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AN ANALYSIS OF THE PRIMARY CARE SYSTEMS OF IRELAND AND NORTHERN IRELAND

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ESRI ECONOMIC & SOCIAL RESEARCH INSTITUTE

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ABBREVIATIONS AND ACRONYMS

CHD	Coronary heart disease
CHO	Community healthcare organisation
COPD	Chronic obstructive pulmonary disease
CSO	Central Statistics Office
EHIS	European Health Interview Survey
GMS	General Medical Service
GDP	Gross domestic product
GP	General practitioner
HCN	Health and care number
HPO	Healthcare Pricing Office
HSC	Health and social care
HSE	Health Service Executive
ICD	International Statistical Classification of Diseases and Related Health Problems
LSE	London School of Economics and Political Science
MDT	Multidisciplinary team
MMR	Measles, mumps and rubella
NHS	National Health Service
NICOLA	Northern Ireland Cohort for the Longitudinal Study of Ageing
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PCRS	Primary Care Reimbursement Service
PDX	Principal diagnosis
PHI	Private health insurance
PPS	Personal public service (number)
QOF	Quality and Outcomes Framework
SHA	System of Health Accounts
SII	Shared Island Initiative
TILDA	The Irish Longitudinal Study on Ageing
UK	United Kingdom
UTI	Urinary tract infection
WHO	World Health Organization
WTE	Whole-time equivalent

EXECUTIVE SUMMARY

INTRODUCTION

Recent reform proposals in the healthcare systems of Ireland and Northern Ireland have highlighted the need to improve population health and to deliver more care in the community. There are significant variations between the two healthcare systems, providing an opportunity to examine how different approaches and policies impact on a range of outcomes. The aim of this research study is to analyse the primary care systems of Ireland and Northern Ireland. In doing so, it seeks to inform the reform proposals for both systems. The analysis will focus on primary care due to the key differences between the primary care systems of Ireland and Northern Ireland, including the higher prevalence of user charges in the Irish healthcare system.

OVERVIEW OF THE TWO SYSTEMS

A key distinction between the healthcare systems of Ireland and Northern Ireland is the absence of a universal healthcare system in Ireland. In Northern Ireland, all resident individuals are entitled to a wide range of health and social care services that are almost entirely free at the point of use, including primary care and secondary care, emergency care, rehabilitative and palliative care and prescription items. In Ireland, a majority of the population pay out of pocket for a range of healthcare services, including general practitioner (GP) and other primary care services. In Ireland, there is much greater private provision of healthcare services, and a larger proportion of the population is covered by private health insurance.

Despite these differences, both systems are currently facing similar challenges including increasing demand for healthcare services, increasing expenditure and workforce shortages.

METHODS

Existing data sources (both survey and administrative) on a selection of healthcare system indicators were used to analyse the primary care systems of Ireland and Northern Ireland. The analysis was severely limited by a lack of comparable data across the jurisdictions.

The following indicators were considered:

- the number of GPs;
- healthcare expenditure (Ireland and UK);
- GP utilisation;
- use of preventive services;

- unmet healthcare needs;
- potentially avoidable hospitalisations; and
- waiting times for hospital-based services (due to a lack of comparable data on waiting times for primary care services).

FINDINGS

The population of Northern Ireland is slightly older than that of Ireland, with a greater proportion aged 65 years and over. For both socio-economic and health status, the available evidence suggests that one system does not consistently do better than the other. However, for some population health measures, including life expectancy and infant mortality, Ireland has performed better than Northern Ireland in recent years.

The number of GPs per capita was found to be similar across the jurisdictions; however, no comparable data were available on the number of whole-time equivalent (WTE) GPs. Similarly, there is a lack of comparable data on healthcare expenditure for Ireland and Northern Ireland.

The available evidence provides somewhat conflicting results about GP utilisation in Ireland and Northern Ireland, with some studies finding higher utilisation in Ireland and others finding higher utilisation in Northern Ireland. The proportion of invited participants availing of a range of preventive services (e.g. screening and vaccinations) appears similar across the jurisdictions.

There are higher levels of unmet healthcare needs due to affordability issues in Ireland relative to Northern Ireland. However, the most common reason for unmet healthcare needs in both Ireland and Northern Ireland relates to long waits to access care. Driven by the COVID-19 pandemic and associated curtailment of some healthcare services, both jurisdictions have seen a significant increase in the proportion waiting more than 12 months for both out-patient and day and in-patient services, with this increase particularly evident in Northern Ireland.

In terms of avoidable hospitalisations, neither system consistently performed better than the other. For example, the hospitalisation rate related to influenza and pneumonia was 30 per cent higher in Northern Ireland, while the hospitalisation rate for chronic obstructive pulmonary disease (COPD) was found to be 18 per cent higher in Ireland. The finding of a higher avoidable hospitalisation rate for influenza and pneumonia in Northern Ireland is somewhat surprising given the higher uptake of flu vaccination among older people in Northern Ireland.

POLICY IMPLICATIONS

Higher levels of unmet healthcare needs in Ireland relative to Northern Ireland due to affordability issues is suggestive that financial barriers might be impacting on access to healthcare services in Ireland. In Ireland, the recent Sláintecare report has recommended a phased extension of entitlement to free GP care. Such a reform would be instrumental in ensuring that access to primary healthcare services in Ireland is based on need rather than ability to pay and would mean a greater alignment between the healthcare systems of Ireland and Northern Ireland. Reducing or removing financial barriers however without adequately increasing the available workforce to meet additional demand will likely result in patients experiencing long waiting periods to access GP care and, consequently, delays in referrals and access to secondary care services.

A significant barrier to accessing healthcare relates to the large and growing waiting times for hospital-based services in both jurisdictions. Urgent action is required to tackle waiting times on both sides of the border. This will likely require a multifaceted approach, with an emphasis on service delivery, workforce capacity and skill mix in both jurisdictions.

CHAPTER 1

Introduction

In October 2020, the Irish government launched the Shared Island Initiative (SII), with the objective of supporting and deepening the current and potential linkages across the island of Ireland in a range of economic, social and environmental domains. Since its initiation, Heenan (2021a, 2021b) has explored the possibility of enhanced cooperation and collaboration on health-related matters across the island of Ireland. A key objective of the SII is the promotion of all-island approaches to the challenges facing Ireland and Northern Ireland. Currently the healthcare systems of Ireland and Northern Ireland face significant challenges. This report seeks to identify any learnings, from either side of the border, that could help address issues of concern.

The two healthcare systems on the island of Ireland have key similarities and differences. Both are predominantly tax-funded and in both there is a key role for general practitioners (GPs) as gatekeepers for a range of primary and secondary care services. Both systems are currently facing similar challenges, including an increasing demand for a range of healthcare services (in part driven by an ageing population, as well as the development of new treatments and technologies) and an undersupply of healthcare workers. Further, the COVID-19 pandemic and the associated restrictions on many healthcare services through 2020 and 2021 are expected to have significant implications for both systems for a number of years to come.

Much of the discussion and analysis of the healthcare systems of Ireland and Northern Ireland have focused on the extent of user charges in the Irish system (in particular for primary care services) relative to Northern Ireland. Other key differences include the greater use of private provision and private health insurance (PHI) financing in Ireland relative to Northern Ireland, the existence and use of a unique patient identifier in the healthcare system in Northern Ireland and a central register for all patients registered with a GP in Northern Ireland. These (and other) differences provide an opportunity to identify how such differences in approaches and structures impact on the operation of the respective healthcare systems.

Cross-country analyses can be difficult, due in part to differences in how particular healthcare system indicators are defined and measured. Previous research, for example, comparing the healthcare systems of the four jurisdictions of the United Kingdom (UK), noted that while such comparisons help increase the accountability of the public sector, there was a lack of comparable data across the four jurisdictions (Connolly et al., 2010). Subsequent analysis found that there was little improvement in the comparability of data over time, which the authors suggested

might be to the advantage of the relevant health departments who may seek to avoid negative comparisons to neighbouring jurisdictions (Bevan et al., 2014).

To date, such analysis for Ireland and Northern Ireland has been limited. However, the studies that have been done have identified some key differences in healthcare services utilisation (Cupples et al., 2008; McGee et al., 2005; O'Reilly et al., 2007). For example, Cupples et al. (2008) found that among a group of patients with cardiovascular disease, those in Ireland had relatively more GP visits, while those in Northern Ireland had more visits to the practice nurse. O'Reilly et al. (2007) found that the percentage of patients experiencing a medical problem in the previous year who had not consulted the doctor because of cost was 19 per cent in Ireland compared to two per cent in Northern Ireland.

Recognising challenges to the healthcare system, recent reform proposals for Ireland (the Sláintecare report) and Northern Ireland (the Bengoa report) have highlighted the need to improve population health and to increase the provision of care in the community, thereby potentially reducing demands on the hospital system (Bengoa et al., 2016; Houses of the Oireachtas Committee on the Future of Healthcare, 2017). Given financial barriers to access and unmet healthcare needs, the Sláintecare report for Ireland, for example, recommended (among other things) the introduction of universal GP and primary care, reducing or removing out-of-pocket fees and substantially increasing public healthcare expenditure and capacity in a tax-funded system (Houses of the Oireachtas Committee on the Future of Healthcare, 2017). For Northern Ireland, the Bengoa report noted the need for an integrated primary and community health and social care delivery model so that more can be done out of hospitals (Bengoa et al., 2016). The report recommended the development of an accountable care system, whereby integrated providers would take responsibility for all health and social care needs of a given population with the budget linked to population-based outcomes (Bengoa et al., 2016). To date, progress in reforming the systems in the manner envisaged in the initial Bengoa and Sláintecare reports has been limited.

The aim of the research in this report is to analyse the primary care systems of Ireland and Northern Ireland. In doing so, the research seeks to identify any learnings that can be incorporated into the reform proposals for both systems. The analysis focuses on primary care due to key differences between the primary care systems of Ireland and Northern Ireland, in particular the greater prevalence of user charges in the Irish healthcare system. While primary care encompasses a range of healthcare services delivered in the community (outside of the hospital setting), in this analysis the focus will predominantly be on GP services due to data availability issues. General practice is a key element of primary care, with GPs being gatekeepers for a range of other primary and secondary care services. Consequently, a focus on general practice is a useful starting point for comparative analyses.

The key research questions addressed in this report are as follows.

1. How do the primary care systems of Ireland and Northern Ireland differ in terms of eligibility, workforce and reform proposals?

2. How does the demographic and socio-economic composition of the populations of Ireland and Northern Ireland differ?

3. What comparable data are available on the primary care systems of Ireland and Northern Ireland?

4. To what extent do the available data allow comparative analysis of the healthcare systems of Ireland and Northern Ireland to be undertaken?

Chapter 2 provides an overview of the healthcare systems of Ireland and Northern Ireland, with a particular focus on primary care. Chapter 3 details the methods and data used in this report. Chapter 4 presents and discusses a range of healthcare system indicators for Ireland and Northern Ireland. Finally, Chapter 5 summarises the findings, discusses limitations and considers the policy implications and learning from the analysis.

CHAPTER 2

An overview of the healthcare systems of Ireland and Northern Ireland

2.1 INTRODUCTION

This chapter provides an overview of the healthcare systems of Ireland and Northern Ireland. It begins by briefly describing the two populations with reference to factors that influence health status and healthcare utilisation. It then goes on to describe the healthcare systems of Ireland and Northern Ireland, with a particular focus on primary care. Finally, it examines the impact of the COVID-19 pandemic on primary care in both jurisdictions.

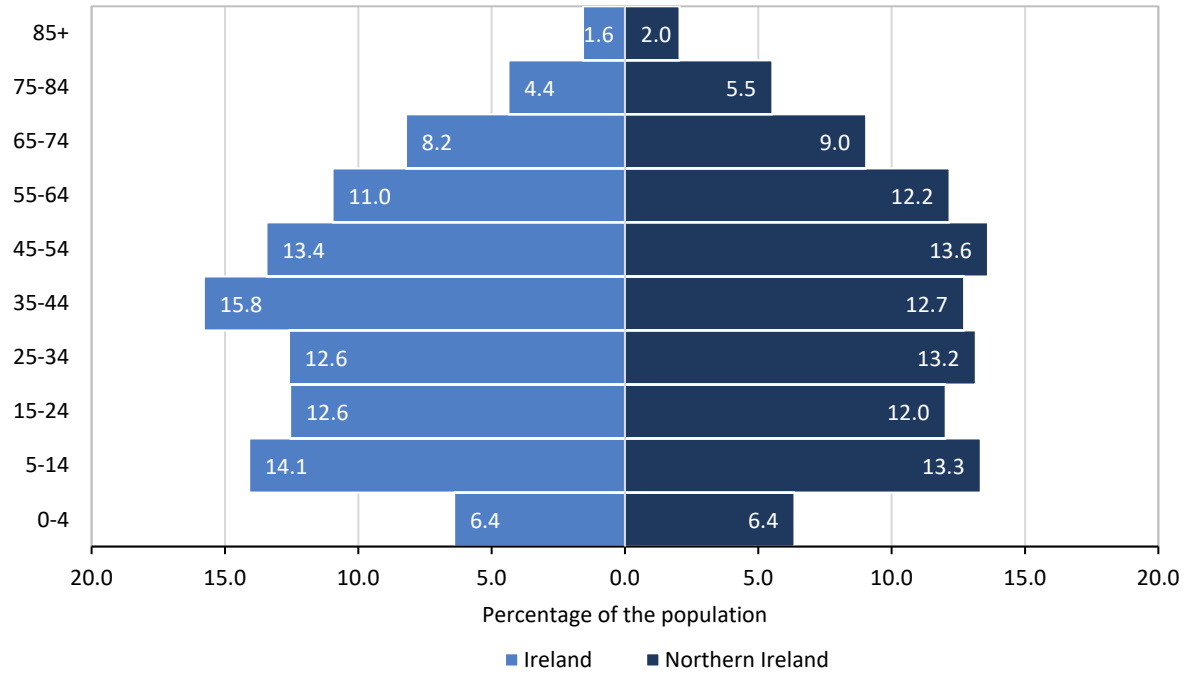
2.2 THE POPULATIONS OF IRELAND AND NORTHERN IRELAND

The need for, and utilisation of, healthcare services differ across jurisdictions depending on the size and composition of the population. By way of context, this section provides a brief overview of the demographic, socio-economic and health statuses of the populations of Ireland and Northern Ireland.

2.2.1 Demographics

In 2019, there were approximately 4.9 million people living in Ireland and 1.8 million people in Northern Ireland. Figure 2.1 shows the age distribution of the population in Ireland and Northern Ireland in that year. In general, the age distribution is very similar across the jurisdictions with, for example, 20 per cent of the population in Ireland and Northern Ireland aged under 14 years. However, there was a slightly higher proportion of older people in Northern Ireland, with 17 per cent of the population aged 65 and over relative to 14 per cent in Ireland.

FIGURE 2.1 AGE DISTRIBUTION OF THE POPULATIONS IN IRELAND AND NORTHERN IRELAND, 2019



Sources: Central Statistics Office, 2020 (Ireland); Northern Ireland Statistics and Research Agency, 2020 (Northern Ireland).

2.2.2 Socio-economic status

There is no standardised approach to comparing living standards or socio-economic status across countries (Psaki et al., 2014). The small number of studies which have sought to compare living standards in Ireland and Northern Ireland have used a variety of measures, providing somewhat conflicting results. For example, FitzGerald and Morgenroth (2019), examining a consumption-based measure of welfare, argued that living standards in Ireland were approximately 20 per cent lower than those of Northern Ireland in 2012. They argued that the gap in public consumption was largely a consequence of the superior quality of public services in the UK and the better performance of the healthcare system in Northern Ireland relative to that in Ireland. However, a later version of the analysis found that the gap in living standards had reduced to four per cent by 2016 (FitzGerald and Morgenroth, 2020).

Bergin and McGuinness (2021) considered a range of measures of living standards across Ireland and Northern Ireland and concluded that, on average, people in Ireland are better off than those in Northern Ireland based on metrics such as gross domestic product (GDP) per capita and household disposable income, although some regional effects were observed.[1] For example, GDP per capita in Northern Ireland was approximately 50 per cent lower than that found in the southern and eastern regions of Ireland (75 per cent of the population) but was slightly above that of the border, midlands and western regions of Ireland. Further analysis by

1 A modified gross national income (GNI) measure was used for Ireland as GDP in Ireland is distorted by the activity of foreign multinationals.

the authors found that after taxes and transfers, income inequality was slightly higher in Ireland; however, poverty rates were higher in Northern Ireland.

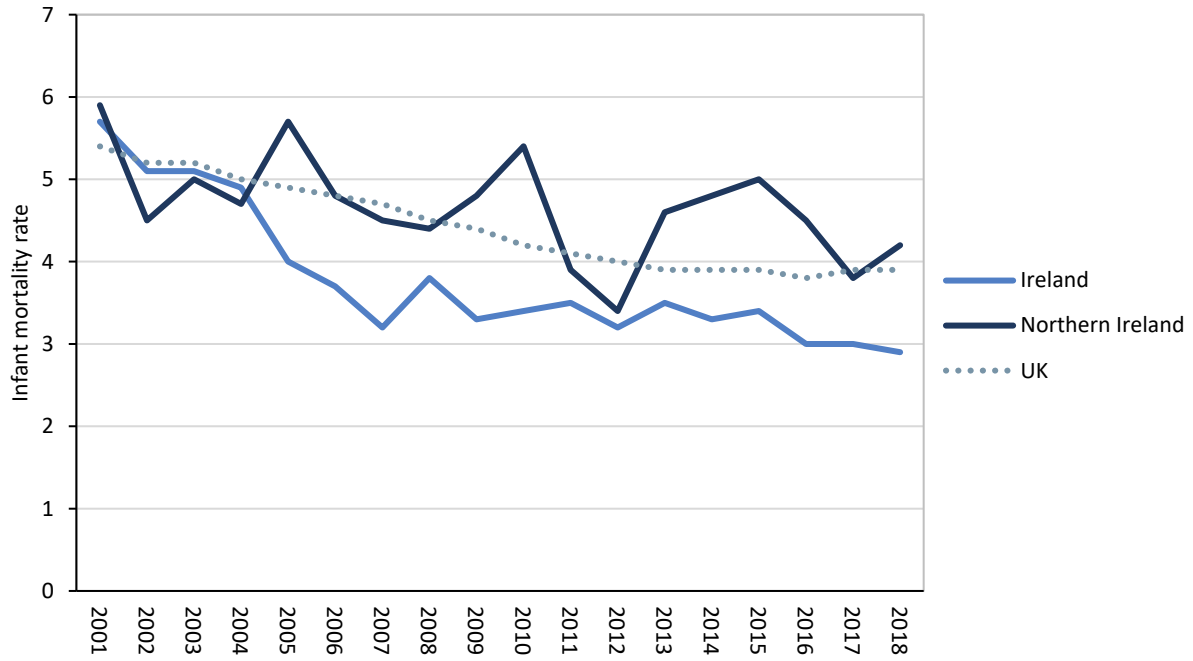
2.2.3 Health status

A range of health measures have been used to compare health status across countries. These include life expectancy, healthy life expectancy and infant mortality. A recent study comparing living standards and quality of life in Ireland and Northern Ireland found that life expectancy in Northern Ireland exceeded that in Ireland up to 2005. However, the same study found that, in subsequent years, continued stronger improvements in life expectancy in Ireland meant that not only has it surpassed Northern Ireland in this regard, but this gap between the two jurisdictions has continued to grow (Bergin and McGuinness, 2021). For example, in 2018, life expectancy at birth in Ireland exceeded that of Northern Ireland by 1.4 years for males and 1.5 years for females. Similarly, Sheehan and O'Sullivan (2020) found that both life expectancy and disability-free life expectancy at age 65 were higher for both males and females in Ireland relative to Northern Ireland. While the authors observed similar levels of disability-free life expectancy in Ireland and Northern Ireland around 2010, by 2017 disability-free life expectancy for both males and females was higher in Ireland.

Figure 2.2 shows the infant mortality rate in Ireland and Northern Ireland from 2001 to 2018.[2] The UK rate is also provided for context as, due to the relatively small population in Northern Ireland and consequent relatively small number of infant deaths, the year-on-year rate for Northern Ireland is somewhat erratic. In 2001, the infant mortality rate was very similar in Ireland and Northern Ireland; over time there has been a reduction in the rate in both jurisdictions (as well as in the UK as a whole). However, the reduction in Ireland has been greater than that in Northern Ireland. By 2018, the rate in Northern Ireland was 45 per cent higher than that in Ireland. The rate for Northern Ireland closely tracks the UK rate over the period of analysis. UK research findings suggest that one of the reasons improvements in mortality figures have stalled since 2010 is the UK government's introduction of austerity measures, which include cuts to public services and social security (Walsh et al., 2020).

2 The infant mortality rate is defined as the number of deaths of children under one year of age, expressed per 1,000 live births (OECD, 2021).

FIGURE 2.2 INFANT MORTALITY RATE IN IRELAND, NORTHERN IRELAND AND THE UK, 2001–2018



Note: Infant mortality rate is defined as the number of deaths of children under one year of age, expressed per 1,000 live births.
Source: OECD (2021).

A small number of studies using population-based surveys have examined self-reported prevalence of particular conditions in Ireland and Northern Ireland. For example, Savva et al. (2011) examined the prevalence of eight chronic conditions (heart attack, angina, stroke, diabetes, asthma, chronic obstructive pulmonary disease (COPD), musculoskeletal pain and cancer) in those aged 50 and over in Ireland and Northern Ireland. They found that 11 per cent of the population in Ireland reported two or more of the chronic conditions, compared to 18 per cent in Northern Ireland. McDaid et al. (2013) found that people aged 50 and over in Northern Ireland were significantly more likely to report poor self-reported health, limitations in daily activities and lower quality of life relative to those in Ireland. Recent analysis on the prevalence of diabetes in Ireland and Northern Ireland found that the overall prevalence in the 50-84 age group is 3.4 percentage points higher in Northern Ireland relative to Ireland (11.1 per cent in Northern Ireland and 7.7 per cent in Ireland) (Pierse et al., 2020). In addition, the diabetic population in Northern Ireland appear to experience higher rates of diabetic complications and more chronic illnesses.

A small number of population-based studies have examined risk behaviours for particular health conditions and disease across Ireland and Northern Ireland, with somewhat mixed results. Across a number of studies, no significant differences were observed in smoking prevalence (Cupples et al., 2008; McGee et al., 2005; Cruise et al., 2019). One study involving 903 patients with known coronary heart disease in Ireland and Northern Ireland found that similar proportions of respondents across the jurisdictions reported taking at least five portions of fruit

and/or vegetables daily; however, levels of self-reported exercise were higher in Ireland relative to Northern Ireland (Cupples et al., 2008). A more recent study including people aged 50 and over found that the prevalence of obesity was higher in Ireland relative to Northern Ireland (Cruise et al., 2019).

Overall, the available evidence is somewhat suggestive that population health is better in Ireland relative to Northern Ireland; however, caution is required in interpreting some of the study findings. In particular, the reasons for the observed differences across the jurisdictions is unclear and could reflect a variety of different factors including greater diagnosis of particular conditions in Northern Ireland relative to Ireland (rather than a higher prevalence of disease per se), to different socio-economic and ethnic compositions of the populations or to reporting heterogeneity in self-assessed health.

2.3 OVERVIEW OF HEALTH SYSTEMS

2.3.1 The healthcare system of Ireland

The Irish healthcare system involves a complex mix of public and private financing and delivery. While many European countries, including the UK, adopted universal healthcare in the first half of the twentieth century, this did not happen in Ireland (Wren and Connolly, 2019).

Currently, there are two main categories of entitlement to public healthcare services. Medical card holders are entitled to largely free public healthcare services, including general practitioner (GP) care, prescribed medicines (subject to a charge for each prescribed item), some limited dental, optical and aural services, maternity and infant care services, community care and personal social services. Those without a medical card are entitled to subsidised public hospital services and prescription medicines but pay the full cost of GP and other primary and community care services. There is some entitlement to community care and personal social services for those without a medical card, for example public health nursing care, but this can be at the discretion of the healthcare provider and priority is given to those with a medical card. All residents are entitled to limited maternity and infant care services free at the point of use. In addition, a range of screening and vaccination services are provided without charge for eligible groups. In November 2005, the GP visit card was introduced; GP visit cardholders are entitled to free GP care but otherwise have the same entitlements as non-cardholders. Individuals can claim tax relief (20 per cent rate) on medical expenses that they pay for themselves and for any other person. Table 2.1 provides an overview of eligibility and user charges for medical card, GP visit card and non-cardholders in the Irish healthcare system.

Eligibility for a medical and GP visit card is assessed primarily based on an income means test, with the threshold for GP visit cards about 50 per cent higher than for the full medical card. The thresholds are somewhat complicated and differ by family status, age and number/age of dependent children in the family. For families with an adult over the age of 70, the assessment of means is simpler than for younger people as it is based purely on gross income with no deductions for taxes or other expenses such as housing costs. Consequently, the means test for those aged over 70 is more generous, with significantly higher income limits than for those under 70 (Keane et al., 2021). For families where the oldest adult is aged under 70, means are calculated by summing current gross income (from (self)employment, rental income and investments, for example) and deducting income tax and social insurance liabilities. Income from investments/savings below €36,000 per adult is not included. Families can also claim for allowable expenses of housing, childcare and travel to work costs, life assurance, home and mortgage protection insurance as well as maintenance payments (Keane et al., 2021). After assessment, those deemed ineligible for a medical card will automatically be assessed for a GP visit card. Recent analysis estimated that 31 per cent of individuals eligible for a medical card do not take up a card (Keane et al., 2021), with a lack of information about eligibility status and social stigma contributing to the non-take up.

In 2015, a GP visit card was extended on a universal basis to all children under the age of six, as well as to people aged 70 and over. In certain circumstances, individuals who are not eligible for a medical or GP visit card on income or age grounds may be granted a card on a ‘discretionary’ basis if they have particular health needs which would cause them undue financial hardship (Ma and Nolan, 2017). In 2020, approximately 32 per cent of the population had a medical card and 11 per cent had a GP visit card (Department of Health (Ireland), 2021a).

TABLE 2.1 ELIGIBILITY AND OUT-OF-POCKET PAYMENTS FOR PUBLIC HEALTHCARE IN IRELAND – MEDICAL CARD HOLDERS, GP-VISIT CARD HOLDERS AND NON-CARDHOLDERS, 2021

Service	Medical card	GP visit card	Non-cardholder
GP	Entitled to free GP visits and services.	Entitled to free GP visits and services.	No entitlement – individuals pay approx. €53 per visit (Walsh et al., 2021) with additional costs for extra services (e.g. blood test, etc.).
Dentist	Entitled to specific dental treatments, e.g. dental examination and two fillings annually and extractions as necessary. Some treatments such as the provision of dentures require the approval of the HSE before the dentist can proceed.	Individuals who have paid sufficient social insurance contributions are entitled to free dental examinations and a subsidised scale and polish once a year.	Individuals who have paid sufficient social insurance contributions are entitled to free dental examinations and a subsidised scale and polish once a year.
Other primary care professionals	Entitled to such services (including public health nurse and other allied health professionals) free at the point of use.	Limited entitlement	Limited entitlement
Outpatient and emergency department	Entitled to free outpatient and emergency department visits.	€100 if not referred by GP (with some exceptions, e.g. people receiving treatment for prescribed infectious diseases, including COVID-19, and children, in respect of some disease and disabilities).	€100 if not referred by GP (with some exceptions, e.g. people receiving treatment for prescribed infectious diseases, including COVID-19, and children, in respect of some disease and disabilities).
Inpatient admission	No charge	€80 per day up to a maximum of €800 in a rolling 12-month period (with some exceptions including people receiving treatment for prescribed infectious diseases, including COVID-19, women receiving maternity services, and children up to six weeks of age).	€80 per day up to a maximum of €800 in a rolling 12-month period (with some exceptions including people receiving treatment for prescribed infectious diseases, including COVID-19, women receiving maternity services, and children up to six weeks of age).
Prescribed medicines	Age <70: €1.50 per item up to a maximum of €15 per month per person/family. Age>70: €1.00 per item up to a maximum of €10 per month per person/family.	Up to €114 per month per person/family. Individuals may also be entitled to free prescription items under the Long-term Illness Scheme if they have been diagnosed with one or more of a schedule of illnesses (Walsh et al., 2021).	Up to €114 per month per person/family. Individuals may also be entitled to free prescription items under the Long-term Illness Scheme if they have been diagnosed with one or more of a schedule of illnesses (Walsh et al., 2021).

Sources: Citizens Information website, *https://www.citizensinformation.ie/en/health/health_system/entitlement_to_public_health_services.html;* HSE website, *https://www.hse.ie/eng/about/who/acute-hospitals-division/patient-care/hospital-charges/.*

A further layer of complexity is added to the Irish healthcare system by the private health insurance (PHI) market. In 2020, approximately 46 per cent of the population held PHI (Health Insurance Authority, 2020), which mainly provides cover for private or semi-private acute hospital services, although some plans also cover a portion of the cost of GP visits and other primary care services. While PHI

is usually purchased by high-income groups, approximately eight per cent of the adult population hold both a medical/GP visit card and PHI (Walsh et al., 2021).

There is also a complex public/private mix in terms of healthcare provision. GPs, for example, are largely self-employed private practitioners. Other primary care professionals (such as public health nurses and community-based speech and language therapists) are employed by the HSE and paid a salary. However, there are also privately financed (through out-of-pocket and insurance payments) allied health professionals, some of whom work in the public and private sector (Eighan et al., 2019).

In the hospital sector, much private practice occurs in public hospitals and most hospital consultants have contracts that permit them to conduct private practice in public hospitals (Whyte et al., 2020). In 2015, for example, over 50 per cent of private in-patient bed days occurred in public hospitals (Keegan et al., 2018). There are differing reimbursement methods for both consultants and hospitals for the treatment of public and private patients. For example, while hospital consultants are paid by salary for their public work, they receive a 'fee for service' for treating private patients (Brick et al., 2012). Public hospitals are paid for treating admitted public patients on the basis of the amount of activity, with adjustments for the complexity of cases (HSE, 2015), and are paid by insurers on a per diem basis for private patients (Turner, 2015). There are 18 major private hospitals in Ireland, which are largely financed through out-of-pocket and insurance payments.[3]

A number of strategies and reform proposals relating to the Irish healthcare system have been produced over the last 30 years. In 2016, an all-party parliamentary committee was established with the aim of achieving a single long-term vision for healthcare and the direction of health policy in Ireland. The Committee's 2017 Sláintecare report made a number of recommendations, including the introduction of universal GP and primary care, expanding primary and social care, delivering care at the lowest level of complexity, a move towards integrated care, reducing or removing out-of-pocket fees, and substantially increasing public healthcare expenditure and capacity in a tax-funded system, involving the removal of private work from public hospitals (Houses of the Oireachtas Committee on the Future of Healthcare, 2017). Progress in implementing the Sláintecare recommendations has been slow (Connolly and Wren, 2019; Thomas et al., 2021). While the most recent Programme for Government reiterated a commitment to the Sláintecare proposals and a need to accelerate its implementation (Department of the Taoiseach, 2020), the recent (September 2021) resignation of key officials responsible for implementing the Sláintecare proposals has cast fresh doubt on when and to what extent the reform proposals may be implemented.

3 For full detail on the 18 hospitals, see http://privatehospitals.ie/members/.

2.3.2 The healthcare system of Northern Ireland

The National Health Service (NHS) was established in Northern Ireland in 1948 through the Health Services Act (Northern Ireland) 1948. This Act provides for the provision of a range of medical services to the public, including hospital and specialist services, GP services, ambulance services and community health services. Access to these services was to be without charge at the point of use for UK residents unless a statute declared otherwise. An important distinction between the system in Northern Ireland and that found in the rest of the UK is that health and social care is financed and provided within an integrated system in Northern Ireland (O'Neill et al., 2012), although the degree of integration in practice has been questioned (Hudson and Henwood, 2002).

In Northern Ireland, all 'normally resident' individuals are entitled to a wide range of health and social care benefits that are almost entirely free at the point of use. Services include screening, primary care and secondary care, emergency care and rehabilitative and palliative care. Prescription charges were abolished in 2010 (O'Neill et al., 2012). Both long-term care and dental care are subject to charges. Dental care, for example, is free for some groups including those aged under 18 and those in receipt of certain social welfare benefits. Other low-income groups may be entitled to financial assistance with dental costs, while the remainder of the population pay the full cost associated with their dental care.

GPs are generally self-employed, with a smaller proportion (approximately ten per cent) employed by a practice. Other primary care professionals such as nurses working in the community are employed by the Health and Social Care Trusts. Some allied health professionals (particularly physiotherapists) work outside of the public system and are privately financed. Those working in the hospital sector are usually employed by the publicly funded health service although some also provide care privately (O'Neill et al., 2012). There are a small number of private hospitals in Northern Ireland, which are generally privately financed, though some also have contracts to provide services for publicly financed patients from Ireland and Northern Ireland. The uptake of PHI in Northern Ireland is approximately 18 per cent and is often provided as a perk by a small number of employers.[4] PHI in Northern Ireland is mainly used to access secondary care services provided in private hospitals.

Similar to Ireland, there have been a number of reviews and reform proposals relating to the healthcare system of Northern Ireland. The overall conclusion from these reviews is that Northern Ireland needs to reduce its reliance on hospitals, centralise some services to achieve a critical mass at a smaller number of sites, and develop a greater focus on prevention and keeping people healthy (Dayan and Heenan, 2019). The relatively recent review – the Bengoa report – noted the need

4 For information on uptake of PHI by region, see https://www.statista.com/statistics/681534/individuals-with-private-health-insurance-in-the-united-kingdom-by-region/.

for transformational change in the way services are delivered and the way the system is organised (Bengoa et al., 2016). The review's specific recommendations were used as the basis of a Department of Health ten-year plan in 2016 (Department of Health (Northern Ireland), 2016), which stated the need to: build workforce capacity in communities; provide more support in primary care to enable more preventive and proactive care; facilitate earlier detection and treatment of physical and mental health problems; and reform community and hospital services so that they can provide care when and where it is needed. Against the backdrop of the COVID-19 pandemic, the London School of Economics and Political Science (LSE) – Lancet Commission on the Future of the NHS made a number of recommendations for the NHS. The recommendations included: increasing investment; developing a sustainable and skilled workforce; and strengthening prevention of disease and disability (Anderson et al., 2021a, 2021b).

2.4 PRIMARY CARE SYSTEMS OF IRELAND AND NORTHERN IRELAND – A CLOSER LOOK

Primary care systems can differ along a number of dimensions, including services provided, the cost of accessing services and how such services are financed and delivered. In addition, the mix of disciplines that make up a primary care workforce differs from country to country, though general practice is often considered to be at the centre of primary care (Kringos et al., 2015). In Ireland and Northern Ireland, the GP plays a central role in primary care and often acts as a gatekeeper to other primary care services, as well as to acute care services.

This section provides an in-depth look at the primary care systems of Ireland and Northern Ireland focusing on structure, workforce and recent reform proposals.

2.4.1 Primary care in Ireland

Public primary care services in Ireland are managed by the HSE and delivered through nine community healthcare organisations (CHOs) (Health Service Executive, 2021). An important development in primary care in Ireland was the publication in 2001 of a new primary care strategy (Department of Health and Children, 2001). The strategy proposed the introduction of an interdisciplinary team-based approach to primary care. It set out that members of primary care teams should include GPs, nurses/midwives, health care assistants, home helps, physiotherapists, occupational therapists, social workers and administrative personnel, with a wider network of other primary care professionals such as speech and language therapists, community pharmacists, and dieticians also providing services for the enrolled population of each primary care team (Department of Health and Children, 2001). It was also envisaged that teams would be based in single locations and would meet regularly. The aim of the proposed developments was to provide a strengthened primary care system, with increased capacity which would provide a user-friendly set of services for the public. It was

also envisaged that there would be an increased emphasis on prevention and rehabilitation as well as on diagnosis and treatment (Department of Health and Children, 2001).

In the 20 years since the publication of the strategy, there has been some progress in establishing primary care teams. However, the totality of the reforms identified in the 2001 strategy has not been realised, with the number of functioning primary care teams less than originally envisaged. For example, a survey of GPs in late 2015 found that while almost two-thirds of respondents support the principle of primary care teams, only 13 per cent considered themselves as currently working in a well-functioning team (Collins and O'Riordan, 2015), while another survey of primary care professionals including GPs found that both GPs and other primary care professionals agreed that there was limited implementation of primary care teams in practice (Tierney et al., 2016). Another research study noted a disjoint between the formation of the 2001 strategy and any concrete plans and resources for its implementation (Kelly et al., 2016). A recent paper, however, highlighted an increase in interdisciplinary working across primary care which, although shaped by the primary care strategy, has been driven by primary care professional themselves (Tierney et al., 2019). Unfortunately, the capacity for these improved interdisciplinary workings was found to be hampered by the moratorium on staff during the 2008 economic crisis.

In December 2019, 119,532 whole-time equivalent (WTE) staff were employed by the HSE; of these, 44 per cent were employed to work in the community, including primary care (Health Service Executive, 2019). Community-based HSE staff includes doctors, dentists, nurses, health and social care professionals and healthcare assistants. While the number of community-based staff has been increasing over the past five years, between 2008 and 2014 the number of WTE directly employed staff fell by 7.2 per cent, with the scale of the decline in community-based staff over that period greater than that experienced in acute care (Williams and Thomas, 2017).

GPs differ from many other staff in primary care in that they are usually self-employed, private practitioners. The majority of GPs treat both public (medical/GP visit cardholders) and private (non-medical/GP-visit cardholders) patients. Under the General Medical Services (GMS) scheme, GPs receive an annual capitation payment (adjusted for age and sex) for each medical card and GP visit card holder on their list, as well as fees for out-of-hours and special items of service provided to medical card and GP visit card holders (excisions, sutures, etc.). Cardholders are required to register with a particular GP. A range of allowances are also available to GPs holding a GMS contract; these cover practice supports (such as employing a practice nurse or practice secretary), rural practice supports, annual leave, study leave, sick leave and maternity/paternity/adoptive leave. GPs (including both those holding a GMS contract and those without a GMS contract) are also paid fees

for services delivered under specific schemes, including the Primary Childhood Immunisation Scheme, the National Cancer Screening Service (e.g. cervical screening) and the Maternity and Infant Care Scheme. Recently, a new population-wide scheme for enhanced chronic disease management for patients with type 2 diabetes mellitus, asthma, chronic COPD and cardiovascular disease was added to the GMS contract. While only available to patients over the age of 75 years in the first instance, there are plans to extend the scheme to younger age groups on a gradual basis.[5] For those without a card, GP practices are largely reimbursed on a fee-for-service basis from individual patients with the fee determined by individual practices and recently estimated at €53 per GP visit (Walsh et al., 2021). While many non-cardholders register and remain with one GP practice, non-cardholders can switch between GPs. Consequently, there is no one definitive list of all people registered with a GP in Ireland.

Currently, most GPs work in a practice with other GPs, with a recent survey finding that fewer than one in five GPs (responding to the survey) worked in a single GP practice (Collins and Homeniuk, 2021). There has been an increase over time in the number of practices employing a practice nurse, with a recent study finding that 94 per cent of practices employ a practice nurse (Collins and Homeniuk, 2021). A small number of doctors operate in the community outside of the GMS and other publicly funded schemes, including those providing services in walk-in clinics and consultations (generally online) for people covered by particular health insurance policies.

While a range of private providers, including physiotherapists and speech and language therapists, also provide primary care services in Ireland, there is generally a lack of data on the number and activities of such providers. One study by Eighan et al. (2019) did find that 55 per cent of physiotherapists who worked in a non-acute setting practiced exclusively in the private sector, with a further five per cent practising in both the public and private sectors. These findings highlight the importance of private activity for some services.

The system of GP referral for primary care services depends on whether or not the individual requiring the referral has a medical card. If the individual has a medical card, the GP may refer the person to the relevant primary care professional in their locality. However, in most cases, if the individual is not covered by a medical card and they require an assessment/treatment by another primary care professional, the onus is often on the individual to identify a relevant professional (within the private system) themselves.

There is some evidence of potential staff shortages and unmet healthcare needs for primary care services in Ireland. Before the COVID-19 pandemic, the majority of people in Ireland were able to get a same or next day appointment with their

5 See https://www.hse.ie/eng/about/who/gmscontracts/2019agreement/chronic-disease-management-programme/.

GP when required (Government of Ireland, 2020). Now, there is some concern as to whether or not this will continue to be the case in coming years. Crosbie et al. (2020), for example, found a very high volume of activity among GPs. An earlier study by Teljeur et al. (2010), conducted before the pandemic, highlighted potential shortages in the number of GPs in future years as many current GPs reach retirement age and demand for services increase in line with population growth and ageing (Wren et al., 2017).

A survey of community-based nurses found that a number reported having to delay or even not provide at all certain necessary services, in part due to inadequate staffing levels alongside a growth in client volume and complexity of care over time (Phelan and McCarthy, 2016). There are also significant waits for many public community-based services, with a recent report noting that in December 2020 there were 38,000 clients awaiting an occupational therapy appointment, 48,000 awaiting a physiotherapy appointment and 23,000 waiting for a first-time assessment with a speech and language therapist (Walsh et al., 2021). Both the number of people on the waiting list for primary and community services and the proportion who have been waiting more than 12 weeks have been increasing over time, a trend that has been further exacerbated by the COVID-19 pandemic (Walsh et al., 2021). While the numbers represent people on a waiting list, the actual number needing such services is likely to be greater, as some people may not be referred for a service if the service is not available within their particular area or if the waits are very long (Walsh et al., 2021). Previously, Smith et al. (2019) highlighted significant inequalities in the supply of primary, community and long-term care services across counties in Ireland, inequalities which were maintained even after adjustment for need factors including age, health and medical card rates.

The 2017 Sláintecare report highlighted the need to increase the workforce in primary care in Ireland (Houses of the Oireachtas Committee on the Future of Healthcare, 2017), in order to ensure that the Sláintecare proposals could be implemented. The recent National Service Plan from the HSE notes that the HSE will build the capacity of the primary care sector by recruiting 2,000 additional frontline staff across a range of disciplines, including nursing, occupational therapy, speech and language therapy, physiotherapy and other healthcare professional fields (HSE, 2021). It remains to be seen how many staff will be recruited and if the number will be sufficient to meet the growing demand for primary care services in the coming years (Wren et al., 2017). In relation to GPs, in particular, the increased feminisation of the workforce and the finding that female GPs tend to work fewer clinical sessions than their male counterparts (Teljeur et al., 2010) means that more emphasis will be required in the future on the number of whole-time equivalent (WTE) staff and not just headcounts.

2.4.2 Primary care in Northern Ireland

Similar to Ireland, the healthcare system of Northern Ireland has undergone numerous organisational changes. Currently, there are six health and social care trusts, five of which provide integrated health and social care (HSC) services across Northern Ireland and a sixth trust which incorporates the Northern Ireland Ambulance Service. HSC trusts manage and administer hospitals, health centres, residential homes, day centres and other health and social care facilities and provide a wide range of health and social care services to the community.

Primary care, as provided by GPs, is the entry point to the health and social care system for the majority of the population, with demand for GP services increasing through time (Bengoa et al., 2016). GPs provide publicly funded care, free at the point of use, to a defined list of patients (Pierse et al., 2020) that have registered with the practice. Once an individual registers with a practice they will receive a unique health and care number (HCN), which is maintained by the individual even if they switch practice and which is used across all public health and social care services in Northern Ireland.

GP practices get most of their funding from capitation fees; other funding sources are the Quality and Outcomes Framework (QOF) and their provision of supplementary services. An age and sex adjusted capitation payment is paid for each patient registered with a practice, with additional payments made for practices located in rural or deprived areas. Practices can also charge patients for supplementary services that are not publicly reimbursed, including sick certifications and travel prescribing. The QOF is a voluntary extra payment structure intended to link payments to quality of care (Roland and Guthrie, 2016). One of the main aims when introducing the QOF was to improve management of chronic diseases, in order to reduce avoidable hospital admissions (Cylus et al., 2015). The framework's main components are clinical standards, organisational standards, experience of patients and additional services (Boyle, 2011).

Alongside those healthcare staff working in general practice, a range of other primary care professionals are employed by the HSC trusts and provide services free at the point of use for those with a HCN. These include speech and language therapists, occupational therapists and physiotherapists. Some are co-located with practices while others are based elsewhere. Similar to Ireland, there is a lack of data on private providers of healthcare in Northern Ireland. Recent years have seen an increase in the number of clinics providing private GP services (Smyth, 2018), which are largely financed out-of-pocket, a possible reflection of increasing waiting periods to access GP services.

Even before the onset of the COVID-19 pandemic, the healthcare system of Northern Ireland was experiencing a number of challenges (Bengoa et al., 2016; Anderson et al., 2021a, 2021b). A particular area of concern relates to the

workforce with persistent vacancies, poor morale and low retention, an issue that is common across the four jurisdictions of the UK (Anderson et al., 2021a, 2021b). While the number of GPs in Northern Ireland per 1,000 population increased slightly between 2008 and 2018, this rise has not kept pace with the increase in the number of consultations, despite an expectation that some work currently carried out in hospitals could take place in primary care (Anderson et al., 2021a, 2021b). In addition, given that there is no information on the number of WTE GPs in Northern Ireland, it is not clear if the increase in the headcount of GPs represents an increase in the supply of services, especially as there has been a recent favouring of part-time work among GPs due, in part, to an increased feminisation of the GP workforce. The situation is likely to be further exacerbated in the future as a significant proportion of GPs are aged 55 or older and likely to be planning their retirement (Bengoa et al., 2016). Similarly, the nursing population is ageing, with a relatively large number due to retire within the next ten years (Bengoa et al., 2016). Already there are high vacancy rates among a number of nursing groups, including among district nurses who largely work in the community (Bengoa et al., 2016). There is some evidence that staff shortages are beginning to have an impact on supply of services. For example, Pilgrim (2019), reporting on a survey of GPs in the UK, noted that the average wait for a GP appointment breached the two-week mark for the first time in 2019.

Recognising these and other issues within the healthcare system, a number of commentators have noted an urgent need to reform the healthcare system along a number of domains, including greater focus on prevention and health promotion, a reorientation of the health system away from the acute sector and towards the delivery of care in the right place for the patient, as well as a need for adequate workforce planning (Bengoa et al., 2016; Anderson et al., 2021a, 2021b).

Important steps forward have been made in primary care in recent years, including the development of multidisciplinary teams. While GPs have worked with some input from other disciplines for some time, including practice and community-based nurses, in 2016 the Department of Health proposed a reformed model of primary care based on multidisciplinary teams (MDT) based around general practice (Department of Health (Northern Ireland), 2016). These teams were to include GPs, pharmacists, district nurses, health visitors, allied health professionals and social workers, and new roles as they develop, such as advanced nurse practitioners and physician associates. Patients registered with an MDT practice would be able to book an appointment directly with a range of primary care professionals (including a physiotherapist and social worker) without first having to see their GP. The Department of Health note that the rollout of this MDT model would require the recruitment of significant numbers of additional staff to work within GP practices, as well as capital investment in the buildings currently housing

GP practices.[6] Some MDTs are currently being rolled out across different areas of Northern Ireland.[7]

2.4.3 Primary care and the COVID-19 pandemic

The first case of COVID-19 was confirmed in Northern Ireland on 26th February 2020 and in Ireland three days later (29th February 2020). Subsequently, a range of changes and measures were implemented, which had a significant impact on all aspects of the healthcare system in both jurisdictions, including primary care.

In Ireland, GPs have played an important role in assessing and referring individuals for COVID-19 tests. Individuals with suspected COVID-19 were initially recommended to contact their GP as the first point of contact for a remote consultation to determine if they met the criteria for a test, and whether they were well enough to remain at home. From February 2020 to February 2021, 2.31 million telephone triage consultations were conducted by GPs (McGlacken-Byrne et al., 2021). A fee of €30 was payable by the State to GPs for these remote consultations, irrespective of the eligibility (cardholder) status of the patient, with no additional charge for the individual. In Northern Ireland, GPs did not have a central role in referring people for testing; there, symptomatic individuals could self-refer (Unruh et al., 2021). Self-referral for testing was introduced in Ireland in September 2021. GPs have been involved in the rollout of the COVID-19 vaccination programme in both jurisdictions.

There has been a significant increase in the use of telemedicine for GP and other healthcare consultations since the onset of the pandemic. Homeniuk and Collins (2021), for example, found that prior to the pandemic, 10.5 per cent of GP consultations in Ireland were telemedicine, compared to 57 per cent during the pandemic. It remains to be seen if telemedicine consultations will continue to be a significant feature of primary care as the COVID-19 pandemic and associated restrictions dissipate.

In both Ireland and Northern Ireland, a range of primary care professionals were redeployed in the early stage of the pandemic to COVID-19 response services including testing and tracing services. This, together with the need to ensure social distancing, as well as a reluctance among some people to avail of healthcare services, meant that there was a significant reduction in non-COVID activity in primary care throughout 2020 and 2021, as well as in other healthcare sectors. In Northern Ireland, for example, a range of population screening services were paused in March 2020 with expected delays of four to six months (Director of Public Health, 2020), while dental treatment in the three-month period between April and June 2020 was 70 per cent lower relative to the previous year (Director

6 See https://www.health-ni.gov.uk/articles/primary-care-multi-disciplinary-teams-mdts.
7 See https://www.health-ni.gov.uk/articles/primary-care-multi-disciplinary-teams-mdts.

of Public Health, 2020). In Ireland, there was an almost 50 per cent reduction in the number of speech and language therapy appointments in 2020 relative to 2019, which has resulted in significant increases in waiting times for such services (McGlacken-Byrne et al., 2021). Community chronic disease services were also significantly affected in Ireland by staff redeployment. This led to a significant reduction in the availability of these services to patients and an increase in presentations with complications was observed (Crowley and Hughes, 2021). However, the launch of a new chronic disease management programme in general practice in Ireland in early 2020 continued throughout the pandemic, with 119,000 reviews of patients with chronic disease being carried out between March and December 2020 (Primary Care Reimbursement Service, 2021).

CHAPTER 3

Data and methods

3.1 OVERVIEW

Previous research has identified and used a variety of indicators and approaches to measuring the performance of primary care (Olde Hartman et al., 2021). For example, Kringos et al. (2010) developed the European Primary Care Monitor Framework for describing and comparing primary care systems. The monitor includes three key dimensions of primary care: structure, process and outcome. Structure includes indicators relating to governance, economic conditions and workforce development. Process indicators include access, comprehensiveness, continuity and coordination of primary care services. Finally, outcomes indicators relate to the quality and efficiency of primary care (Kringos et al., 2010). The Primary Care Monitor Framework includes 99 indicators in total, some of which required a qualitative or subjective assessment.

Secondary data sources (survey and administrative) were used on a selection of health system indicators to analyse the primary care systems of Ireland and Northern Ireland. Given data constraints, it was necessary to significantly limit the number of indicators included in this analysis. However, an attempt was made to include as many of the quantitative indicators identified by Kringos et al. (2010) as possible, using available data sources that provided relatively comparable metrics across the jurisdictions.

For the purposes of this analysis, indicators are grouped into three categories: inputs into the system, throughput and outcomes (Table 3.1).

3.1.1 Inputs

The inputs category includes indicators on the number of GPs per capita and healthcare expenditure. Ideally, the analysis would include data on the number of whole-time equivalent (WTE) GPs for both jurisdictions, rather than headcounts. However, there are no data available on the number of WTE GPs in Northern Ireland. In Ireland, a survey of GPs found that approximately one-quarter reported working on a part-time basis (Collins and O'Riordan, 2015); however, the meaning of part-time in this context is not clear, making it difficult to estimate the number of WTE GPs.

Given that practice nurses can carry out many skilled tasks that otherwise would require a GP, and that previous research has shown a greater utilisation of practice nurses in Northern Ireland relative to Ireland (Cupples et al., 2008), a more complete picture of staffing would include data on the number of nurses (including practice nurses and other nurses working in the community) for both jurisdictions,

as well as the number of other primary care professionals. However, comparable data across the jurisdictions are lacking. For example, while the health and social care (HSC) personnel census in Northern Ireland includes data on 'treatment room/practice/family planning nurses', no such comparable data is available for Ireland. While data on other nurses working in the public health services are available in both jurisdictions, different categories are used, meaning that it is not possible to capture in a comparable manner the number of nurses working in community settings in both jurisdictions.

3.1.2 Throughput

Throughput includes data on the uptake of a range of screening and vaccination services, including breast screening, cervical screening, the flu vaccination and the MMR vaccination.

Previous research examining GP utilisation in Ireland and Northern Ireland for specific population groups is also reviewed.

3.1.3 Outcomes

The outcomes category includes unmet healthcare needs and potentially avoidable hospitalisations (Table 3.1). While some waiting time data for primary care services (e.g. speech and language therapy) were available for Ireland, no comparable dataset was available to the research team for Northern Ireland. Consequently, it was not possible to include waiting time for primary care services in the report. As an alternative, waiting times for hospital-based services has been included, though it should be noted that these waiting times do not necessarily reflect primary care.

Where possible, data relating to the year 2019 was used. However, for some indicators it was necessary to use data from earlier periods, given a lack of data relating to 2019. While data for later years was available and used for some indicators (including waiting times), such data should be viewed in light of the COVID-19 pandemic and associated restrictions on the healthcare service.

3.2 INDICATORS

Table 3.1 shows the indicators included in the analysis as well as data sources.

TABLE 3.1 MEASURES AND SOURCES INCLUDED IN THE ANALYSIS

Measure	Metric and year	Year	Note on data	Source
Input to primary care				
Number of GPs	Number of GPs per 100,000 population.	2018	Administrative data on number of GPs adjusted to reflect population numbers. No data on WTE GPs for Northern Ireland. Small number of GPs in both jurisdictions providing purely privately financed services excluded but numbers are likely to be small.	Ireland: Primary Care Reimbursement Service (2019) Northern Ireland: Health and Social Care Board (2021)
Sources of health expenditure	Sources of health expenditure (e.g. government/compulsory schemes, voluntary healthcare payment schemes, household out-of-pocket) as a % of current health expenditure for Ireland and UK.	2019	Administrative data. Data is reported for the UK rather than Northern Ireland.	OECD (2020)
Per capita current expenditure (public and total)	Per capita current expenditure (public and total) in US$ current prices for Ireland and UK.	2010–2019	Administrative data. Data is reported for the UK rather than Northern Ireland.	OECD (2020)
Percentage of current health expenditure allocated to different functions	Percentage of current health expenditure allocated to different functions, including inpatient curative and rehabilitative care, outpatient curative and rehabilitative care, long-term care, ancillary services, medical goods, preventive care, government and health system financing and administration, other health care services unknown for Ireland and UK.	2019	Administrative data. Data is reported for the UK rather than Northern Ireland.	OECD (2020)
Per capita government expenditure on health in the four jurisdictions of the UK	Per capita government expenditure on health in four jurisdictions of the UK (£).	2018–2019	Administrative data for the four jurisdictions of the UK. Not comparable to government expenditure on healthcare in Ireland.	HM Treasury (2020)
Throughput				
GP utilisation	Review of relevant literature.	2005–2020	Review of exisitng literature. Only includes certain population groups.	McGregor et al. (2006); McGee et al. (2005); Cupples et al. (2008); Pierse et al. (2020)
Uptake of preventive services				
Breast screening	Percentage of 'invited' participants who attend for breast screening in a year.	2019	Administrative data. Different approaches to screening in Ireland and Northern Ireland, e.g. different age groups, screening frequency and method used to identify patients may undermine comparability of data.	Ireland: Health Service Executive (2020a) Northern Ireland: Personal communication with Breast Screening section of the HSC Public Health Agency, HSC Public Health Agency (2019a)

TABLE 3.1 (CONTD.) MEASURES AND SOURCES INCLUDED IN THE ANALYSIS

Measure	Metric and year	Year	Note on data	Source
Cervical screening	Proportion of the target population screened within a five-year period.	Ireland: 2017 Northern Ireland: 2018	Administrative data. Different approaches to screening in Ireland and Northern Ireland, e.g. different age groups, screening frequency and method used to identify patients may undermine comparability of data.	Ireland: Health Service Executive (2018) Northern Ireland: HSC Public Health Agency (2019b)
Flu vaccination	Proportion of the population aged 65 and over who received a flu vaccination in a 'flu season'.	2018–2019	Administrative data. The data for Ireland only relate to those with a medical/GP visit card (comprising approximately 80% of that age group).	Ireland: Health Service Executive (2020b) Northern Ireland: HSC Public Health Agency (2019c)
Measles, mumps and rubella (MMR) vaccination	Proportion of eligible infants who received a first dose of the MMR vaccination.	2018	Administrative data.	Ireland: Department of Health (Ireland) (2019) Northern Ireland: Health and Social Care Public Health Agency (2020)
Outcomes				
Unmet healthcare needs	Proportion of the population aged 15+ reporting unmet healthcare needs due to affordability issues or waiting lists.	Ireland: 2018–2019 Northern Ireland: 2013–2014	Survey data published by national statistical offices. Survey questions for Ireland and Northern Ireland slightly different	Ireland: CSO (2020) Northern Ireland: ONS (2015)
Potentially avoidable hospitalisations	In-patient discharge rate with diagnosis codes for influenza and pneumonia (vaccine preventable), urinary tract infections, and chronic obstructive pulmonary disease (COPD).	Ireland: 2019 Northern Ireland: 2018–2019	Administrative data Clinical coding classification: Northern Ireland use ICD-10 and Ireland use ICD-10-AM Within the timeframe of the project the only comparable metric available was discharge rate	Ireland: Keegan et al. (2020) and personal communication from Healthcare Pricing Office (HPO) Northern Ireland: Department of Health (Northern Ireland) (2019b)
Other measures				
Waiting for hospital-based services	Outpatient: Percentage waiting >12 weeks and >52 weeks for an outpatient appointment and rate per 1,000 population. Day and in-patient: Percentage waiting >12/13 weeks and >52 weeks for an day/in-patient treatment and rate per 1,000 population.	2017–2021	Administrative data Waiting times for diagnostics not included as the waiting times for diagnostics are not available for Ireland.	Ireland: National Treatment Purchase Fund 2017–2021 Northern Ireland: Department of Health (Northern Ireland) 2017–2021

3.2.1 Input to primary care

Number of GPs

In Ireland, there is no one definitive list of practising GPs, and different sources provide different estimates (O'Dowd et al., 2017). In this analysis, data from the Primary Care Reimbursement Service (PCRS) were used.[8] These data include GPs in the GMS scheme as well as GPs not contracted to the GMS scheme but who are registered to provide services under other schemes including the Primary Childhood Immunisation Scheme and the National Cancer Screening Service. Most GPs also provide services to patients without a medical or GP visit card who pay for these services at the point of use. Data from the PCRS is likely to give a slight underestimate of the number of practicing GPs in Ireland, given that some GPs do not hold a state contract and only provide services to patients paying out-of-pocket; however, the number of such GPs is likely to be small. For Northern Ireland, data on the number of GPs were obtained from the Health and Social Care Board (Health and Social Care Board, 2021). For this analysis, locum and retainer doctors were excluded. The Health and Social Care Board data exclude a small number of GPs who operate privately.

Comparing GP numbers between Ireland and Northern Ireland is problematic as not all GPs work full time, so accurate estimates would require data on the number of WTEs. Previous research for Ireland suggests that approximately 25 per cent of GPs in Ireland work part-time (Collins, 2020); however, there is no corresponding estimate for Northern Ireland and no indication of what is meant by 'part-time' for Ireland. Consequently, in this analysis, it was not possible to include data on WTE GPs.

Expenditure

Comparing healthcare expenditure across countries is problematic as countries differ in terms of how healthcare expenditure is defined and estimated (Wren and Fitzpatrick, 2020). The OECD has attempted to address this issue through the development of the System of Health Accounts (SHA), which provides a framework for standard reports for expenditure on health and its financing (OECD, 2000). The SHA data provide expenditure estimates for the UK rather than the constituent countries including Northern Ireland, and per capita data at the UK level is not likely to reflect expenditure in Northern Ireland. HM Treasury in the UK provides estimates on publicly funded healthcare for the four countries of the UK. While these data will not necessarily be comparable with the OECD data (for Ireland and the UK) as different measures/definitions of health expenditure are used, it does

8 The PCRS is part of the HSE. It processes payments to all of the GPs, dentists, pharmacist and other professionals who provide free or reduced cost services to the public.

provide an indication of how publicly funded healthcare in Northern Ireland differs to that from the rest of the UK.

Recognising these data limitations, a number of different expenditure metrics were included in this analysis to try and identify how expenditure might differ between Ireland and the UK/Northern Ireland (Table 3.1). These include the following:

- Sources of health expenditure: Government/compulsory schemes (including taxation), voluntary healthcare payment schemes (including private health insurance) and household out-of-pocket expenditure;
- Per capita current expenditure: Both public and total (public and private) expenditure;
- Percentage of current health expenditure allocated to different functions: inpatient curative and rehabilitative care; outpatient curative and rehabilitative care; long-term care; ancillary services; medical goods; preventive care; governance and health system; financing and administration; other health care services; and unknown. Most primary care expenditure would fall under the 'outpatient curative and rehabilitative care' function; and
- Per capita government expenditure on health in the four jurisdictions of the UK.

3.2.2 Throughput

GP utilisation

A number of studies have previously examined GP utilisation in Ireland and Northern Ireland using different datasets and including different population groups. In this report, this literature is reviewed. In general, the literature relates to specific population groups (many of whom in Ireland have a medical or GP visit card) and cannot therefore be generalised to the whole population.

Breast screening

In Ireland, BreastCheck, the National Breast Screening Programme, provided free mammograms to women aged 50 to 64 every two years from 2000 to 2015, after which the age range was extended on a phased basis. By the end of 2021, it is expected that all eligible women aged 50–69 will be invited for breast screening (Health Service Executive, 2020a). BreastCheck has created a register of women eligible for screening from information supplied by the Department of Social Protection, General Medical Services (GMS) and private health insurance (PHI) providers. However, there is a possibility that some women may not be on any of these lists and therefore not included in the BreastCheck register. Eligible individuals can check the register to see if they are on the list and, if not included, can self-register. In Northern Ireland, based on the unique health and care number (HCN), the Breast Screening Programme invites women for screening every three years from 50 to 70 years. In both jurisdictions, screening takes place either in the hospital setting or in designated screening centres.

In this analysis, the uptake of breast screening relates to the percentage of invited women who attend for breast screening in a particular year. Some caution is required when interpreting the uptake rates, given the different methods used to identify eligible participants and the different age ranges used across the jurisdictions.

Cervical screening

In Ireland, cervical screening is offered to those aged 25 to 29 every three years, while those aged 30 to 65 are offered screening every five years. All women with a personal public service number aged 25 to 65 should be on the cervical screening register and invited to participate. Eligible individuals can check the register to see if they are on the list and, if not included, can self-register. In Northern Ireland, cervical screening is offered to all women aged between 25 and 64. Using the HCN, those between the ages of 25 and 49 are invited to screening every three years, while those aged between 50 and 64 are invited every five years. Invites are issued by the GP. The majority of cervical screening is undertaken in the general practice setting in both jurisdictions.

In this analysis, the uptake of cervical screening relates to the proportion of the target population screened in a five-year period. Similar to the breast screening data, some caution is required when interpreting the uptake rates given the different methods used to identify eligible participants and the different age ranges used across the jurisdictions.

Seasonal influenza vaccination

In 2019,[9] the seasonal influenza vaccination was recommended in Ireland for a range of groups, including those aged 65 and older. However, while the vaccine and consultation were free for those (within recommended groups) who held a medical or GP visit card, those within recommended groups who did not have a medical/GP visit card may be required to pay a consultation fee for the administration of the vaccine, although the vaccine itself is free (McHugh et al., 2015). In Northern Ireland, the flu vaccination is recommended for a range of groups including all individuals aged 50 years and older, children and other groups including those with an underlying health condition. Such individuals should be offered the vaccine by their GP, and it is provided without charge.

In this analysis, uptake of the flu vaccination relates to the proportion of the population aged 65 and older who received the flu vaccination in 2018–2019. For Ireland, only those with a medical/GP visit card are included.

9 Following on from the COVID-19 pandemic, in 2020 and 2021, the groups for whom a flu vaccination is recommended has been extended.

Measles, mumps and rubella (MMR) vaccination

In Ireland, all recommended childhood immunisations are provided free of charge. Up to the age of 13 months, a schedule of vaccinations (the Primary Childhood Immunisation Schedule) is provided in general practice. Subsequently, a range of vaccinations are provided to school-going children within the school setting. The MMR vaccination is provided at 12 months, with a second dose given when the child is in junior infants in school. Similarly, in Northern Ireland all recommended childhood immunisations are provided free of charge, usually within general practice. The first dose of the MMR vaccination is provided at 12 to 13 months, with the second dose usually given before the child starts school.

In this analysis, uptake of the MMR vaccination relates to the proportion of eligible infants who have received their first MMR vaccination dose.

3.2.3 Outcomes

Unmet need

While there is no one definition of unmet need for healthcare (Smith and Connolly, 2020), it generally refers to a situation where an individual needed healthcare but did not receive it. A number of factors can contribute to unmet healthcare needs, including financial barriers, insufficient supply, long waiting times and lack of information on the availability of services (Connolly and Wren, 2017).

Data from the European Health Interview Survey (EHIS) on self-reported unmet healthcare need for Ireland and Northern Ireland was used in this analysis. The EHIS is part of the European Health Survey System and aims to measure, on a harmonised basis, the health status, health determinants and use of healthcare services across European countries. The survey includes people aged 15 and over living in private households (Kuulasmaa and Tolonen, 2013) and is conducted every five years. To date, three waves of the survey have been undertaken. Wave 1 was conducted in 17 Member States (including the UK but not Ireland) between 2006 and 2009. Wave 2 was conducted in all EU Member States between 2013 and 2015. Wave 3 was conducted in 2019.

Aggregated data from Wave 3 of the survey for Ireland were available from the Central Statistics Office (CSO, 2020) and are included in this analysis. Aggregated age-standardised data from Wave 2 of the survey for Northern Ireland were available from the Office for National Statistics (ONS, 2015) and are also included in the analysis. Data for Wave 3 for Northern Ireland were not available to the research team at the time of completing this analysis.

Table 3.2 shows the questions that were asked in relation to unmet healthcare needs in the version of the questionnaire for Ireland and Northern Ireland. A

degree of caution is required when comparing the findings given the slightly different question wording.

TABLE 3.2 QUESTIONS ON UNMET NEED FROM THE EUROPEAN HEALTH INTERVIEW SURVEY, IRELAND (WAVE 3) AND NORTHERN IRELAND (WAVE 2)

Reason for unmet need	Ireland	Northern Ireland
Waiting lists	Did you have any unmet healthcare needs in the past 12 months because of waiting lists?	Have you experienced delay in getting health care in the past 12 months because the time needed to obtain an appointment was too long?
Distance or transportation issues	Did you have any unmet healthcare needs in the past 12 months because of distance or transportation problems?	Have you experienced delay in getting health care in the past 12 months due to long distance or transport problems?
Affordability: Medical exam or treatment	In the past 12 months could you afford the following service? Medical examination or treatment	Was there any time in the past 12 months when you needed, but could not afford, medical care?
Affordability: Dental examination or treatment	In the past 12 months could you afford the following service? Dental examination or treatment	Was there any time in the past 12 months when you needed, but could not afford, dental care?
Affordability: Prescribed medicines	In the past 12 months could you afford the following service? Prescribed medicine	Was there any time in the past 12 months when you needed, but could not afford, prescribed medicines?

Sources: CSO, https://www.cso.ie/en/media/csoie/qnhs/documents/qnhsspecialmodules/IHS_questionnaire.pdf (Ireland); ONS (2015) (Northern Ireland).

Avoidable hospitalisations

Avoidable hospitalisations are hospital stays for conditions identified as ambulatory care sensitive (Australian Commission on Safety and Quality in Healthcare, 2017), which, through appropriate and timely intervention in primary or community care, might have been avoided. In this analysis, the focus is on three such conditions which have been identified as substantial contributors to avoidable hospitalisations in both Ireland and Northern Ireland (Keegan et al., 2020; McDarby and Smyth, 2019; Northern Ireland Audit Office, 2016). These are: vaccine-preventable influenza and pneumonia; urinary tract infections (UTI); and COPD. Recent Irish analysis has shown that, combined, these three conditions accounted for 55,000 emergency in-patient discharges and almost 650,000 emergency in-patient bed days in Ireland in 2018 (Keegan et al., 2020).

Here, the analysis examines the discharge rate per 1,000 population with a principal diagnosis of each of the above listed conditions. The data used were provided by the Healthcare Pricing Office (HPO) in Ireland for discharges from, and deaths in, public hospitals in 2019, and publicly available data on discharges from and deaths[10] in health and social care trusts in Northern Ireland 2018–2019.

There are limitations to the analysis, mainly arising from the data available for Northern Ireland within the timeframe of the project. First, ideally the analysis should focus solely on emergency in-patient bed days, but the publicly-reported

10 These are referred to as 'admissions' in the Northern Ireland data (Department of Health (Northern Ireland), 2019a).

data for Northern Ireland relate to total elective and emergency in-patients (Department of Health (Northern Ireland), 2019b).[11,12] The published bed-day metric is not compatible with that recorded in Ireland.[13] Bed days are the preferable metric as they are, in the absence of complexity adjustment, a more accurate measure of resource use than discharges. To ensure comparability, all in-patient activity, not just emergency, was included for both jurisdictions, with a focus on discharges rather than bed days. Second, published data on diagnoses are disaggregated to the three-digit level of the International Statistical Classification of Diseases and Related Health Problems (ICD), while some of the codes recommended for an analysis of avoidable hospitalisations are at the four-digit (more detailed) level.[14] This has meant that adjustments to the coding for two of the three conditions were made (Table A1 in the appendix). Third, for influenza and pneumonia, where the literature suggests inclusion of *any* rather than *principal* diagnosis, the analysis has focused only on principal diagnosis to reduce comparability issues.

The lack of data from private hospitals in both jurisdictions is not deemed to be a significant issue, as most activity in those hospitals is elective and is unlikely to include any of the activities under consideration in this analysis.

3.2.4 Waiting lists for public acute hospital services

A lack of available data on waiting times for primary care services, particularly in Northern Ireland, meant that it was not possible to include waiting times for such services in this analysis. As an alternative, waiting times for public hospital services were examined.

Data on the numbers of public referrals[15] waiting for appointments and treatment in the public hospital system are regularly published in both Ireland (monthly) and Northern Ireland (quarterly).[16] Using these publicly available sources, the analysis examines trends in waiting times for those on a waiting list and the referrals on the

11 Activity recorded under 'maternity and child health', 'elderly care', 'mental health', 'learning disability' and 'independent sector activity' is excluded.

12 A category of patients known as 'regular attenders' is also included in the Northern Ireland data. This usually relates to dialysis and chemotherapy patients, so should not impact on these analyses.

13 The bed-day metric published for Northern Ireland refers to 'finished consultant episodes', which does not allow for comparison with the bed-day metric recorded in Ireland.

14 Note that while both jurisdictions use ICD-10 clinical classification, the version used in Ireland is the Australian modified version, or ICD-10-AM. This does not appear to be an issue for the codes under consideration in this analysis.

15 As an individual may be on more than one list (e.g. outpatient and day patient) or may be on the same list multiple times (e.g. outpatient orthopaedics and outpatient gastroenterology), we refer to *referrals* rather than *patients*.

16 It should be noted that, in Ireland, private patients (those accessing their consultant using PHI or private out-of-pocket payments) waiting for appointments or treatment in public or private hospitals are not captured in the publicly available waiting list data.

waiting lists per 1,000 population for outpatient appointments, day and in-patient treatment between 2017 and July 2021.

The outpatient waiting times in both jurisdictions begin on receipt of referral, usually from a GP, and relate to a first consultant-led outpatient appointment only. Day and in-patient waiting times in both jurisdictions begin with a clinician decision to admit and the waiting list figures considered here do not include those waiting for diagnostics or those undergoing a planned programme of treatment (Department of Health (Northern Ireland), 2020a, 2020b; National Treatment Purchase Fund, 2017).[17] While broadly speaking the data in the two jurisdictions appear to be comparable, there are some difficulties in comparing across Ireland and Northern Ireland given how the data are publicly reported. In Ireland, for example, the waiting categories reported in the published data changed from April 2021 which means the last date for comparison available for selected metrics is March 2021.[18] Additionally, the data for Northern Ireland relate to those waiting more than 13 weeks, while in Ireland they relate to those waiting more than 12 weeks.

In this analysis, trends for December 2017–2020 and July 2021 are reported.[19] The metrics compared in the analysis are: total referrals on the waiting list per 1,000 population; and percentage waiting on list for over 12/13 weeks and over 52 weeks.

17 See also https://www.ntpf.ie/home/outpatient.htm.

18 Pre April 2021: 0-3, 3-6, 6-9, 9-12, 12-15, 15-18, 18+ months; April 2021 onwards: 0-6, 6-12, 12-18, 18+ months.

19 At the time of analysis, the most recent data for Northern Ireland was for June 2021, In the case of Ireland, a cyber attack on the HSE in May 2021 has meant that the most recent available data for most metrics was July 2021. The exception is for percentage waiting over 12 weeks, which was last published in March 2021.

CHAPTER 4

Findings – Healthcare indicators for Ireland and Northern Ireland

4.1 INTRODUCTION

This chapter presents the findings of this study regarding the healthcare indicators discussed in Chapter 3.

4.2 INPUTS TO PRIMARY CARE

4.2.1 Number of general practitioners (GPs)

Table 4.1 shows the number of GPs and the number of GPs per 100,000 population in Ireland and Northern Ireland in 2018. While there are some potential comparability issues across the jurisdictions, the available data suggest that the number of GPs per 100,000 population is broadly comparable. However, as discussed in Chapter 3, a degree of caution is required in interpreting these results as these headcount numbers do not capture whole-time equivalent (WTE) GPs and it is possible that the number of WTE GPs differs across the jurisdictions.

TABLE 4.1 NUMBER OF GPS, IRELAND AND NORTHERN IRELAND, 2018

	Ireland	Northern Ireland
Number of GPs	3,351	1,294
GPs per 100,000 population	67	68

Notes: The number of GPs for Ireland were obtained from the PCRS. It includes 2,921 GPs in the GMS scheme and 430 GPs not contracted to the GMS scheme but who are registered to provide services under other schemes including the Primary Childhood Immunisation Scheme and the National Cancer Screening Service. The number of GPs for Northern Ireland was obtained from the Health and Social Care Board website. The number reported in this table excludes 405 locum doctors and 19 retainer doctors in Northern Ireland as such doctors are unlikely to be included in the PCRS estimate of GP numbers for Ireland.

Sources: Authors' calculations – based on data from Primary Care Reimbursement Service (2019) and Health and Social Care Board (2021).

4.2.2 Expenditure

As outlined in Chapter 3, there are no comparable data on healthcare expenditure for Ireland and Northern Ireland. In its absence, a range of indicators relating to expenditure are included in an attempt to identify how it might differ between the jurisdictions.

Table 4.2 shows the proportion of current health expenditure financed from different sources in 2019 for Ireland and the UK. Sources include government/compulsory schemes (including general taxation), voluntary healthcare payment schemes (the majority of which are private health insurance schemes) and out-of-pocket payments. Relative to Ireland, a slightly larger proportion of healthcare expenditure in the UK is financed from government

sources (78.5 per cent for the UK relative to 74.6 per cent for Ireland). Conversely, a greater proportion of expenditure is financed from voluntary healthcare schemes (e.g. private health insurance) in Ireland relative to the UK, perhaps unsurprisingly given the higher proportion of people covered by private health insurance (PHI) in Ireland. The proportion of expenditure financed through out-of-pocket payments is greater in the UK (15.9 per cent) relative to Ireland (11.7 per cent). However, given that there are prescription charges in England (and no prescription charges in Northern Ireland) and the dominance of England in any analysis comparing the four jurisdictions of the UK, it is unclear how representative these distributions are for Northern Ireland, in particular in relation to out-of-pocket expenditure.

TABLE 4.2 SOURCES OF HEALTH EXPENDITURE (AS A PERCENTAGE OF CURRENT EXPENDITURE ON HEALTH), IRELAND AND THE UK, 2019

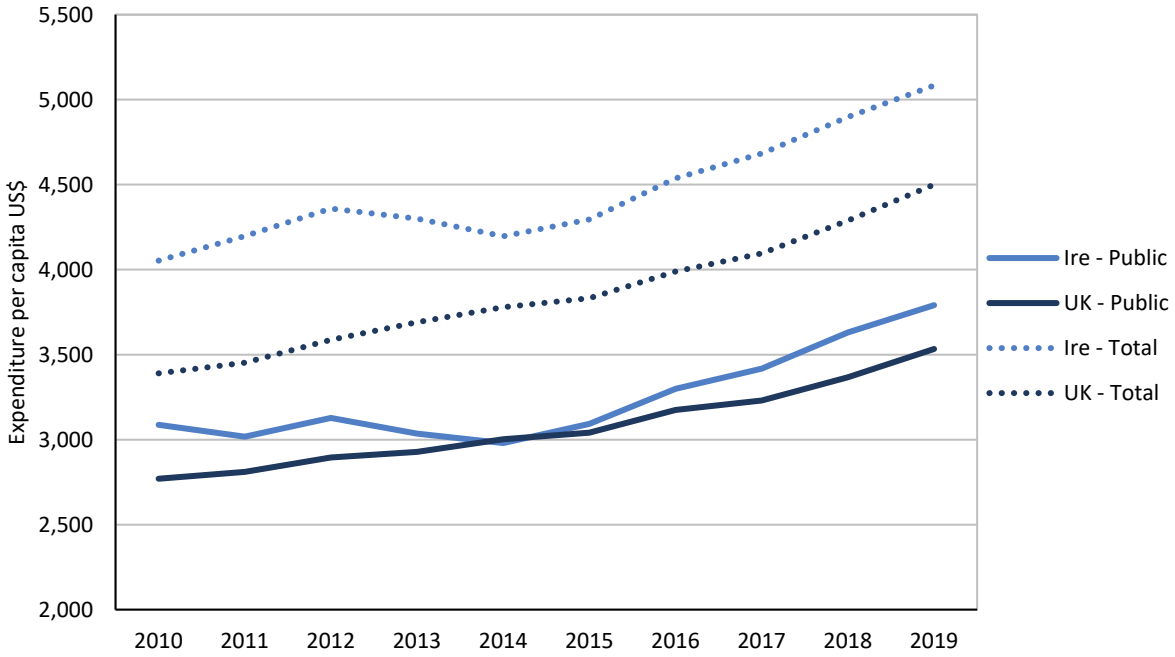
	Ireland (%)	UK (%)
Government/compulsory schemes	74.6	78.5
Voluntary healthcare payment schemes	13.7	5.6
Household out-of-pocket payments	11.7	15.9

Source: OECD (2020).

Figure 4.1 shows per capita public and total public and private (including both PHI and out-of-pocket expenditure) current health expenditure in Ireland and the UK from 2010 to 2019. In both countries, nominal public and total expenditures have increased over time. For example, in Ireland public expenditure increased by 23 per cent and total expenditure by 25 per cent between 2010 and 2019. The corresponding increases for the UK have been greater, at 28 per cent and 33 per cent respectively.

Both public and total expenditure per capita is higher in Ireland relative to the UK (as a whole). In 2019, per capita expenditure from government sources was approximately seven per cent greater in Ireland relative to the UK. However, when all sources of financing are included, per capita expenditure is approximately 13 per cent greater in Ireland.

FIGURE 4.1 PER CAPITA CURRENT EXPENDITURE – PUBLIC AND TOTAL (US$ CURRENT PRICES PPS)



Source: OECD (2020), not age adjusted.

While the focus of this analysis is on primary care, there is a lack of comparable data on primary care expenditure for Ireland and Northern Ireland/UK. Table 4.3 shows the percentage of current health expenditure allocated to different functions for Ireland and the UK from the System of Health Accounts (SHA) estimates.

Under the SHA framework, 'outpatient' has a wider meaning than in many national reporting systems. It refers to any care offered to a non-admitted patient regardless of where it occurs (OECD, Eurostat, WHO, 2017) and, importantly for this analysis, includes much of primary care. In 2019, a greater proportion of expenditure was allocated to outpatient curative and rehabilitative care in the UK than in Ireland. In addition, a greater proportion of expenditure went to preventive services in the UK relative to Ireland.

TABLE 4.3 PERCENTAGE OF CURRENT HEALTH EXPENDITURE ALLOCATED TO DIFFERENT FUNCTIONS, IRELAND AND UK, 2019

	Ireland (%)	UK (%)
Inpatient curative and rehabilitative care	33.1	27.2
Outpatient curative and rehabilitative care	23.3	27.9
Long-term care (health)	21.6	17.8
Ancillary services	2.8	1.9
Medical goods	13.2	14.1
Preventive care	2.7	4.8
Governance and health system financing and administration	2.3	1.9
Other health care services unknown	1.0	4.5

Source: OECD (2020).

The preceding analyses relate to the UK as a whole rather than Northern Ireland. As outlined in Chapter 2, data for the UK are dominated by England given its very large size relative to the other three jurisdictions. Table 4.4 shows per capita public expenditure in the four jurisdictions of the UK for 2018–2019. It shows that expenditure was higher in Northern Ireland in those years compared to the other jurisdictions and was approximately six per cent greater than the UK average.

Given the limitations of the available data, it is difficult to draw conclusions about how healthcare expenditure in Ireland compares to that in Northern Ireland. However, it would appear that publicly financed healthcare expenditure is at relatively similar levels across Ireland and Northern Ireland, but that expenditure from private sources is likely to be greater in Ireland. Therefore, overall healthcare expenditure in Ireland is likely to be greater than that in Northern Ireland.

TABLE 4.4 GOVERNMENT HEALTH EXPENDITURE IN FOUR JURISDICTIONS OF THE UK, PER CAPITA, 2018–2019

	Per capita (£)
England	2,269
Scotland	2,396
Wales	2,402
Northern Ireland	2,436

Source: HM Treasury (2020).

4.3 THROUGHPUT

4.3.1 GP utilisation

A number of previous studies have compared utilisation of primary care services (in particular GP services) for Ireland and Northern Ireland. Findings are mixed. McGregor et al. (2006), for example, used survey data (the Living in Ireland survey for Ireland and the Northern Ireland Household Panel Survey for Northern Ireland) to compare GP utilisation in Ireland and Northern Ireland for adults around the year 2001. They found that while GP visiting rates per annum were slightly higher in Northern Ireland relative to Ireland (3.8 versus 3.2), the figure for Ireland masked a considerable difference between medical cardholders and non-medical

cardholders (5.3 versus 2.2). The authors subsequently examined differences in GP visiting across income quintiles and found that for the higher income quintiles, where the distinction between Northern Ireland (GP care is free at the point of use) and Ireland (out-of-pocket payments for GP care) is clearer, that the level of GP visiting is significantly lower in Ireland, suggesting that out-of-pocket payments may be acting as a deterrent to GP utilisation.

McGee et al. (2005) undertook a cross-sectional survey of 2,000 community-dwelling people aged 65 and older in Ireland and Northern Ireland in 2004. Controlling for age and sex, they found that participants in Ireland were more likely than those in Northern Ireland to have visited their GP in the previous year. The average number of GP visits for the 65 and older group was 5.3 in Ireland and 4.4 in Northern Ireland. Given that, at the time of the survey, everyone aged 70 and over was entitled to a medical card in Ireland (which provides for free GP care), the authors further examined GP utilisation among those aged under and over 70 in both jurisdictions. They found that for Northern Ireland there was no significant relationship between age (being under and over age 70 years) and the number of visits to GPs. However, for those in Ireland, a significant age difference was found, with those aged under 70 significantly less likely to have visited their GP in the previous year relative to those aged 70 and over.

The aforementioned studies do not fully adjust for health status and consequently utilisation rates may not fully reflect healthcare needs. A small number of studies have examined general practice utilisation among people with particular conditions to identify whether different health systems influence utilisation. Cupples et al. (2008), for example, examined secondary prevention of cardiovascular disease among 903 individuals across Ireland and Northern Ireland with known coronary heart disease (CHD). They found that those in Ireland had relatively more GP visits in the previous 12 months, relative to those in Northern Ireland (5.6 versus 4.4). However, the opposite was found for visits to the practice nurse (1.6 versus 2.1). Those in Ireland also had higher mean numbers of outpatient visits, hospital admissions and inpatient days.

A more recent study by Pierse et al. (2020) used data from The Irish Longitudinal Study on Aging (TILDA) and the Northern Irish Cohort for the Longitudinal Study of Aging (NICOLA) surveys to compare people aged 50 and over with diabetes in the two jurisdictions. Having matched individuals based on demographic, lifestyle and illness characteristics, the authors found a slightly higher average number of GP visits per annum in Ireland (5.6) relative to Northern Ireland (5.0), although the difference was not statistically significant. Use of secondary care services (emergency department, outpatient appointments and inpatient admissions) were slightly higher among those in Northern Ireland; however, the result was only significant for inpatient stays.

The available literature comparing GP utilisation in Ireland and Northern Ireland provides a somewhat mixed picture, though it appears that GP utilisation is higher in Ireland relative to Northern Ireland when similar groups of people are examined. However, it is less clear how user charges within the Irish healthcare system influence utilisation for those who must pay at the point of use relative to similar groups in Northern Ireland who are not required to pay. In addition, to date there has been relatively little research examining utilisation of other primary care services across Ireland and Northern Ireland. Cupples et al. (2008) found higher use of the practice nurse for those with CHD in Northern Ireland compared to Ireland. It could be that, in some cases, the practice nurse (or other health care professionals within the primary care sector) act as a substitute for the GP and ideally such utilisation should also be considered when comparing the utilisation of GP services across the jurisdictions.

4.3.2 Uptake of preventive services

In this section, the uptake/coverage rates for a range of screening and vaccination services are examined.

Breast screening

Table 4.5 shows the uptake rate for breast screening in Ireland and Northern Ireland in 2019. There are some differences in the way that uptake rates are calculated across Ireland and Northern Ireland, making analysis challenging. However, the available data suggest that, in both jurisdictions, uptake was greater than the standard of 70 per cent set by the NHS breast screening programme in the UK, though uptake was greater in Northern Ireland at 77 per cent in 2019 relative to 72 per cent in Ireland.

Cervical screening

Table 4.5 also shows the five-year coverage rate (the proportion of the target population screened within the previous five years) up to 2017 in Ireland and 2018 in Northern Ireland. Similar to breast screening, rates are relatively comparable across the jurisdictions with coverage rates reaching 80 per cent in Ireland and 76 per cent in Northern Ireland.

A degree of caution is required when comparing uptake/coverage rates across jurisdictions such as those shown in Table 4.5. Uptake and coverage rates are estimated based on ‘lists’ of eligible people. Given the different methods used to compile these lists in Ireland and Northern Ireland, it is possible that some eligible individuals are not on the relevant list. This is potentially a greater issue in Ireland given the absence of a unique healthcare number system and register of all individuals registered with the healthcare system in the country.

TABLE 4.5 UPTAKE OF BREAST AND CERVICAL SCREENING, IRELAND AND NORTHERN IRELAND

	Ireland (%)	Northern Ireland (%)
Breast screening (2019)	72	77
Cervical screening (five-year coverage up to March 2017 for Ireland and March 2018 for Northern Ireland)	80	76

Sources: Breast screening: HSE, 2020a; HSC Public Health Agency, 2019a; personal communication with the breast screening section of the HSC Public Health Agency. Cervical screening: HSE, 2018; HSC Public Health Agency, 2019b.

Seasonal influenza vaccination

Table 4.6 shows the uptake of the seasonal influenza vaccination in those aged 65 and over in 2018–2019. The figures for Ireland only include those with a medical or GP visit card. It shows a slightly higher uptake in Northern Ireland relative to Ireland. Were the data for all those aged 65 and older in Ireland included, it is likely that the uptake rate for Ireland would be lower, with previous research finding that, among those aged 65 and over, uptake of the flu vaccination ranged from 79 per cent for those with a medical card, to 59 per cent for those with PHI but no medical card, to 46 per cent for those with neither a medical card nor PHI (McHugh et al., 2015).

Measles, mumps and rubella (MMR) vaccination

Table 4.6 shows the uptake of the MMR (dose 1 only) for Ireland and Northern Ireland in 2018. Data for Northern Ireland is reported quarterly (rather than annually) so a range is provided. It shows high uptake of the MMR vaccination in both jurisdictions, with uptake at 92 per cent and above in 2018.

TABLE 4.6 UPTAKE OF VARIOUS VACCINATIONS, IRELAND AND NORTHERN IRELAND

	Ireland (%)	Northern Ireland (%)
Seasonal influenza vaccination age 65+ (2018–2019)	66	70
MMR dose 1 (2018)	92	92–95

Sources: Flu vaccination: HSE, 2020b; HSC Public Health Agency, 2019c. MMR: Department of Health (Ireland), 2019; Health and Social Care Public Health Agency, 2020.

4.4 OUTCOMES

4.4.1 Unmet need

Table 4.7 shows the proportion of the population reporting unmet healthcare needs in Ireland and Northern Ireland. The data should be interpreted with a degree of caution given differences in the time periods and question wording for the two jurisdictions (see Section 3.2.3 for further detail). In addition, it is possible that within each of them, interpretations of 'unmet need' differ and, by extension, responses to this question.

In both Ireland and Northern Ireland, long waiting lists emerged as the most common cause of unmet healthcare needs. A higher proportion of both males and females reported having unmet health needs due to waiting in Northern Ireland relative to Ireland. Unmet needs due to distance or transportation issues were similar across the two jurisdictions. However, perhaps unsurprisingly, a higher proportion of survey respondents in Ireland reported unmet healthcare needs due to affordability issues relative to Northern Ireland: four per cent of males and six per cent of females reported not being able to afford a medical examination or treatment in Ireland, relative to one per cent of males and females in Northern Ireland. Similarly, six per cent of men and eight per cent of women in Ireland reported not being able to afford dental care, relative to two per cent of men and women in Northern Ireland.

TABLE 4.7 UNMET HEALTHCARE NEEDS IN IRELAND (2019) AND NORTHERN IRELAND (2014)

	Ireland		Northern Ireland	
	Male	Female	Male	Female
	%	%	%	%
Unmet healthcare needs due to waiting lists	11	16	17	19
Unmet healthcare needs due to distance or transportation	2	2	1	3
Could not afford medical examination or treatment	4	6	1	1
Could not afford dental care	6	8	2	2
Could not afford prescribed medicines	3	4	0	0

Notes: Caution should be exercised when viewing the data given the different years to which the data relate.
Sources: Ireland: CSO (2020); Northern Ireland: ONS (2015).

4.4.2 Avoidable hospitalisations

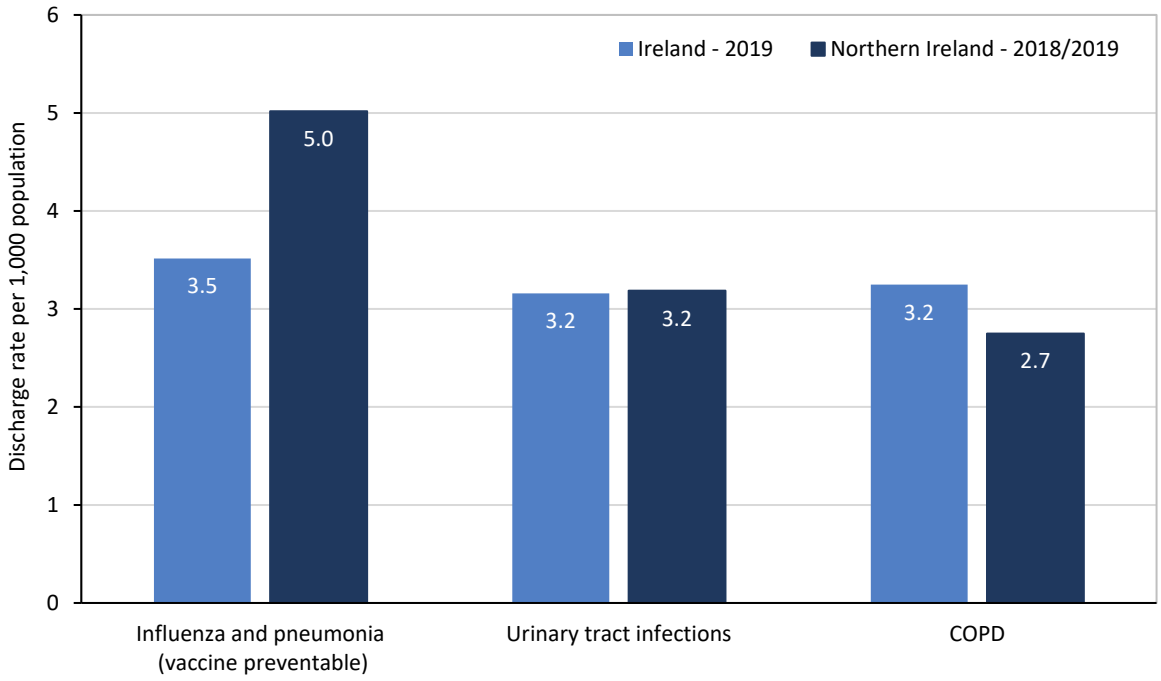
Figure 4.2 shows the in-patient discharge rate per 1,000 population in Ireland and Northern Ireland for three conditions considered potentially avoidable. As detailed in Section 3.2.3, there were some data challenges which should be considered when interpreting the results. The analysis shows that the discharge rate for vaccine-preventable influenza and pneumonia is 30 per cent higher in Northern Ireland while the rate for COPD is 18 per cent higher in Ireland. The discharge rate for UTI is similar across the jurisdictions.

The finding of a higher hospitalisation rate related to influenza and pneumonia in Northern Ireland relative to Ireland is somewhat surprising given the higher uptake of the seasonal influenza vaccination (identified in Section 4.3) and the pneumococcal polysaccharide vaccination among older people in Northern Ireland.[20] It is not possible to identify the reason for the higher hospitalisation rate related to influenza and pneumonia in Northern Ireland in this analysis. It may be that those most vulnerable to influenza are equally well protected in both jurisdictions, or that uptake in other groups (e.g. young children) is more

20 It has been shown that estimated coverage rates for pneumococcal vaccine are again lower in Ireland at less than 40 per cent (McDarby and Smyth, 2019) compared to Northern Ireland at over 70 per cent of over 65s (HSC Public Health Agency, 2019d) but there is a lack of comprehensive data on uptake in Ireland.

comparable. Alternatively, differences in coding and dating collections across the jurisdictions means that caution must be exercised in interpreting these figures without further investigation.

FIGURE 4.2 AVOIDABLE HOSPITALISATION IN-PATIENT DISCHARGE RATE PER 1,000 POPULATION



Note: Data limitations outlined in Section 3.2.3 should be considered when interpreting the data.
Sources: Ireland: Author calculations, drawing from personal communication, Healthcare Pricing Office. Northern Ireland: Department of Health (Northern Ireland) (2019b).

4.5 WAITING LISTS FOR PUBLIC ACUTE HOSPITAL SERVICES

This section compares trends in waiting times for hospital-based activity in Ireland (public patients in public hospitals only) and Northern Ireland (public hospitals) from December 2017 to July 2021.[21] In terms of referrals to the public hospital waiting lists per 1,000 population, Northern Ireland had a consistently higher rate over time than Ireland for both outpatient appointments and day and in-patient treatments. This may be related to the higher use of privately financed hospital services in Ireland relative to Northern Ireland, for which no data are available. Figure 4.3 shows that the two jurisdictions have followed similar trajectories in terms of waiting times for outpatients but that for day and in-patients the impact of COVID-19 appears to have had a more profound impact in Northern Ireland.

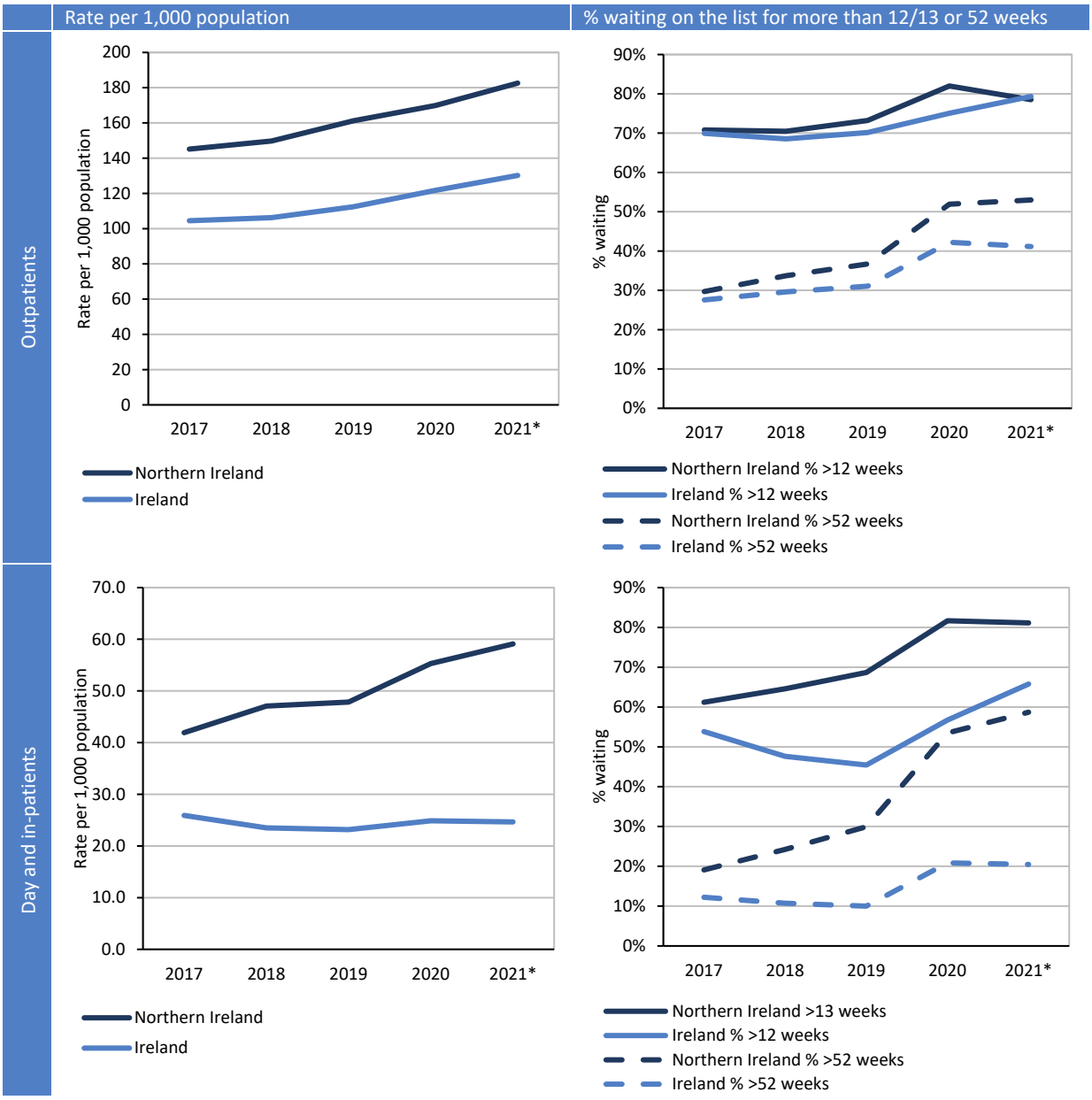
At the beginning of the time series (December 2017), approximately 30 per cent of those waiting an outpatient appointment had been waiting for more than 52 weeks, across both jurisdictions. By 2021, this had risen to 53 per cent in Northern

21 See Section 3.2.4 for a full description of the data.

Ireland, and over 41 per cent in Ireland. In the same year, both jurisdictions saw almost 80 per cent of people remaining on such a list for more than 12/13 weeks.

For day and in-patients, pre-2020, between 54 and 61 per cent of those on the list had been waiting for more than 12/13 weeks, but by 2021 this had increased to 66 per cent in Ireland and 81 per cent in Northern Ireland. Similarly, the proportion on the list for more than one year has increased dramatically, from 12 to 20 per cent in Ireland and from 20 to 60 per cent in Northern Ireland between 2017 and 2021.

FIGURE 4.3 WAITING LISTS FOR PUBLIC ACUTE HOSPITAL SERVICES, 2017–2021



Notes: * The latest data available at the time of analysis for Northern Ireland was June 2021.
For Ireland, due to a cyber attack on the HSE in May 2021, no data for June 2021 were available. For the rate per 1,000 population, July 2021 is used. For the percentage of population waiting >12 weeks, March 2021 is used as this was the last published month for that metric. The data for Ireland does not include private patients waiting for treatment in public hospitals.

Sources: Author calculations based on data from the National Treatment Purchase Fund (https://www.ntpf.ie/home/home.htm) and Department of Health Northern Ireland (https://www.health-ni.gov.uk/topics/doh-statistics-and-research/hospital-waiting-times-statistics).

CHAPTER 5

Discussion

5.1 SUMMARY OF FINDINGS

This report sought to address four research questions:

- How do the primary care systems of Ireland and Northern Ireland differ in terms of eligibility, workforce and reform proposals?
- How does the demographic and socio-economic composition of the populations of Ireland and Northern Ireland differ?
- What comparable data are available on the primary care systems of Ireland and Northern Ireland?
- To what extent do the available data allow comparative analysis of the healthcare systems of Ireland and Northern Ireland to be undertaken?

Significant differences were observed in terms of eligibility for primary care services across Ireland and Northern Ireland, with a much greater use of user charges in Ireland. However, the recent Sláintecare reform proposals for Ireland have proposed the reduction or removal of many user charges in the Irish healthcare system, which if implemented would result in a greater alignment between the two healthcare systems, at least in terms of eligibility. Despite the current differences in eligibility for services, both systems are facing common challenges including increasing demand for healthcare services, workforce shortages and long waits for a range of healthcare services.

In terms of differences in the demographic, socio-economic and health status of the populations of the two jurisdictions, the population of Northern Ireland was found to be slightly older than that of Ireland, with a greater proportion of the population aged 65 and over. The available evidence suggests that neither system performs consistently better than the other when it comes to the socio-economic and health status of the population.

However, for some population health indicators (including life expectancy and infant mortality), Ireland has experienced greater improvements than Northern Ireland in recent years. The available evidence also suggests that there are lower rates of some chronic conditions in Ireland relative to Northern Ireland. The reason behind these differences is not clear. They could reflect an increased likelihood among the Northern Ireland population to be diagnosed or to report particular health conditions, or they might relate to the slightly different age composition of

the relative populations. Alternatively, the differences might reflect real differences in the prevalence of chronic conditions across the island.

Very limited comparable data were found to be available on the primary care systems (as well as the healthcare systems overall) for Ireland and Northern Ireland. While the two respective administrations publish a range of health system indicators, including information on staffing levels, expenditure, waiting times and hospital activity, differences in how the indicators are defined, collected and reported means that comparisons across the jurisdictions are often not possible. Moreover, there are a lack of data in both jurisdictions on healthcare services that are privately financed and delivered. This is a bigger issue for the Irish healthcare system, given its larger proportion of healthcare services that are privately financed and delivered. While there has been an increase in the number of relatively comparable surveys across the island in recent years, differences in some questions and in relation to the availability of the associated data mean that comparable analysis are potentially problematic.

The fourth research question, on the extent to which the available data allow comparative analysis of the healthcare systems of Ireland and Northern Ireland to be undertaken, was answered by an attempt to conduct such an analysis, using secondary data sources. The analysis sought to examine how the primary care systems differ in terms of inputs, throughput and outcomes. Given the aforementioned comparability issues, the amount of analysis that could be undertaken was somewhat limited and should be interpreted with a degree of caution.

In terms of inputs to primary care, the number of general practitioners (GPs) per capita was found to be similar across the two jurisdictions, though no comparable data were available on the number of whole-time equivalent (WTE) GPs. A lack of comparable data on other primary care professionals (including practice based and public health nurses) meant that it was not possible to identify how rates of other staff categories might differ across the jurisdictions.

A lack of comparable data was also found regarding overall healthcare expenditure and expenditure allocated to primary care in Ireland and Northern Ireland. Instead, expenditure for Ireland and the UK were compared. Per capita healthcare expenditure (including government and private expenditure) was found to be higher in Ireland than in the UK as a whole. While not examined in the current analysis, previous research comparing healthcare expenditure internationally noted that the comparatively high expenditure in Ireland reflected relatively high prices and wages rather than an increased volume of healthcare (Wren and Fitzpatrick, 2020). Comparable expenditure data (both public and private) for Ireland and Northern Ireland would be informative in further teasing out the reasons behind the apparent higher healthcare expenditure in Ireland.

Analysis of the utilisation of primary care services is again hampered by a lack of comparable data. While high user charges for a range of primary care services in Ireland might be expected to reduce utilisation, the available evidence provides somewhat conflicting results about the number of GP visits per annum, for example, with some studies finding higher utilisation in Ireland and others finding higher utilisation in Northern Ireland (McGregor et al., 2006; Cupples et al., 2008; Pierse et al., 2020). Differences across studies are likely to be related to the differing time periods of the studies and different population groups included in the analyses, with some focusing on particular age groups and others including people with particular health conditions. In some of the studies, a relatively large proportion of the people included had an entitlement to a medical or GP visit card; these therefore may not fully capture how user charges for those without a medical or GP visit card in Ireland might impact on the utilisation of GP services across the population. Future cross-border analysis of utilisation would benefit from including utilisation from a range of primary care professionals (including practice and community-based nurses), given the different entitlements to such services in Ireland and Northern Ireland and that, for example, practice and community-based nurses can in some situations act as a substitute for GPs (Laurant et al., 2005).

Similar to other countries, both Ireland and Northern Ireland provide a range of screening and vaccination services to relevant population groups. For example, in both jurisdictions there are cervical, breast and bowel screening programmes, as well as various vaccination programmes, including a range of vaccinations for babies and children. There are differences in the administration of these schemes across the jurisdictions, in terms of how people are identified and invited to participate, the relevant age cohorts and where the scheme is administered. One commonality across Ireland and Northern Ireland, however, is that such services are provided free at the point of use to eligible groups. In general, the uptake of these services was found to be high and relatively similar across Ireland and Northern Ireland, with a particularly high uptake for childhood vaccinations. In both jurisdictions, the flu vaccination was recommended for those aged 65 and older in the period under consideration (2019).[22] While the vaccination is provided free of charge to all those aged 65 and older in Northern Ireland, in Ireland those without a medical or GP visit card may be required to pay an administration fee for the vaccination in the period included in this analysis. No administrative data are publicly available on the uptake of the flu vaccination for all those aged 65 and older in Ireland, making comparison with Northern Ireland problematic. However, previous research has shown a lower uptake among those who are required to pay for the administration of the vaccine even when they are in the recommended age group (McHugh et al., 2015), suggesting that user charges are potentially acting as a financial barrier to access. This is in keeping with previous research (O'Reilly et

[22] Due to the COVID-19 pandemic, the groups for whom the flu vaccination is recommended has been extended in recent years.

al., 2007), as well as the current analysis, which suggests that unmet healthcare needs due to affordability are a greater issue in Ireland than in Northern Ireland.

In terms of unmet healthcare needs, the available evidence suggests that, in both jurisdictions, waiting times to access healthcare services posed the greatest obstacle to accessing healthcare. In Northern Ireland, 17 per cent of males and 19 per cent of females reported an unmet need due to waiting, while in Ireland the relevant percentages were 11 per cent for males and 16 per cent for females. While it is not possible to identify what healthcare services respondents were waiting for, this analysis did find long and increasing waits for a range of hospital-based services in both jurisdictions. The number of referrals (per 1,000 population) to public hospital waiting lists was greater in Northern Ireland relative to Ireland in the period under consideration (2017–2021), but the proportion of patients waiting more than three months and more than one year was relatively comparable in 2017. Both jurisdictions have seen a significant increase in the proportion waiting more than 12 months for both outpatient appointments and day and in-patient treatment, an increase that is particularly evident in Northern Ireland. The slightly lower increase in the proportion of the population waiting more than 12 months in Ireland relative to Northern Ireland might be explained by the greater use among some groups of private hospital services in Ireland, which were less impacted by the curtailment of activity due to the COVID-19 pandemic.

The analysis found a higher in-patient discharge rate for vaccine preventable influenza and pneumonia in Northern Ireland relative to Ireland. The discharge rate for COPD was found to be higher in Ireland relative to Northern Ireland. A range of factors can account for differences in potentially avoidable hospitalisations (including those related to influenza, pneumonia and COPD) across countries. However, a systematic review did show that lower hospitalisation rates for ambulatory care sensitive conditions tend to occur in areas with greater access to primary healthcare services (Rosano et al., 2013); access was mostly measured through the availability of GPs in a given area and the entitlement of patients to GP services. While there are differences in access to GP services in Ireland and Northern Ireland, this did not seem to have a consistent impact on the number of avoidable hospitalisations across the jurisdictions. It is not clear if the differences observed across Ireland and Northern Ireland are due to differences in coding practices across the jurisdictions or real differences in hospitalisations. Further analysis would be useful to identify why such differences are observed as this may provide valuable clues about ways to reduce avoidable hospitalisations in both jurisdictions.

5.2 COMPARABILITY OF DATA

The extent of the analysis in this report was significantly limited by the lack of comparable data relating to the healthcare systems of Ireland and Northern Ireland. Compounding this problem was the fact that some datasets that could provide comparable data were not available to the research team.[23]

Health system metrics are measured differently across systems. For example, countries differ in the way waiting times for healthcare services are measured (Siciliani et al., 2014). In some countries, waiting times are reported for those patients currently on the waiting list, while in others waiting times of patients who have been treated in a given year are reported. In addition, the starting point of the wait can differ, with some measures starting from GP referral and others from specialist (consultant) assessment/referral (Brick and Connolly, 2021). Even across the four jurisdictions of the UK, a lack of comparable data has hampered health system comparisons (Connolly et al., 2010; Bevan et al., 2014; Anderson et al., 2021a, 2021b).

Recognising the potential benefits of cross-country comparisons in terms of assessing the impact of different policy approaches, datasets such as the OECD health database and the System of Health Accounts have been established with the aim of measuring various health system indicators in a consistent manner across countries. Such datasets have been commonly used to compare various aspects of healthcare systems across countries in order to identify how different policy approaches might impact on a variety of outcomes. For example, Wagstaff (2009) used OECD data to examine how adopting social health insurance (relative to tax financing) impacted on health spending, amenable mortality and labour market outcomes across a number of countries. More recently, Wren and Fitzpatrick (2020) used the System of Health Accounts dataset to identify how Ireland's healthcare expenditure compares internationally. However, these datasets were of limited use to this study, as they tend to report at the level of the UK, rather than for the four separate constituent countries. This is potentially problematic in relation to analysis for Northern Ireland (and for Scotland and Wales) as data at the level of the UK is generally dominated by England (given its very large population size in relation to the other jurisdictions) and therefore not necessarily representative of Northern Ireland (Bevan et al., 2014). While the OECD regional economy database does include data separately for the constituent countries of the UK, the number of indicators available is relatively small.

23 Some potentially comparable data were not available to the research team at the time of completing the analysis. For example, anonymised individual-level data from Wave 3 of the European Health Interview Survey for Northern Ireland has been archived with the UK Data Archive at the University of Essex and should therefore be available to researchers. However, access to the dataset had been suspended during the period in which this analysis was being undertaken. In addition, it seems that information on waiting lists and times for primary care services are recorded in Northern Ireland but these data were not available to the research team in the timeframe of the current analysis.

Recent years have seen an increase in the number of surveys collecting relatively comparable data for Ireland and Northern Ireland. These include the Irish Longitudinal Study on Ageing (TILDA) (for Ireland) and the Northern Ireland Cohort for the Longitudinal Study of Ageing (NICOLA), both of which include people aged 50 and over, as well as the *Growing up In Ireland* study (for Ireland) and the Millennium Cohort Study (for the UK including Northern Ireland), which include various cohorts of younger people. These surveys include a range of questions in relation to health status and healthcare utilisation and are very useful resources for comparing aspects of the population health status and the healthcare systems of Ireland and Northern Ireland. For example, a recent study by Pierse et al (2020) used data from TILDA and NICOLA to compare the healthcare utilisation of those with diabetes in Ireland and Northern Ireland. While such surveys provide a large amount of potentially very useful data, alternative sources are needed for study of system-level characteristics or indicators including workforce and expenditure.

The establishment in recent years of a variety of comparable administrative and survey datasets across countries, with the subsequent publication of a range of studies, has shown the potential benefits to be gained from such cross-country analyses, in terms of examining the impact of different policy approaches. However, the development of such datasets is time consuming and expensive, and the question arises about the extent to which administrations should be mandated to harmonise the collection and reporting of data. In addition, the UK's departure from the EU may mean that the UK might no longer be collecting harmonised data which was previously mandated by Eurostat or the European Commission. Previous research has noted that there may be little incentive for a particular healthcare system to provide comparable data if it could result in negative comparisons to other systems (Bevan et al., 2014).

Consistent with the objective of the Government's Shared Island Initiative (SII) to enhance mutually beneficial cooperation between Ireland and Northern Ireland, there may be merit in work that would facilitate the relevant health administrations in both jurisdictions in identifying and producing a basic set of comparable health system indicators. However, for this to be achieved, it would be necessary to convince the relevant health administrations of the benefits of such an exercise and for there to be a capacity for this work to be undertaken, given other pressures.

In addition to a lack of comparable data across the jurisdictions, for some indicators there were very little data available within the systems. For example, there is no one definitive list of GPs currently working in Ireland and different sources provide different estimates (O'Dowd et al., 2017). In Northern Ireland such a list does exist (at least for those employed in the public system) but there is a lack of data on the number of WTE GPs, making comparisons problematic if the extent or nature of part-time working differs across the jurisdictions.

5.3 LEARNINGS AND FUTURE RESEARCH

The healthcare systems of Ireland and Northern Ireland face similar challenges, including increasing demand and expenditures, workforce shortages and growing waiting times for hospital-based services. This research sought to analyse the primary care systems of Ireland and Northern Ireland to identify if there are learnings which could inform how best to reform the current systems. Such cross-country analyses, while not without their difficulties, are commonly undertaken as they often provide insights about the implications and outcomes of particular policy approaches and measures.

This analysis has identified a number of learnings about the healthcare systems of Ireland and Northern Ireland.

First, the analysis suggests that there have been improvements in population health indicators in Ireland in recent years, which have not been experienced to the same extent in Northern Ireland. Given that improving population health is a key component of reform proposals in both Ireland and Northern Ireland (Houses of the Oireachtas Committee on the Future of Healthcare, 2017; Bengoa et al., 2016), further research should be undertaken to understand the reasons for these differences as this may provide evidence on how to improve population health.

Second, the analysis provided a somewhat mixed picture about the utilisation of GP services across Ireland and Northern Ireland. Higher levels of unmet healthcare needs in Ireland relative to Northern Ireland due to affordability issues is suggestive that financial barriers might be impacting on access to healthcare services in Ireland. The Sláintecare report recommended a phased extension of entitlement to free GP care (Houses of the Oireachtas Committee on the Future of Healthcare, 2017). If this was implemented, one of the current key differences between the healthcare systems of Ireland and Northern Ireland would be removed. Such a reform would be instrumental in ensuring that access to primary healthcare services in Ireland is not influenced by ability to pay and would move Ireland a step closer to achieving universal healthcare. However, reducing or removing financial barriers without adequately increasing the available funding and workforce to meet additional demand may result in long waits to access relevant healthcare services.

The finding of lower avoidable hospitalisations for influenza and pneumonia in Ireland relative to Northern Ireland is somewhat surprising given the higher uptake of the flu and pneumonia vaccinations in Northern Ireland (McDarby and Smyth, 2019; HSC Public Health Agency, 2019d). This is worthy of further exploration as it may provide clues for reducing such hospitalisations in Northern Ireland. Similarly, the finding of a lower discharge rate associated with COPD in Northern Ireland is also worthy of further exploration. While previous research has found that the use of the Quality and Outcomes Framework (QOF) in the UK was associated with

reduced hospital admissions for some chronic conditions (Calderón-Larrañaga et al., 2011; Dusheiko et al., 2011), more recent analysis found that the impact of the QOF on reducing ambulatory-sensitive conditions in England was relatively limited (Grigoroglou, et al., 2020). Further analysis of the strengths and limitations of the QOF in Northern Ireland as a payment source for GPs, as well as an assessment of the new chronic disease management programme in Ireland, would be useful in the context of reforming the financing model for a universal general practice system in Ireland.

Third, waiting times for hospital-based services in Ireland and Northern Ireland are significant and growing. In both jurisdictions, proposals and plans were published in 2021 to tackle hospital waiting times (Department of Health (Northern Ireland) 2021; Department of Health (Ireland) 2021b). Previously, the deputy First Minister of Northern Ireland noted that an expansion of cross-border provision could help reduce Northern Ireland's long waiting lists (Heenan, 2021a). Given the very long waits in the Irish public healthcare system, it is somewhat difficult to see that a solution to Northern Ireland's waiting times is to be found in increased cross-border provision. Rather, a multifaceted approach is required, in both jurisdictions, with an emphasis on increasing the workforce and infrastructure in order to prevent a lengthening of current waiting times. In this regard, there may be an opportunity for learning from any innovative approaches that prove to be successful in tackling waiting times on either side of the border, in particular around attracting and retaining an adequate workforce.

The significant challenges currently being experienced in both systems might provide fresh impetus for at least exploring the potential for greater cooperation in relation to health matters. Some ten years ago, McQuillan and Sargent (2011) explored the potential of cross-border hospital planning on the island of Ireland. While recognising that there are potential barriers to the development of cross-border acute healthcare services, they concluded that there were a range of potential benefits to be gained from increased cooperation in healthcare. They identified specific acute healthcare services that would particularly benefit from collaboration: cystic fibrosis healthcare, ear, nose and throat surgery, paediatric cardiac surgery, orthopaedic surgery and acute mental health services. However, despite some notable exceptions such as the Congenital Heart Disease Network and the North West Cancer Centre at Altnagelvin (Heenan, 2021a), collaboration has been relatively limited. Currently, workforce shortages represent a significant issue across the island of Ireland, contributing to long waits for many healthcare services. Given the difficulties experienced on both sides of the border in attracting and retaining experienced medical professionals, it would seem prudent to examine the potential for greater collaboration on workforce issues. A recent study found that there was strong support for the view that specialist cross-border teams in areas such as orthopaedics and bariatric surgery could bring about economies of scale and deliver better outcomes (Heenan, 2021b).

A recent scoping study by Heenan (2021b) on all-island collaboration on healthcare involving in-depth interviews with 49 individuals with a particular interest in cross-border work in healthcare found that there was overwhelming support from those interviewed for increasing collaboration in the area of health. However, the study also identified a sense of frustration regarding a perceived lack of momentum in relation to building meaningful alliances around healthcare and a sense among interviewees that increasing cooperation was not viewed as a priority by either the administration in Ireland or Northern Ireland. While the cross-border healthcare directive (which allowed patients within the EU to receive healthcare in other EU or EEA Member States) is no longer in operation due to Brexit, new schemes including the Northern Ireland Planned Healthcare Scheme (allowing those living in Ireland to access services in Northern Ireland) and the Republic of Ireland Reimbursement Scheme (for Northern Ireland residents) have been put in place on a temporary basis. It is not clear if these schemes will continue to exist longer term. While the analysis by Heenan (2021b) identified much support among study participants for greater cooperation across the island of Ireland on healthcare, it is not clear if and to what extent this support extends more broadly. A recent analysis of the public health response to COVID-19 across the island of Ireland showed a substantial public health policy alignment between the health administrations of Ireland and Northern Ireland (Nolan et al., 2021), although the authors noted that some political obstacles to greater cooperation remain.

Fourth, similarities and differences between the healthcare systems of Ireland and Northern Ireland provide an opportunity to examine how different systems and policies influence outcomes. However, the current lack of comparable data significantly limits the type of analysis that could be undertaken. For example, while the analysis examined the extent of avoidable hospitalisation in both jurisdictions, a more complete and informative analysis would follow individuals through the different health sectors (such as primary care and hospital care). This could enable an assessment of how differences at the primary care level (including eligibility and user charges) impact on healthcare service utilisation. Further, greater linkages between survey type data and routine administrative data would greatly enhance the types of analysis that could be undertaken. This would require an improved data infrastructure for both jurisdictions, including the use of a unique patient identifier. While this process is ongoing, the possibility of harmonising at least some data across the jurisdictions would significantly increase the type of comparable analyses that could be undertaken. As a starting point, use of the same survey instruments in national projects could provide like-for-like key data. If greater cooperation on health policy and planning is to occur between Ireland and Northern Ireland, there is a need for significant reform in data collection and sharing (Heenan, 2021b).

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APPENDIX 1

Avoidable hospitalisation clinical coding

Using data provided by the HPO for 2019, we can quantify the impact of having to adjust the clinical coding to allow for Ireland/Northern Ireland comparisons. We find that changes in the clinical coding result in less than seven per cent difference in the number of discharges. The necessity to use principal rather than any diagnosis for influenza and pneumonia had a larger impact, with a reduction of one-third in the number of discharges included. Importantly these adjustments allow for more accurate comparisons across the jurisdictions.

TABLE A1 AVOIDABLE HOSPITALISATIONS – DIAGNOSIS CODES

Conditions	Emergency only – full coding		Total in-patients – restricted coding		Difference (%)
	ICD-10-AM diagnosis codes	Discharges 2019	ICD-10-AM diagnosis codes	Discharges 2019	
Influenza and pneumonia (vaccine preventable)[a]	PDX: J09-J11, J13-J14, J16.8, J18.1, J18.8-J18.9	16,828	PDX: J09-J11, J13-J14, J18	17,300	6.1
	ADX: J09-J11, J13-J14, J16.8, J18.1, J18.8-J18.9	26,316	ADX: J09-J11, J13-J14, J18	27,917	2.8
Urinary tract infections	PDX: N10-N12, N13.6, N39.0	15,267	PDX: N10-N12, N39	15,546	1.8
COPD	PDX: J40-J44	15,208	PDX: J40-J44	15,984	5.1

Notes: To facilitate comparison, we compare discharges with a principal diagnosis of this condition. Keegan et al. (2020) included any diagnosis, which is not possible with the published data from Northern Ireland but is presented here to illustrate the impact of the inclusion of principal diagnosis (PDX) only.

Sources: Personal communication HPO (2021). See Keegan et al. (2020) for further information on the clinical coding.

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