consultations	No change in the number of GPN consultations	No change in the number of GPN consultations

Source: Authors' assumptions.

2.3.1 Population growth and ageing at the regional level

Similar to the national-level analysis, ESRI population projections were used in the regional analysis. These projections are based on the CSO Census of Population 2022; details on the data and methods used to develop the national projections are provided in Bergin and Egan (2024) and Brick et al. (2025). Three projection

scenarios are provided – central, low and high (Table 2.4). In each scenario, mortality and fertility are dealt with in the same way; however, migration differs across the scenarios.

TABLE 2.4 SUMMARY OF MAIN ASSUMPTIONS FOR POPULATION SCENARIOS

Assumptions	Central	Low	High
Mortality	Life expectancy at birth for males (females) is expected to increase from 81.1 (84.6) in 2022 to 84.2 (87.1) for males (females) in 2040	No change from Central scenario	No change from Central scenario
Migration	Net immigration to average +35,000 p.a. to 2030 (higher at 45,000 in the short-term) and +20,000 p.a. thereafter	Net immigration to average +25,000 p.a. to 2030 (higher at 35,000 in the short-term) and +10,000 p.a. thereafter	Net immigration to average +45,000 p.a. to 2030 (higher at 55,000 in the short-term) and +30,000 p.a. thereafter
Fertility	Total fertility rate is unchanged at 1.65 over the period	No change from Central scenario	No change from Central scenario

Source: Adapted from Bergin and Egan (2024).

Additional analysis was required for the health region population projections to incorporate internal migration. The model developed in Bergin and García-Rodríguez (2020), which accounts for internal migration, was updated to include the 2022 Census population data. Further detail on the methods to adjust for internal migration can be found in Bergin and García-Rodríguez (2020) and Brick and Kakoulidou (2025). Further, specifically for the health region projections, Bergin and Egan (2024) produced an aggregation of their county-level population projections to the health region level, using spatial mapping files provided by the Department of Health. It should be noted that the aggregation of regional population projections will not perfectly align with the national-level projections, but the differences are relatively minor (Brick and Kakoulidou, 2025).

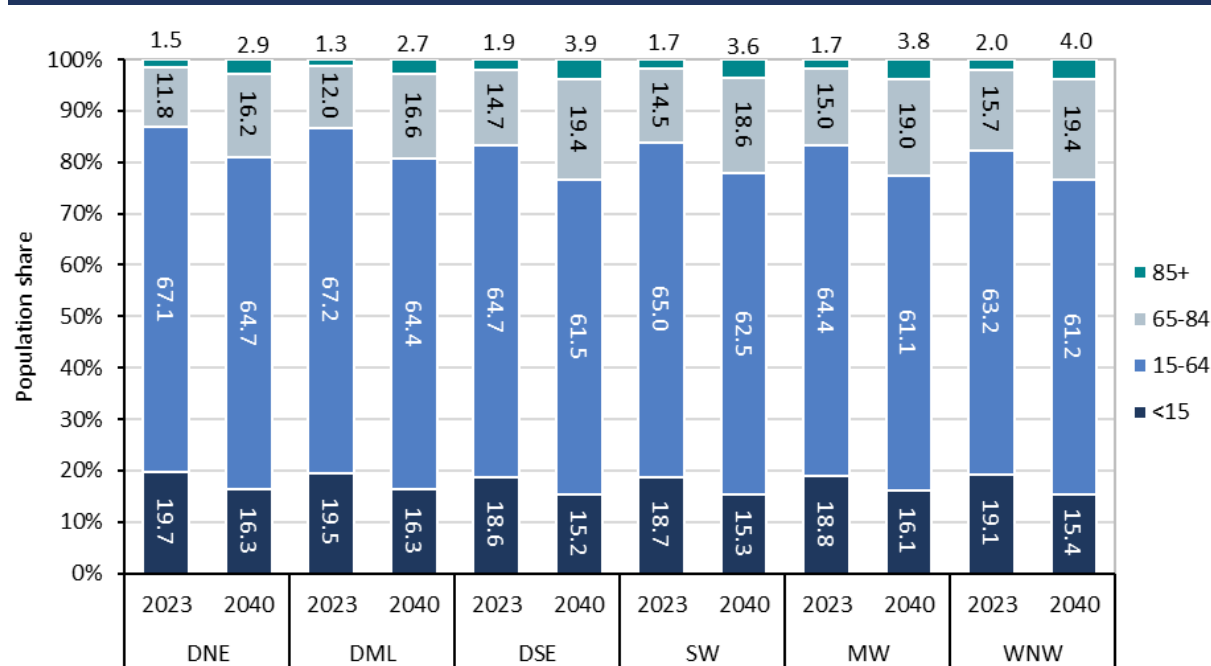
Table 2.5 shows the estimated population of each of the six health regions in 2023 and the projected population in 2040 across the three population scenarios. There is variation in the projected population growth across the regions from a low of 12.1 per cent in the WNW region to a high of 18.3 per cent in the DML region (central scenario).

TABLE 2.5 REGIONAL POPULATION BY PROJECTION SCENARIO, 2023–2040

	Population ('000)				Total growth (%) 2023–2040		
	2023	2040			Central	Low	High
		Central	Low	High			
DNE	1,217	1,429	1,375	1,483	17.4	13.0	21.8
DML	1,105	1,307	1,261	1,353	18.3	14.1	22.5
DSE	997	1,143	1,110	1,176	14.7	11.4	18.0
SW	760	874	847	901	15.0	11.4	18.5
MW	424	479	464	495	13.1	9.5	16.7
WNW	780	874	848	901	12.1	8.7	15.5
National	5,282	6,097	5,892	6,302	15.4	11.6	19.3

Source: Brick and Kakoulidou (2025) generated from Bergin and Egan (2024).

In addition to an increase in the population, the age structure of the population will also change between 2023 and 2040, with a reduction in the percentage of the population aged less than 15 and an increase in the percentage aged 65 and older (Figure 2.3).

FIGURE 2.3 AGE-SPECIFIC POPULATION DISTRIBUTION, 2023 AND 2040 (CENTRAL SCENARIO)

Source: Brick and Kakoulidou (2025) generated by the authors from Bergin and Egan (2024).

In this analysis, the central population scenario is applied in the low and central pressure projection scenarios, while the high population scenario is used in the high-pressure scenario. Given the relatively high levels of migration to Ireland in recent years – with net migration numbers exceeding those included in the population projections in recent years (Potter et al., 2025) – the central and high population scenarios are likely the most relevant to current projections.

2.3.2 Healthy ageing

Similar to the national level, two healthy ageing assumptions are adopted in the regional analysis. An assumption of no healthy ageing (i.e. expansion of morbidity) is assumed in the central and high-pressure scenarios (this assumes that years lived in poor health will increase as life expectancy increases). In the low-pressure scenario, an assumption of moderate healthy ageing is used (Wren et al., 2017). The moderate healthy ageing assumption is that a lower proportion of additional life expectancy is lived in poor health relative to the assumption of expansion of morbidity, similar to the hypothesis underlying the baseline scenario of the European Commission's 2024 ageing report (European Commission, 2024).

2.3.3 Changes in eligibility for GP visit card

Similar to the national level, the analysis at the regional level incorporates increases in demand for GP consultations associated with the increase in the number of people eligible for a GP visit card in 2023. This increase in eligibility was introduced in 2023 and although uptake has been slow (Connolly et al., 2025), it is assumed that uptake will increase over the projection period. As detailed in the national-level report, including the increase in eligibility into the analysis requires three steps: (i) quantifying the number of people that become eligible, (ii) applying assumptions about the proportion of the eligible population that avail of this eligibility and (iii) estimating the impact of having a GP visit card on GP and GPN consultation rates (Connolly et al., 2025).

In relation to the first step – quantifying the number of people that become eligible – in the national-level analysis, estimates of eligibility for different age-groups were estimated using the SWITCH model, and subsequently uptake assumptions were applied about the proportion of the population that avail of this eligibility (step ii). This approach is not possible in the regional-level analysis as there are no regional variables included in the SWITCH model (due to the lack of such variables in the SILC survey which underlies the model). Consequently, in the regional analysis, the percentage increase in the proportion of the population in each age-group that became eligible for a GP visit card at the national level was equally applied to cardholders in all of the health regions. The uptake rates detailed in Table 2.3 were subsequently applied to the percentage increase in the proportion that are assumed to become eligible.⁷ For the third step – estimating the impact of having a GP visit card on GP and GPN consultation rates – in the national analysis, new GP visit card holders (those that became eligible in 2023) were assumed to have the same number of GP/GPN consultations as existing GP cardholders. In the regional analysis, given that the medical and GP visit card holders were combined, new GP

⁷ This might be a slight underestimation of the new cardholders, as the national cardholders percentage increase is applied to the regional number of people receiving a card, since there are no available regional data on the number of people eligible for a card.

visit card holders were assumed to have the same number of consultations as all cardholders (medical and GP visit card holders combined). Given that medical card holders tend to use general practice services more than GP visit cardholders, this is likely to overestimate the regional consultation rates. However (as noted in Section 2.2.1) as the estimated number of consultations at the regional level were scaled to ensure that the total number of consultations for the regions equates to the total from the national-level analysis, this should not significantly impact on the projections.

2.3.4 Chronic disease treatment programme

No data on eligibility for the CDTP by health region were available at the time of completing this analysis. Consequently, the national eligibility rates (e.g. 10 per cent of 18-44 year olds; 39 per cent of 45-59 year olds and 44 per cent of 65+) were assumed to apply in all of the regions (Connolly et al., 2025). In each region, 85 per cent of the eligible population are assumed to participate in the programme. In this analysis, it is assumed that those participating in the CDTP programme have two GP and two GPN CDTP consultations per annum.

Given the longer duration of CDTP consultations relative to regular (non-CDTP) GP consultations,⁸ CDTP consultations are modelled separately in this analysis. However, it is assumed that these additional CDTP consultations could result in a reduction in the number of regular (non-CDTP) GP consultations. Consequently, the following approach was adopted:

- In low and central pressure scenarios, it is assumed that there is one less regular (non-CDTP) GP consultation (due to the CDTP programme) among those that participate in the programme.
- In the high-pressure scenario, it is assumed that there is no change to the number of regular GP consultations.
- Given the relatively low number of GPN consultations, no change in the number of regular GPN consultations is assumed in any of the scenarios for those participating in the CDTP programme.

2.4 DECOMPOSITION AND SENSITIVITY ANALYSIS

As in the national analysis, decomposition and sensitivity analyses were also undertaken. The decomposition analysis estimates the proportion of the projected increase in demand for regular GP and GPN consultations between 2023 and 2040 in each of the regions due to the different assumptions (e.g. population growth and ageing, healthy ageing and extension of eligibility).

⁸ Personal communication HSE.

The extent of the sensitivity analysis that could be undertaken for the regional analysis was significantly curtailed by the lack of available, relevant data at the health region level.⁹ Consequently, only one variable – baseline estimate of the annual number of GP and GPN consultations – was varied in the sensitivity analysis. Similar to the national analysis, the impact of one additional GP and GPN consultation per annum per person is quantified. This is not to suggest that this captures the ‘need’ for additional general practice services in the coming years, but rather it is attempting to reflect uncertainty in consultation rates both in the baseline and projection years.

2.5 WORKFORCE

2.5.1 Number of GPs

Data on the number of GPs (headcounts) working in Ireland at the health region level were obtained from the HSE and are shown in Table 2.6.

TABLE 2.6 GPS – NUMBER WORKING IN IRELAND BY HEALTH REGION, 2024

Region	Number
DNE	731
DML	786
DSE	786
SW	591
MW	325
WNW	709
Total	3,928

Source: Health Service Executive.

2.5.2 Number of GPNs

Data on the number of GPNs working in Ireland by county were obtained from the Nursing and Midwifery Board of Ireland (NMBI). Of those on the NMBI register in 2023, 2,288 identified their job title as ‘*Practice nurses and GP practice nurses*’ and were active and practicing in Ireland.¹⁰ County level data were used to allocate GPNs to the six health regions. As previously noted, counties are not always coterminous with the health regions, with four counties (Dublin, Cavan, Wicklow, and Tipperary) split across health regions. For the counties not coterminous with the health regions, the same method (outlined in Section 2.3.1) to allocate Healthy Ireland respondents to a health region, was used to allocate GPNs to a health region. The percentage of the county population in each health region was used to allocate (the percentage of) of GPNs to a particular health region. This assumed

⁹ In particular on eligibility for a GP visit card and the CDTF.

¹⁰ Personal communication with the NMBI, October 2024.

that the distribution of GPNs mirrors the distribution of the population. Table 2.7 shows the estimated number of GPNs working in each of the health regions in 2023.

TABLE 2.7 GPNs – NUMBER WORKING IN IRELAND BY HEALTH REGION, 2023

Region	Number
DNE	455
DML	412
DSE	426
SW	387
MW	204
WNW	403
Total	2,288

Source: Authors' analysis based on data provided from the Nursing and Midwifery Board of Ireland.

Notes: Due to rounding associated with the allocation of GPNs to health regions, the numbers might not always sum up precisely.

2.5.3 Projections of workforce requirements based on demand projections

As in the national analysis, projected increases in activity are converted into workforce requirements over the projection period, based on current regional workforce-to-activity rates.

General Practitioners

For GPs, workforce projections were based on GP headcounts. For each health region, the headcount of GPs (Table 2.6) was related to the total number of GP consultations in 2023 to estimate a regional GP to consultation ratio.¹¹ This ratio was then applied to the projected number of consultations in 2040 to identify how many (headcount) GPs would be required in each health region in 2040 to maintain the 2023 regional GP consultation ratio. Similar to the national analysis, both regular (non-CDTP) and CDTP consultations were included to estimate a total number of consultations, with one CDTP consultation regarded as equivalent to two regular GP consultations.¹² The projected number of headcount GPs was estimated for each of the three demand projection scenarios – low, central and high pressure.

General Practice Nurses (GPNs)

Workforce projections for GPNs were also based on headcounts. For each health region, the headcount of GPNs (Table 2.7) was related to the total number of GPN

¹¹ Given the availability of data, it was necessary to use data on the number of GPs from early 2024 rather than 2023.

¹² There is a lack of evidence or data on the length of a CDTP consultation relative to a 'regular' consultation, with the length likely to differ from GP to GP. Following consultation with the HSE, in this analysis it was assumed that one CDTP consultation would correspond to approximately two regular consultations.

consultations in 2023 to estimate a regional GPN to consultation ratio. This ratio was then applied to the projected number of consultations in 2040 to identify how many GPNs would be required in 2040 to maintain the 2023 regional GPN consultation ratio. Both regular (non-CDTP) and CDTP consultations were included to identify a total number of consultations in 2023, with one CDTP consultation regarded as equivalent to two regular GPN consultations. The projected number of headcount GPNs was estimated for each of the three demand projection scenarios – low, central and high pressure.

2.5.4 Projections of workforce requirements based on population growth and benchmarking

Initial analysis showed significant differences in the per capita number of GPs and GPNs across the regions (Figures 3.7 and 3.8). While there is no evidence on the appropriate number of per capita GPs/GPNs, these variations suggest that some regions might be currently underserved in terms of the supply of the general practice workforce. Consequently, an alternative approach to projecting demand for the general practice workforce was used which included applying the per capita number of GPs and GPNs from the health region with the highest number of GPs/GPNs to all regions. This is not to say that the number of GPs/GPNs in the health region with the highest number is correct or sufficient but rather to provide a benchmark for all regions. For comparison purposes, the workforce requirement for 2040 in each of the health regions was also estimated based on the current supply of GPs and GPNs in each of the health regions.

CHAPTER 3

Findings

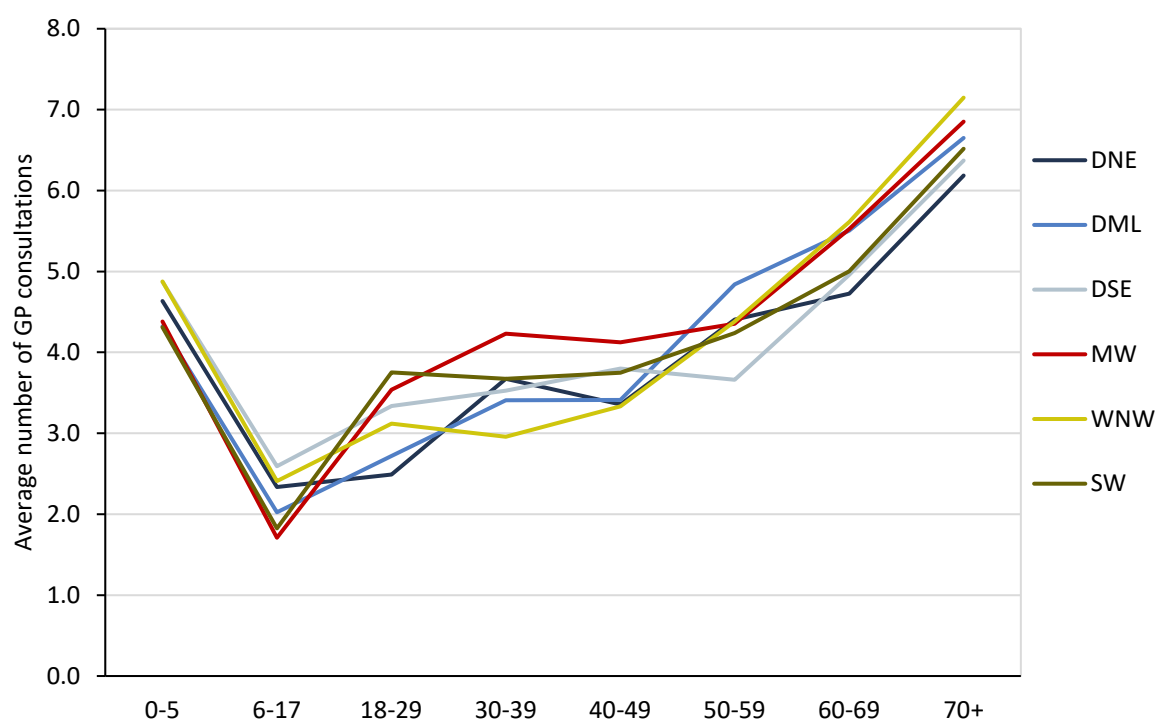
3.1 BASELINE ACTIVITY RATES

3.1.1 General Practitioners

Figure 3.1 shows the average number of GP consultations by age-group for each of the six health regions. Caution is required when interpreting the figure given the relatively small number of respondents in some age-groups in some of the regions. In general, the average number of consultations increases with age, although a relatively high number of consultations is also observed for the youngest age-group.

No region demonstrated a consistently higher or lower pattern of average consultations across all age-groups. However, for adults, consultation rates are relatively high in the MW, while for children and those aged 70+, consultation rates are relatively high in WNW.

FIGURE 3.1 GPS – AVERAGE NUMBER OF CONSULTATIONS PER ANNUM BY HEALTH REGION, 2023

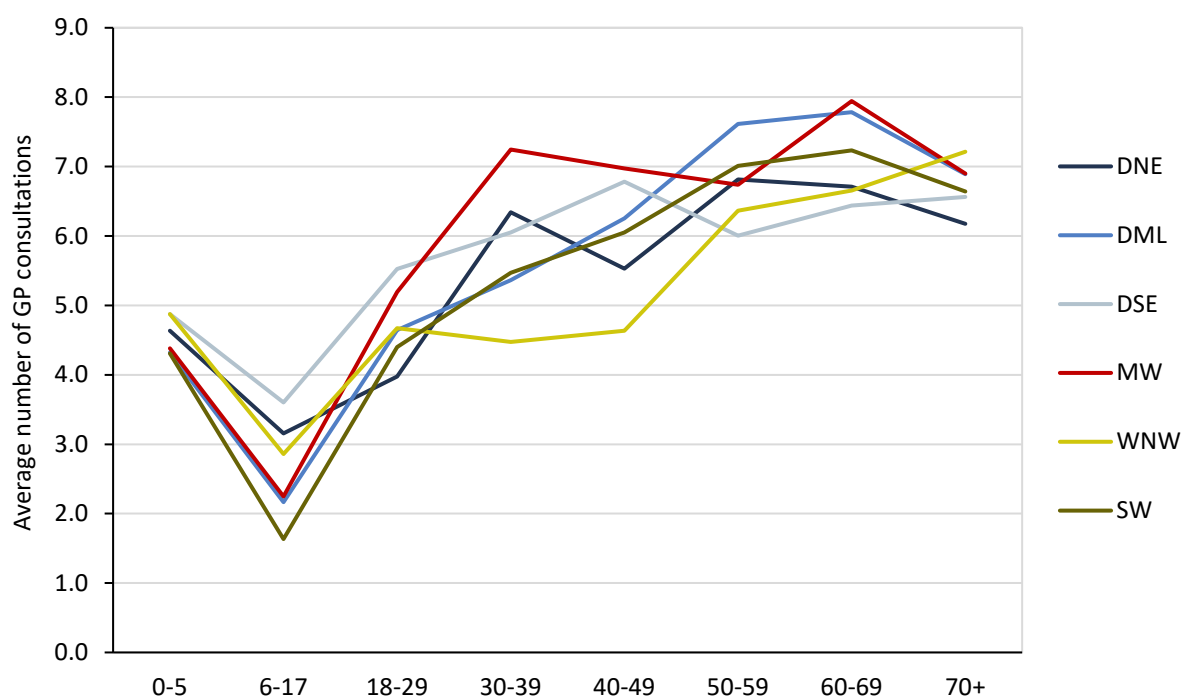


Source: Authors' analysis based on Healthy Ireland data.

Notes: The estimates included in the figure are used as a proxy for 2023, but are based on several waves of the Healthy Ireland survey.

Figures 3.2 and 3.3 show the average number of GP consultations by age-group and card status for each of the six health regions. For cardholders in the middle-aged groups, the MW tends to have higher consultation rates, while the WNW has the highest rates for those aged 70 and over (Figure 3.2).

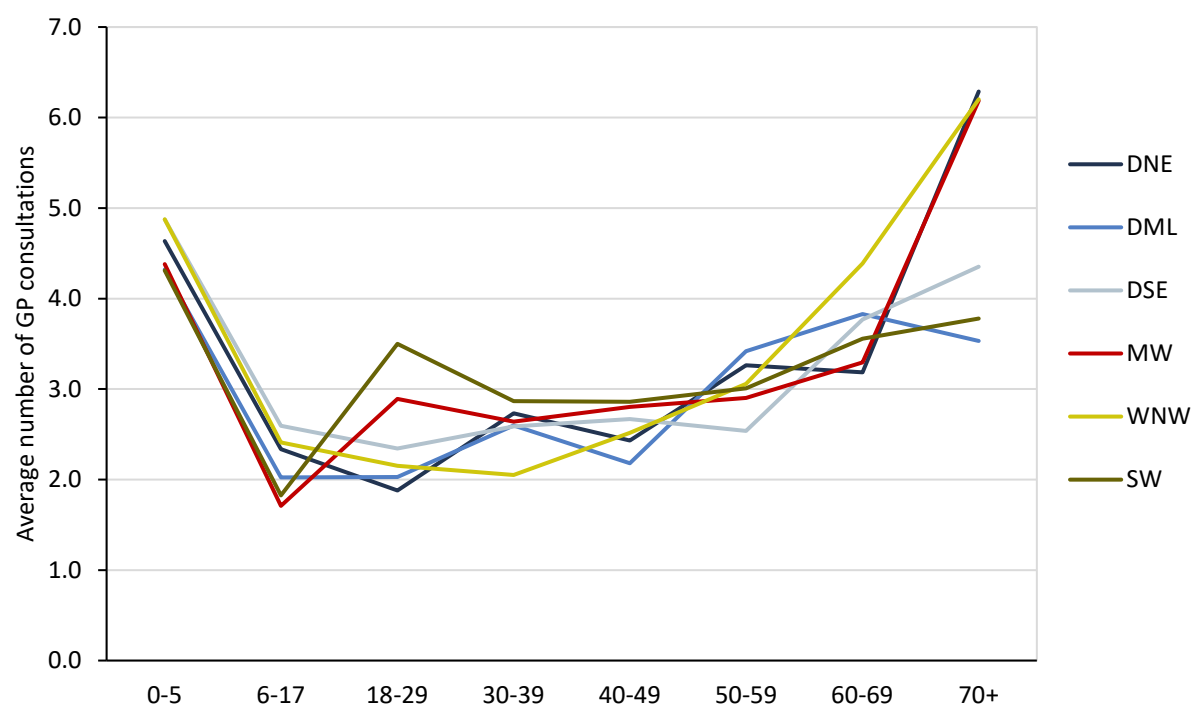
FIGURE 3.2 GPS – AVERAGE NUMBER OF CONSULTATIONS PER ANNUM BY HEALTH REGION, CARDHOLDERS, 2023



Source: Authors' analysis based on Healthy Ireland data.

Notes: The estimates included in the figure are used as a proxy for 2023, but are based on several waves of the Healthy Ireland survey.

For non-cardholders few discernible patterns are evident (Figure 3.3). Relatively large differences are observed in consultation rates across the regions for non-cardholders aged 70+; however this result should be interpreted with caution, given the relatively small number of non-cardholders in this age-group.

FIGURE 3.3 GPS – AVERAGE NUMBER OF CONSULTATIONS PER ANNUM BY HEALTH REGION, NON-CARDHOLDERS, 2023

Source: Authors' analysis based on Healthy Ireland data.

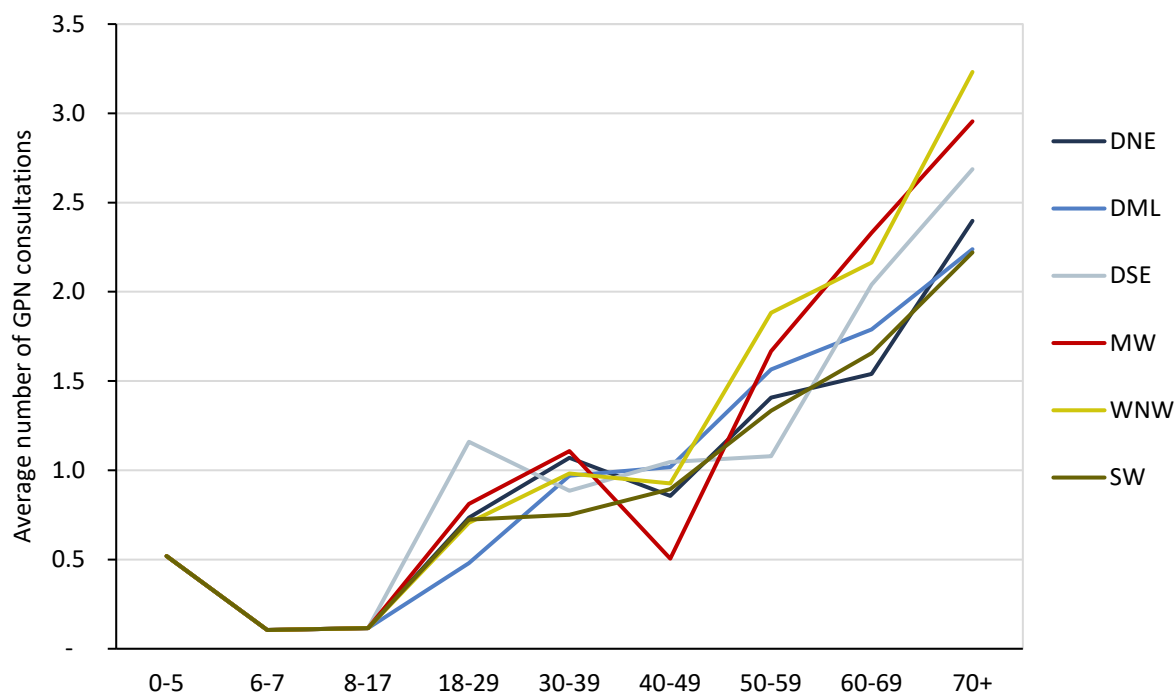
Notes: The estimates included in the figure are used as a proxy for 2023, but are based on several waves of the Healthy Ireland survey. Some caution is required when interpreting the estimates for the 70+ age-group due to the relatively small number of people in this age-group without a card. For example, the estimate for those aged 70+ in the MW is based on a sample of 49 individuals.

3.1.2 General Practice Nurses

Figure 3.4 shows the average number of GPN consultations by age-group for each of the six health regions. Caution is required when interpreting the numbers, given the relatively small number of respondents in some age-groups. In general, the average number of consultations increases with age. A relatively high consultation rate is observed for the youngest age-group, reflecting the role of GPNs in administering childhood vaccines.

No region demonstrated a consistently higher or lower pattern of average consultations across all age-groups. However, for those aged 50 and over, consultation rates are relatively higher in the MW and WNW regions.

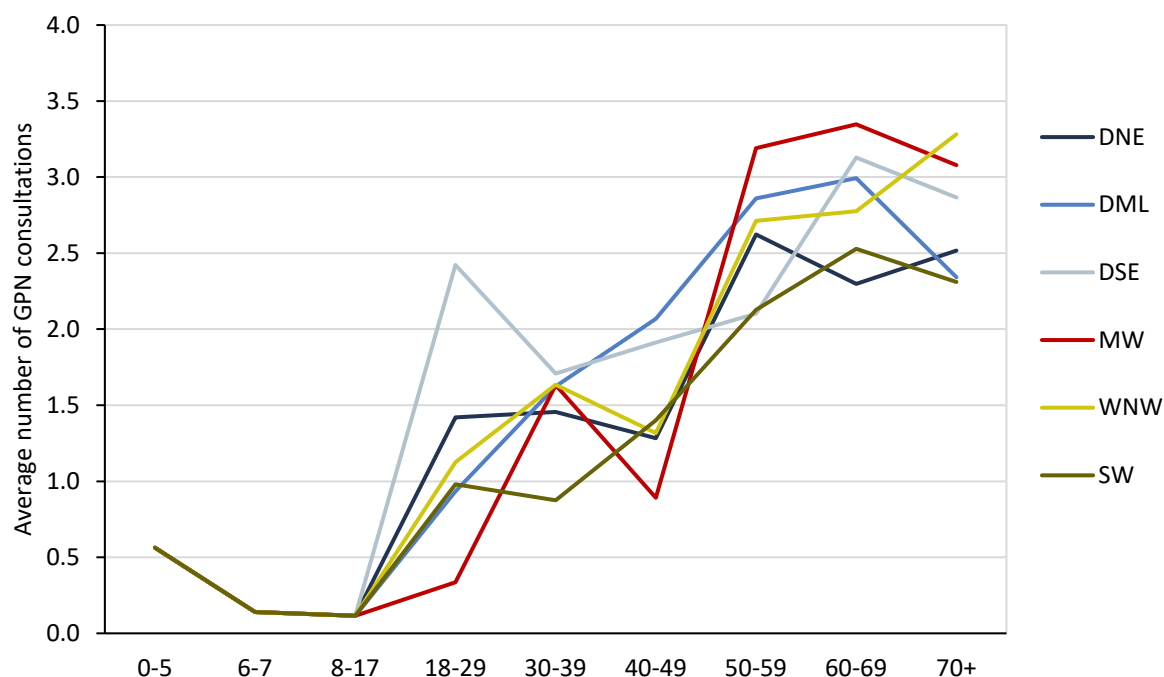
FIGURE 3.4 GPNS – AVERAGE NUMBER OF CONSULTATIONS PER ANNUM BY HEALTH REGION, 2023



Source: Authors' analysis based on Healthy Ireland data and the Growing Up in Ireland study.

Notes: The estimates included in the figure are used as a proxy for 2023, but are based on several waves of the Healthy Ireland survey and the Growing Up in Ireland study. No data on the number of GPN consultations at the health region for those aged less than 18 years old were available so the national-level consultation rates are applied to all health regions.

Figures 3.5 and 3.6 show the average number of GPN consultations per annum by age-group and card status for each of the six health regions. Given the relatively low number of GPN consultations in some age-groups, the patterns of utilisation are somewhat erratic. For adults with a card, aged 18-49, the average number of consultations tends to be higher in the DSE region, while for older age-groups, the number of consultations is higher in the MW and, to a lesser extent, the WNW (Figure 3.5).

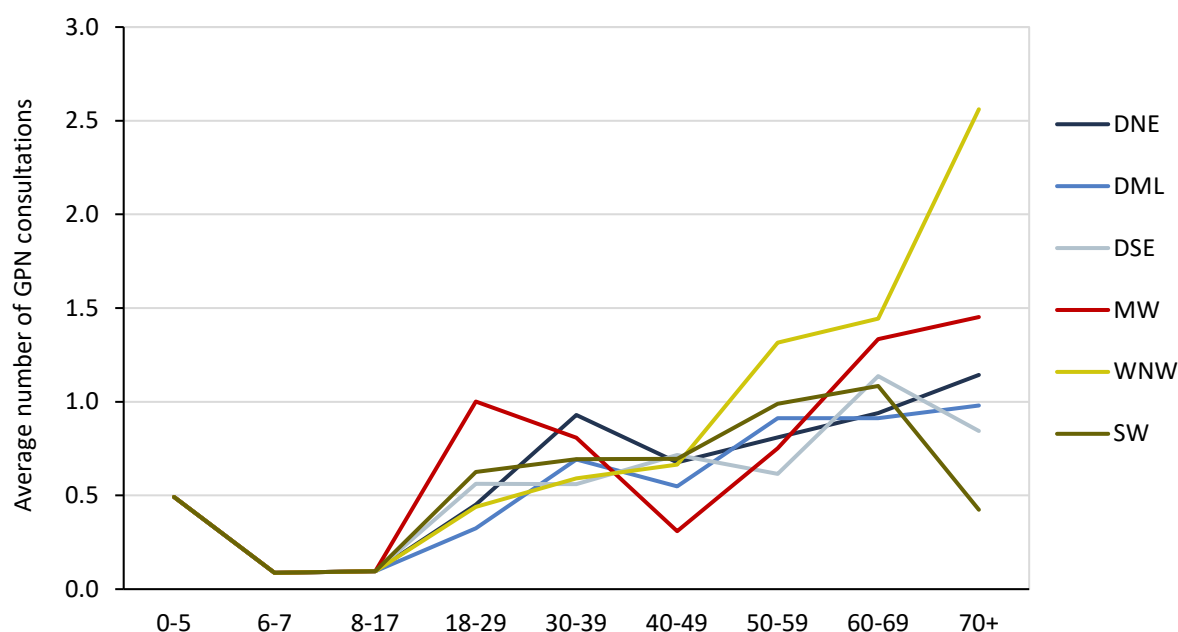
FIGURE 3.5 GPNS – AVERAGE NUMBER OF CONSULTATIONS PER ANNUM BY HEALTH REGION, CARDHOLDERS, 2023

Source: Authors' analysis based on Healthy Ireland data and the Growing Up in Ireland study.

Notes: The estimates included in the figure are used as a proxy for 2023, but are based on several waves of the Healthy Ireland survey and the Growing Up in Ireland study. No data on the number of GPN consultations at the health region for those aged less than 18 years old were available, so the national-level consultation rates are applied to all health regions.

For non-cardholders, the average number of GPN consultations for older adults tends to be highest in the MW and WNW (Figure 3.6); however caution is required when interpreting the findings, especially for those aged 70 and older, given the relatively small number of people aged 70 and over without a card.

FIGURE 3.6 GPNS – AVERAGE NUMBER OF CONSULTATIONS PER ANNUM BY HEALTH REGION, NON-CARDHOLDERS, 2023



Source: Authors' analysis based on Healthy Ireland data and the Growing Up in Ireland study.

Notes: The estimates included in the figure are used as a proxy for 2023 but are based on several waves of the Healthy Ireland survey and the Growing Up in Ireland study. No data on the number of GPN consultations at the health region for those aged less than 18 years old were available so the national-level consultation rates are applied to all health regions. Some caution is required when interpreting the estimates for the 70+ age-group due to the relatively small number of people in this age-group without a card. For example, the estimate for those aged 70+ in the MW is based on a sample of 49 individuals.

3.2 BASELINE NUMBER OF GP AND GPN CONSULTATIONS

Table 3.1 shows the estimated number of GP and GPN consultations in 2023 in each of the six regions, along with the average number of consultations per person in that region. Reflecting the size of the population, the largest absolute number of GP and GPN consultations occur in DNE, DML and DSE. The average number of GP and GPN consultations per person is highest in DSE and lowest in DNE.

TABLE 3.1 NUMBER OF GP AND GPN CONSULTATIONS, 2023

Region	GP consultations		GPN consultations	
	N ('000)	N per person	N ('000)	N per person
DNE	4,169	3.4	1,186	0.97
DML	3,960	3.6	1,247	1.13
DSE	3,990	4.0	1,249	1.25
SW	2,814	3.7	749	0.99
MW	1,580	3.7	481	1.13
WNW	2,852	3.7	804	1.03
National	19,364	3.7	5,715	1.08

Sources: Healthy Ireland, Growing Up in Ireland, and ESRI population, 2024; authors' calculations.

Note: Includes both regular and CDTP consultations. Due to rounding, numbers may not always sum up precisely.

3.3 PROJECTIONS OF ACTIVITY

3.3.1 General Practitioner consultations

Table 3.2 shows the projected increase in demand for GP consultations between 2023 and 2040 under the three projection scenarios for each of the six health regions and nationally. At the national level, between 2023 and 2040, demand for GP consultations (including regular and CDTp consultations) is projected to increase by between 23 and 30 per cent. Projected increases in demand are higher in DNE, DML and DSE relative to the MW and WNW.

TABLE 3.2 GPS – CONSULTATIONS, PROJECTIONS OF DEMAND BY PROJECTION SCENARIO, 2023–2040

	2023	Projected additional requirements 2040			Total growth, 2023–2040		
		Low pressure	Central pressure	High pressure	Low pressure	Central pressure	High pressure
	N ('000)	N ('000)	N ('000)	N ('000)	%	%	%
DNE	4,169	1,032	1,051	1,345	25	25	32
DML	3,960	1,093	1,116	1,385	28	28	35
DSE	3,990	934	953	1,203	23	24	30
SW	2,814	630	638	807	22	23	29
MW	1,580	295	300	395	19	19	25
WNW	2,852	529	541	701	19	19	25
National	19,364	4,513	4,599	5,836	23	24	30

Sources: Healthy Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

Note: Includes both regular and CDTp consultations. Due to rounding, the numbers might not always sum up precisely.

3.3.2 General Practice Nurse consultations

Table 3.3 shows the projected increase in demand for GPN consultations between 2023 and 2040 under the three projection scenarios for each of the six health regions and nationally. At the national level, between 2023 and 2040, demand for GPN consultations (including regular and CDTp consultations) is projected to increase by between 32 per cent and 36 per cent. Projected increases in demand are higher in DNE, DML and DSE relative to SW, MW and WNW.

TABLE 3.3 GPNS – CONSULTATIONS, PROJECTIONS OF DEMAND BY PROJECTION SCENARIO, 2023–2040

	2023	Projected additional requirements 2040			Total growth, 2023–2040		
		Low pressure	Central pressure	High pressure	Low pressure	Central pressure	High pressure
	N ('000)	N ('000)	N ('000)	N ('000)	%	%	%
DNE	1,186	399	409	461	34	35	39
DML	1,247	477	490	537	38	39	43
DSE	1,249	411	425	462	33	34	37
SW	749	213	219	242	28	29	32
MW	481	134	138	153	28	29	32
WNW	804	194	200	225	24	25	28
National	5,715	1,829	1,881	2,081	32	33	36

Sources: Healthy Ireland, Growing Up in Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

Note: Includes both regular and CDTP consultations. Due to rounding, the numbers might not always sum up precisely.

3.4 DECOMPOSITION ANALYSIS

Table 3.4 shows the percentage change in regular GP consultations between 2023 and 2040 attributable to population growth, the changing population age structure, the extension of eligibility and the introduction of the CDTP (which, in the central scenario, is assumed to decrease the number of regular GP consultations). Similar to the national analysis, the main driver of the projected increase in all of the regions is population growth, accounting for at least three-quarters of the increase in each region. The next largest driver is changes in the age structure of the population. The 2023 increases in eligibility for a GP visit card have a relatively small impact on the projected increases for 2040, relative to the increases associated with the growing and ageing population. The CDTP is assumed to contribute to a slight reduction in the number of regular consultations (though increasing the number of CDTP and total consultations).

TABLE 3.4 GPS – REGULAR CONSULTATIONS – DECOMPOSITION OF PROJECTED CONSULTATION GROWTH (CENTRAL SCENARIO), 2023–2040

	Population growth	Population age structure	Eligibility extension	CDTP
	% of consultation growth, 2023–2040			
DNE	81	16	7	-4
DML	76	21	7	-4
DSE	76	17	11	-4
SW	77	18	10	-4
MW	83	13	8	-5
WNW	79	18	8	-4

Sources: Healthy Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

The main driver of the increase in the number of GPN consultations between 2023 and 2040 is population growth. However, the proportion of the increase attributable to changes in the population age structure is greater for GPNs than GPs; this is likely explained by the slightly different age distribution of GP consultations relative to GPN consultations, with a higher proportion of GPN consultations in older people (Table 3.5). Due to the assumption that there is no reduction in regular GPN consultations due to the CDTP programme, it is not included in the decomposition analysis.

TABLE 3.5 GPNS – REGULAR CONSULTATIONS – DECOMPOSITION OF PROJECTED CONSULTATION GROWTH (CENTRAL SCENARIO), 2023–2040

	Population growth	Population age structure	Eligibility extension
	% of consultation growth, 2023–2040		
DNE	63	32	5
DML	57	38	5
DSE	56	39	5
SW	64	32	4
MW	62	31	7
WNW	68	25	8

Sources: Healthy Ireland, Growing Up in Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

Note: It is assumed that there is no reduction in regular GPN consultations due to the CDTP programme, consequently it is not included in the decomposition analysis.

3.5 SENSITIVITY ANALYSIS

Table 3.6 shows the impact on demand for consultations in 2040 of increasing the average number of GP and GPN consultations per person per annum by one each. For GP consultations, the increase ranges from 23 per cent in DSE to 27 per cent in DNE; while for GPNs, the increase ranges from 69 per cent in DSE to 89 per cent in the SW and DNE. The significantly larger percentage increase for GPNs relative to GPs arises due to the lower number of GPN consultations relative to GP consultations in the baseline period.

TABLE 3.6 SENSITIVITY ANALYSIS – PERCENTAGE EFFECT ON 2040 DEMAND FOR GP AND GPN CONSULTATIONS OF ONE ADDITIONAL VISIT PER ANNUM (CENTRAL SCENARIO)

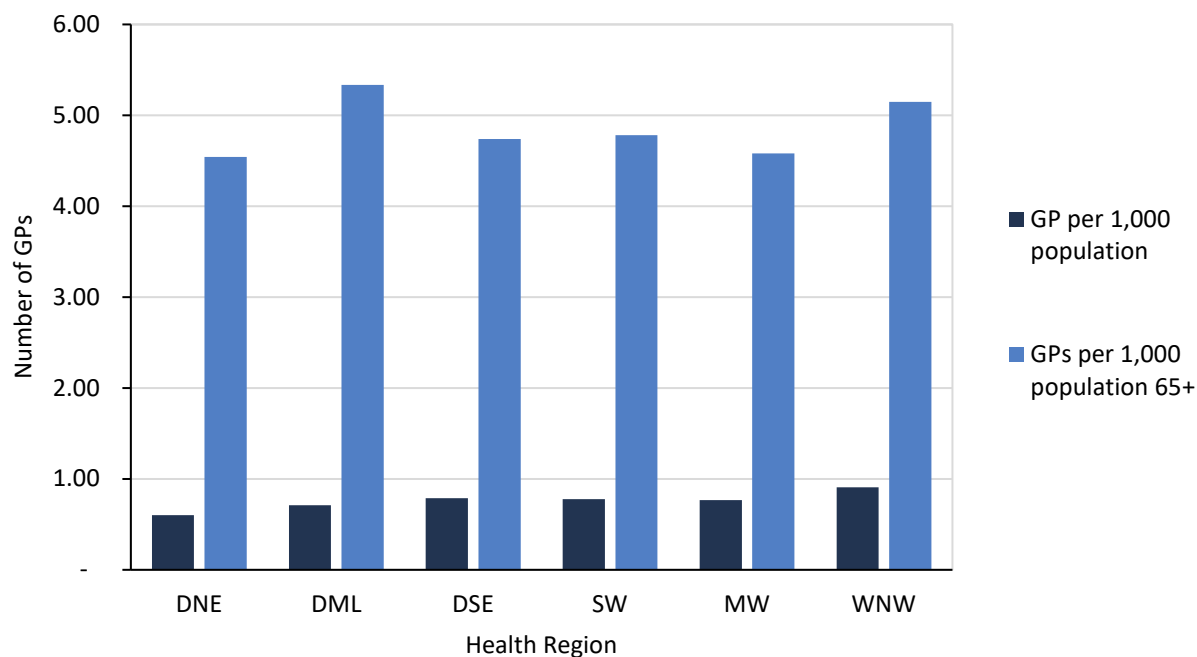
	GP consultations		GPN consultations	
	Projected 2040 +1 consultation	Projected increase +1 consultation	Projected 2040 +1 consultation	Projected increase +1 consultation
	N ('000)	%	N ('000)	%
DNE	6,637	27	3,008	89
DML	6,380	26	3,048	75
DSE	6,095	23	2,833	69
SW	4,323	25	1,832	89
MW	2,361	26	1,099	78
WNW	4,265	26	1,872	86

Sources: Healthy Ireland, Growing Up in Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

Note: Includes both regular and CDTP consultations.

3.6 BASELINE NUMBER OF GPS AND GPNS

Figure 3.7 shows the number of GPs per 1,000 population and 1,000 population aged 65 and over in each of the six regions. The number of GPs per 1,000 population varies from a low of 0.60 in DNE to a high of 0.91 in WNW. For the population aged 65 and over, the number of GPs varies from a low of 4.54 in DNE to a high of 5.33 in DML.

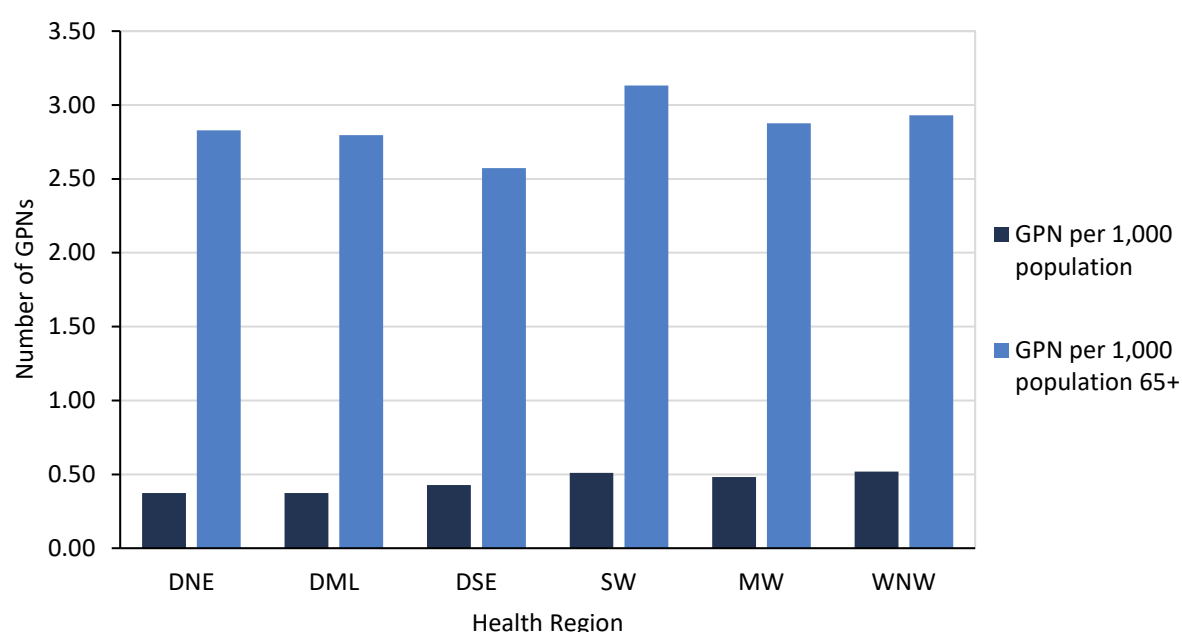
FIGURE 3.7 GPS – NUMBER PER 1,000 POPULATION BY HEALTH REGION, 2023

Sources: HSE and ESRI population, 2024; authors' calculations.

Figure 3.8 shows the number of GPNs per 1,000 population and 1,000 population aged 65 and over for each of the six regions. The number of GPNs per 1,000 population varies from a low of 0.37 in DNE and DML to a high of 0.52 in WNW. For the population aged 65 and over, the number of GPNs varies from a low of 2.57 in DSE to a high of 3.13 in SW.

Given the relatively low number of per capita GPs and GPNs in DNE and DML and the relatively high number of both in WNW, there is no evidence to suggest that GPNs are acting as a substitute for GPs in areas with a lower supply of GPs.

FIGURE 3.8 GPNS – NUMBER PER 1,000 POPULATION BY HEALTH REGION, 2023



Sources: NMBI and ESRI population, 2024; authors' calculations.

3.7 PROJECTIONS OF WORKFORCE REQUIREMENTS

3.7.1 Projections of workforce requirements based on demand projections

Tables 3.7 and 3.8 show the projected number of GPs and GPNs required in 2040 to meet the additional demand for general practice services detailed in Tables 3.2 and 3.3. By 2040, assuming a constant regional GP-consultation ratio, the number of additional GPs required to meet projected demand ranges from 64 in the MW to 228 in DML (central scenario) (Table 3.7).

TABLE 3.7 GPS – PROJECTED REQUIREMENTS BY HEALTH REGION, 2023–2040

	2023	Projected additional 2040			Total growth 2023–2040 (%)		
		Low pressure	Central pressure	High pressure	Low pressure	Central pressure	High pressure
	N	N	N	N	%	%	%
DNE	731	187	191	242	26	26	33
DML	786	223	228	281	28	29	36
DSE	786	189	193	242	24	25	31
SW	591	136	138	173	23	23	29
MW	325	63	64	83	19	20	26
WNW	709	136	139	178	19	20	25
National	3,928	943	963	1,211	24	25	31

Sources: HSE and Healthy Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

Notes: 'National' refers to the overall national numbers rather than the summation of the regions; the two sets of numbers do not perfectly align due to differences in the GP consultation ratio and differing numbers in each of the health regions.

For GPNs, assuming a constant regional GPN-consultation ratio, the number of GPNs required by 2040 to meet projected demand ranges from 61 in MW to 167 in DML (central scenario) (Table 3.8).

TABLE 3.8 GPNS – PROJECTED REQUIREMENTS BY HEALTH REGION, 2023–2040

	2023	Projected additional 2040			Total growth 2023–2040 (%)		
		Low pressure	Central pressure	High pressure	Low pressure	Central pressure	High pressure
	N	N	N	N	%	%	%
DNE	455	161	166	186	35	36	41
DML	412	162	167	183	39	41	45
DSE	426	144	149	163	34	35	38
SW	387	116	120	132	30	31	34
MW	204	59	61	68	29	30	33
WNW	403	103	106	119	25	26	30
National	2,288	3,049	3,074	3,156	33	34	38

Sources: NMBI, Healthy Ireland, Growing Up in Ireland, SWITCH v.7 with 2022 SILC data and ESRI population, 2024; authors' calculations.

Notes: 'National' refers to the overall national numbers rather than the summation of the regions; the two sets of numbers do not perfectly align due to differences in the GPN consultation ratio and differing numbers in each of the health regions.

3.7.2 Projections of workforce requirements based on population per capita GPs/GPNs

The projections of workforce requirements in the previous section are based on the current regional GP/GPN consultation ratio. A potential limitation to this approach of estimating workforce requirements is that it assumes that the current GP/GPN consultation is constant through the projection period and that the current number of GPs/GPNs is sufficient. While there is no evidence on the required number of GPs/GPNs in the Irish context, the significant differences in the per capita numbers across the regions (Figures 3.7 and 3.8) suggest that some

regions are currently potentially underserved. In an attempt to address this issue, the population-adjusted number of GPs and GPNs required in each health region in 2023 and 2040 was also estimated based on the per capita number of GPs and GPNs in the region with the highest number of GPs and GPNs per capita (i.e. WNW in 2023).

Table 3.9 shows the projected additional workforce requirements in 2040 based on (i) the current supply of workforce in that region and (ii) the current supply of workforce in the region with the highest supply (i.e. WNW). These estimates differ from those in Tables 3.7 and 3.8 as they are based solely on population growth (and ensuring that the per capita supply of the workforce keeps pace with increases in the total population) rather than demand increases (which incorporate population growth as well as increases in demand due to other factors such as the ageing of the population, an increase in eligibility, etc). If all regions were to have the same per capita general practice workforce as the WNW, a significant increase in workforce would be required in all other health regions over the projection period. For example, relative to 2023, the projected increase in GPs and GPNs in DNE are 78 and 62 per cent respectively; while for DML, the projected increases are 51 and 64 per cent respectively.

TABLE 3.9 GPS AND GPNS – PROJECTED REQUIREMENTS, 2023–2040

	GPs			GPNs		
	2023 (Headcount)	Projected additional, 2023–2040 based on current supply of GPs in that region	Projected additional, 2023–2040 based on supply of GPs in region with highest supply	2023 (Headcount)	Projected additional, 2023–2040 based on current supply of GPNs in that region	Projected additional, 2023–2040 based on supply of GPNs in region with highest supply
	N	N (%)	N (%)	N	N (%)	N (%)
DNE	731	127 (17)	568 (78)	455	79 (17)	284 (62)
DML	786	144 (18)	403 (51)	412	75 (18)	264 (64)
DSE	786	116 (15)	254 (32)	426	63 (15)	165 (39)
SW	591	88 (15)	204 (34)	387	58 (15)	65 (17)
MW	325	43 (13)	111 (34)	204	27 (13)	44 (22)
WNW	709	86 (12)	86 (12)	403	49 (12)	49 (12)

Source: HSE, NMBI and ESRI population, 2024; authors' calculations.

CHAPTER 4

Discussion

4.1 SUMMARY OF RESULTS

Due to significant data limitations, the analysis in this report should be interpreted with caution and updated if, and when, better data become available.

Consistent with the national-level analysis, the utilisation of general practice services was found to increase with age in each of the six health regions, with higher utilisation also observed in the under-six group. No region demonstrated a consistently higher or lower pattern of average consultations across all age-groups. However, consultation rates for those aged 70 and over tended to be higher in the MW and WNW relative to the other regions.

At the national level, between 2023 and 2040, GP consultations were projected to increase by between 23 and 30 per cent, while GPN consultations were projected to increase by between 32 and 36 per cent. In each of the regions, demand for GP and GPN consultations were projected to increase significantly, though the projections of demand were found to be higher in the regions to the east of the country (DNE, DML and DSE) relative to the regions in the west (MW, WNW), driven by the larger projected population growth in the regions to the east. In all regions, the main driver of the projected increases is population growth, accounting for at least three-quarters of the increase in each region. The next largest driver is changes in the age structure of the population.

Reflecting the projected increases in demand for consultations, there will be a need for a considerable increase in the general practice workforce in each of the regions in the coming years. At the regional level, based on the current regional GP-consultation ratio, the number of GPs will need to increase by at least 20 per cent between 2023 and 2040 to keep pace with the increase in consultations projected in this analysis. In the central scenario, additional requirements for GPs range from 64 in the MW (the region with the smallest population in 2023) to 228 in DML by 2040. Similarly, based on the current regional GPN-consultation ratio, in all regions, the number of GPNs will need to increase by at least 26 per cent to keep pace with the increase in consultations projected in this analysis. In the central scenario, additional requirements for GPNs range from 61 in the MW to 167 in DML by 2040. These workforce requirements are based on the current GP/GPN consultation ratio; requirements would be even greater if all regions had the same population-adjusted number of GPs/GPNs as the region with the highest number of population-adjusted GPs/GPNs (WNW in 2023). In this case, the number of GPs

would need to increase by approximately 78 per cent in DNE and 51 per cent in DML between 2023 and 2040.

4.2 LIMITATIONS

The extent of the analysis that could be undertaken on the future demand for general practice services was significantly limited by data availability. A range of factors not included in the analysis will likely impact the demand and workforce requirements for these services in the coming years. As detailed in the national-level report, these include developments in information systems, the extent and role of private health insurers in primary care, changes in the health workforce tasks and activities, potential changes in the demand for general practice services as the impact of the COVID-19 pandemic wanes, and changes in the complexity of patients/consultations over time (Connolly et al., 2025). Currently, there is a lack of data and/or evidence to inform how these (and other) potential changes might impact the demand for general practice services in the coming years; however if and when new data or evidence become available, they should be incorporated into new projections so that appropriate capacity planning can take place.

The national-level report also identified and discussed several data limitations which restricted the type and extent of analysis that could be undertaken, thereby presenting a major challenge for effective capacity planning in general practice (Connolly et al., 2025). These data challenges are even more pronounced at the health region level. First, given the lack of a central, national register on GP and GPN activity, it is difficult to quantify the volume of general practice consultations in Ireland (Collins and Homeniuk, 2021). In this analysis, survey data were used to estimate the number of GP and GPN consultations; this comes with several limitations, including the potential for recall bias where survey respondents under- or over-report service utilisation (Brusco and Watts, 2015). The development of the annual Healthy Ireland survey is an important step forward for quantifying health service use over time in Ireland; however, it comes with a number of additional limitations when considering utilisation at the health region level. For example, given the difficulty in allocating survey respondents to a health region when undertaking telephone interviews, only one wave of the survey (to date) has included the health region of the respondent. In this analysis, therefore, it was necessary to complete an exercise to allocate respondents to a health region based on other geographical groupings. This introduces a margin of error, in particular, for respondents from Wave 9, where it was necessary to allocate respondents from their county of residence to a health region.

Second, even when combining all relevant waves of the Healthy Ireland survey, the number of respondents in some categories is relatively small, necessitating further aggregation. For example, in the national-level analysis, it was possible to estimate

GP and GPN consultation rates by sex, age-group, and card status (medical card, GP visit card and no card). However, for the regional-level analysis, to ensure a sufficient number of respondents, it was necessary to combine males and females and medical card and GP visit card holders. Relative to the national-level analysis, this leads to less refinement in the analysis and, subsequently, the findings.

Third, very limited data are available at both the national and regional levels on GPN consultations. There are currently no available data on GPN consultations for children across the health regions and, consequently, the national-level utilisation estimates were applied to all health regions.

Fourth, no data were available on eligibility for the CDTP programme at the health region level, nor was there any evidence on the proportion of the population at the health region level that would become eligible for a GP visit card if income thresholds for the card were increased. While this could be estimated using the SWITCH model at the aggregated national level, no health region variable is included in the SWITCH model due to the lack of such a variable in the underlying dataset.

Fifth, very limited data are available on the general practice workforce across the health regions. While the number of GPs working in each of the health regions was provided by the HSE, no corresponding data were available on GPNs. Consequently, it was necessary to allocate GPNs to a health region based on their county of work, again introducing a margin of error in the analysis. Further, no data were available on the working hours of GPs and GPNs at the health region level.

Sixth, in addition to the data limitations discussed above, a further potential limitation of the analysis relates to the underlying assumption that the population living in a particular health region access GP services in that region. While the proportion of people that access GP services in a health region different to the region in which they live is unknown, this is likely more pronounced in larger urban areas, where people often seek care near their workplace or place of study rather than the region in which they live. In their analysis of the demand and supply of GPs at the community healthcare network (CHN) level, Coy and Tanwir (2025) noted that while South Dublin appears to have a high number of GPs relative to its population and Dublin West appears to have low numbers, there could be significant movement of persons between areas to attend general practice services.

Relative to the national-level analysis, these limitations introduce a margin of error into the regional-level baseline estimates and the associated projections.

Unfortunately, given current data availability, it is not possible to estimate the overall or (regional) distributional impact of these data limitations. Consequently, data availability and quality at the HSE health region level should be improved as a priority (further discussed in the next section).

4.3 POLICY IMPLICATIONS AND FURTHER RESEARCH

A growing and ageing population, as well as reforms which seek to re-orientate the model of care towards primary and community settings (Houses of the Oireachtas Committee on the Future of Healthcare, 2017), will result in increased demand for general practice services in the coming years. Some initiatives have already been implemented in an attempt to address this increasing demand, including increasing the number of training places for GPs, introducing initiatives which seek to broaden the categories of workforce groups providing general practice services, and the introduction of a pilot graduate diploma in primary care nursing (Connolly et al., 2025). Further, it is anticipated that additional initiatives to increase the general practice workforce will be identified from the ongoing strategic review of general practice. However, as discussed in the national-level report, the lack of nationally representative and accessible data on general practice presents a major challenge for effective capacity planning. It remains unclear whether current measures will be sufficient to meet future demand.

In addition to policies seeking to increase workforce numbers, consideration is also required on the distribution of the workforce across the country. Variations in the supply of the population-adjusted general practice workforce across the health regions found in this report are consistent with other work, which has found significant differences at both the county (Smith et al., 2019) and Community Health Network (CHN) (Coy and Tanwir, 2025) levels. While there is no evidence on the appropriate population-adjusted number of GPs/GPNs, these variations suggest that some areas might be currently underserved in terms of the supply of the general practice workforce. Consequently, there is a need to implement policies which would encourage GPs and GPNs to locate in the underserved areas. However, ensuring an equal distribution of GPs across areas is unlikely to fully address access issues, as some areas will have a higher need for general practice services even after controlling for the age and sex composition of the population. In particular, more deprived areas have higher levels of need and will require more GPs and GPNs than similar areas with a more affluent population (Teljeur et al., 2010; Iacobucci, 2024). Discussing Irish general practice, Osborne (2015) noted that the recruitment and retention of GPs in deprived areas requires a multi-faceted policy response which goes beyond financial incentives to include a focus on education and infrastructural supports. In 2019, a social deprivation practice grant for general practices in urban deprived areas was introduced; a later evaluation of the grant noted its benefits for both patients and practice staff; however a need for ongoing funding and a simplified application process was also

identified (O Shea et al., 2024). The proposed population-based resource allocation¹³ (PBRA) model for Ireland (O'Malley et al., 2023) will adjust for deprivation and may contribute to increased provisions of resources in more deprived areas; however, at the time of writing, it appears that general practice will not be part of the PBRA in the first instance (Walsh and Hill, 2024).

The analysis in this report and the associated regional reports on public acute hospitals (Brick and Kakoulidou, 2025) and older people's services (Walsh and Kakoulidou, 2025b) show significant differences in age-adjusted utilisation of a range of health and social care services. While it is beyond the scope of the current analysis to explain the reasons for the differences, identifying the reasons behind these differences could provide valuable evidence on the appropriate organisation and funding of health services within regions. While some of the differences will inevitably be related to need, differences in supply are also likely to be important, and a cross-regional analysis could provide insights into the potential substitution between different healthcare services (e.g. does fewer GPs result in higher ED attendances).

Each of the regions will have its own factors which impact the demand and delivery of healthcare services within the region. These include relatively high levels of deprivation, a dispersed population, relatively high levels of non-Irish born, difficulties in recruiting staff to particular areas, and the availability of alternative (both public and private) health and social care services. Consequently, each region will require a region-specific response to the delivery of services, which incorporates the specific challenges within that particular area.

Similar to the national-level analysis on general practice, the extent of the analysis that could be undertaken on general practice at the health region level was severely curtailed by a lack of data. More complete data on GPN and GP consultations (including dual GP and GPN consultations), visit duration, complexity indicators, workforce hours, and activity breakdowns at both the national and regional levels are essential for capacity planning in the Irish healthcare system. Further, datasets which incorporate health-related information should include relevant health geographies (Eircode, Census Small area code or geocodes) so that individuals can be allocated to the appropriate health geography.

¹³ Population-Based Resource Allocation (PBRA) is a funding model for health and social care that seeks to distribute available healthcare resources according to population need and generally includes population characteristics including age, sex and deprivation.

These limitations and data gaps are detailed in a forthcoming report that examines current gaps in health services data in Ireland required for the type of modelling that can be undertaken with the Hippocrates model (Connolly et al., forthcoming).

4.4 CONCLUSIONS

The growing and ageing population will increase demand for general practice services across all six regions in the coming years. In the central scenario, for GPs, this increase ranged from 19 to 28 per cent, while for GPNs the increases ranged from 25 to 39 per cent. Higher increases are observed in the regions to the east of the country, relative to those in the west. Reflecting these increases in demand, the workforce will need to increase substantially in each region in the coming years. There are, however, some areas of the country that are potentially underserved in terms of the existing general practice workforce; immediate action is required to address this to ensure that current difficulties experienced by some individuals in accessing general practice services are not exacerbated as the population grows and ages. While several initiatives have already been implemented to increase the general practice workforce in recent years, it is not yet clear if these measures will be sufficient to meet the additional demand generated from a growing and ageing population. The lack of available, regional-level data on general practice presents a major challenge for effective capacity planning. As more comprehensive data become available, the projections in this report should be reviewed and updated accordingly.

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