

CASE STUDY

The impact of the financial crisis on the health system and health in Ireland

Anne Nolan

Sarah Barry

Sara Burke

Steve Thomas



**World Health
Organization**
REGIONAL OFFICE FOR
Europe

European

Observatory

on Health Systems and Policies

a partnership hosted by WHO



The impact of the financial crisis on the health system and health in Ireland



The European Observatory on Health Systems and Policies supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of health systems in Europe. It brings together a wide range of policy-makers, academics and practitioners to analyse trends in health reform, drawing on experience from across Europe to illuminate policy issues.

The European Observatory on Health Systems and Policies is a partnership, hosted by the WHO Regional Office for Europe, which includes the Governments of Austria, Belgium, Finland, Ireland, Norway, Slovenia, Sweden, the United Kingdom, and the Veneto Region of Italy; the European Commission; the World Bank; UNCAM (French National Union of Health Insurance Funds); the London School of Economics and Political Science; and the London School of Hygiene & Tropical Medicine.

The impact of the financial crisis on the health system and health in Ireland

**Anne Nolan
Sarah Barry
Sara Burke
Steve Thomas**

Keywords:

DELIVERY OF HEALTHCARE

HEALTH POLICY

HEALTHCARE FINANCING

HEALTHCARE SYSTEMS

IRELAND

© World Health Organization 2014 (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies)

Address requests about publications to: Publications, WHO Regional Office for Europe, UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark.

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>).

All rights reserved. The European Observatory on Health Systems and Policies welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the European Observatory on Health Systems and Policies concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the European Observatory on Health Systems and Policies in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the European Observatory on Health Systems and Policies to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the European Observatory on Health Systems and Policies be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the European Observatory on Health Systems and Policies or any of its partners.

Contents

List of tables and figures	vi
Abbreviations	vii
Foreword	viii
Acknowledgements	ix
Introduction	1
1. The nature and magnitude of the financial and economic crisis	2
1.1 The origins and immediate effects of the crisis	2
1.2 Government responses to the crisis	2
1.3 Broader consequences	4
2. Health system pressures prior to the crisis	5
3. Health system responses to the crisis	11
3.1 Changes to public funding for the health system	11
3.2 Changes to coverage	13
3.3 Changes to health service planning, purchasing and delivery	17
4. Implications for health system performance and health	21
4.1 Cost savings and efficiency	21
4.2 Access to services	22
4.3 Impact on health	22
5. Discussion	25
5.1 Drivers of change	25
5.2 Content and process of change	26
5.3 Implementation challenges	27
5.4 Resilience in response to the crisis	27
6. Conclusions	30
Appendix: Major crisis-related events and changes in the Irish health care system, 2008–2013	31
References	33
About the authors	41

List of tables and figures

Tables

IR Table 1	Demographic and economic indicators in Ireland, 2000–2012	3
IR Table 2	Public expenditure on health in Ireland (including capital expenditure), 2006–2014	7
IR Table 3	Health care expenditure trends in Ireland, 2000–2011	7
IR Table 4	Entitlement to publicly financed health care in Ireland, 2013	13
R Table 5	Changes to statutory entitlement in Ireland, 2008–2013	16

Figures

IR Fig. 1	Public health expenditure (capital plus current) in Ireland, 2000–2013	5
IR Fig. 2	Proportion of total public expenditure devoted to health in Ireland, 2007–2014	12
IR Fig. 3	Population coverage by category in Ireland, 1990–2012	14
IIR Fig. 4	Inpatient, emergency and day case activity in Ireland, 2008–2012	17
IR Fig. 5	Total, male and female death rates per 1000 population in Ireland, 2000–2012	23

Abbreviations

EU	European Union
GDP	Gross domestic product
GP	General practitioner
OECD	Organisation for Economic Co-operation and Development
PHI	Private health insurance
WHO	World Health Organization

Foreword

This report was produced as part of a series of six country case studies and forms part of a larger study on the impact of the financial crisis since 2008–2009 on health systems in the European Region. The countries studied in depth are Estonia, Greece, Ireland, Latvia, Lithuania and Portugal, which represent a selection of countries hit relatively hard by the global financial and economic crisis. In-depth analysis of individual countries, led by authors from the country concerned, adds to understanding of both the impact of a deteriorating fiscal position and the policy measures put in place as a result. These case studies complement a broader analysis which summarizes official data sources and the results of a survey of key informants in countries of the WHO European Region; they will also be published as part of a two volume study conducted jointly by the European Observatory on Health Systems and Policies and the WHO Regional Office for Europe.

Acknowledgements

The authors and the study editors would like to thank Richard Layte, Ciaran O'Neil and Miriam Wiley for their helpful and constructive reviewing and comments on a previous version of this case study. They also would like to thank and acknowledge the comments and information received from the Department of Health. Also thanks to Matthew Jowett who acted as an internal reviewer. Finally, thanks are due to participants at the author workshop held in Barcelona in January 2013, as well as those commenting via the web-based consultation following the World Health Organization (WHO) meeting "Health systems in times of global economic crisis: an update of the situation in the WHO European Region" held in Oslo on 17–18 April 2013.

Financial support

The WHO is grateful to the United Kingdom Department for International Development for providing financial support for the preparation of the series of six country case studies. Thanks are also extended to the Norwegian government for supporting the broader study on the impact of the economic crisis on health systems in the European Region.

Introduction

The collapse of Ireland's overexposed banking and construction sectors at the onset of the global financial crisis precipitated a sovereign debt crisis that required a Financial Support Programme from the European Union (EU), European Central Bank and the International Monetary Fund (the Troika). In parallel to sharply rising unemployment and declining household incomes, the terms of the country's international loan agreement required deep cuts to public sector spending, including the health sector, and incentivized reforms aimed at achieving greater efficiency and cost savings.

Public expenditure on health has fallen by about 9% since its historical peak in 2008, requiring several efficiencies to be achieved through lowering unit costs, particularly in pharmaceuticals and human resources, increasing productivity, laying the ground for a hospital payment system where "money follows the patient" and reallocating services across levels of care. To a large extent, the economic crisis helped to highlight the need for health system reform, and nowhere is this better exemplified than by the government's commitment to radically expand population coverage through a staged introduction of universal health insurance, starting with population-wide entitlement to free primary care services by 2015. A primary challenge will be to implement the major health financing reform associated with a new universal insurance system within the context of continued budgetary constraints. In addition, while there may be potential to develop longer-term real efficiency gains, most of the main cost-cutting measures already have been employed and care must be taken not to erode the health system's operational capacity, quality of services or access to care.

The nature and magnitude of the financial and economic crisis

1.1 The origins and immediate effects of the crisis

As a small open economy, Ireland was particularly exposed to, and affected by, the global financial and economic crisis. Domestically, access to cheap credit and inadequate government oversight of the financial sector led to the development of an unsustainable property bubble. When the global financial crisis hit in 2008, this contributed to an internal banking collapse and the collapse of the construction sector. In response, private bank debt was effectively converted into sovereign debt following the bank guarantee scheme announced in September 2008. On the revenue side, the tax base had become increasingly dependent on pro-cyclical consumption taxes (Thomas, Ryan & Normand, 2010); the widening gap between revenues and expenditure was reflected in a sharply increasing debt to gross domestic product (GDP) (Thomas et al., 2012) ratio. In addition, between 2008 and 2011 Ireland's gross national product fell by nearly 20% (CSO, 2012b).

1.2 Government responses to the crisis

In 2008 and 2009, several budgets sought to address the impact of the economic crisis (Thomas & Burke, 2012). However, borrowing costs continued to rise: in November 2010, yields on the benchmark 9-year Irish Government bond reached 9% (Carswell, 2012). In November 2010, after continued deterioration in key economic indicators and increasingly unaffordable borrowing costs, Ireland accepted a Programme of Financial Support from the Troika worth €85 billion for the period 2010–2013. Despite a return to the bond markets in 2013, the economic outlook remained bleak, with low growth forecasts nationally and internationally (Duffy & Timoney, 2013), continued high unemployment of nearly 14% in 2012 (CSO, 2013b) and a large, albeit slightly falling, debt/GDP ratio of approximately 120% (Department of Public Expenditure and Reform, 2012b; Duffy & Timoney, 2013; see also IR Table 1).

IR Table 1 Demographic and economic indicators in Ireland, 2000–2012

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total population levels (in thousands) ^a	3,805.2	3,866.2	3,932.0	3,996.6	4,070.3	4,160.0	4,274.1	4,399.0	4,543.9	4,459.0	4,519.4	4,576.8	4,586.9
People aged 65 and over (% total population) ^a	11.2	11.2	11.1	11.1	11.1	11.0	10.9	10.8	10.9	11.2	11.4	11.7	12.0
GDP per capita (€) ^a	33,600	64,800	36,100	36,900	37,900	39,200	40,300	41,500	39,900	37,500	37,200	37,600	–
Real GDP growth (%) ^a	9.3	4.8	5.9	4.2	4.5	5.3	5.3	5.2	3.0	7.0	0.4	0.7	0.7
Government deficit (% GDP) ^b	–	0.4	0.4	1.4	1.6	2.9	0.2	7.4	13.7	30.6	13.1	8.2	7.2
Government consolidated gross debt (% GDP) ^b	37.0	34.5	31.8	31.0	29.4	27.2	24.6	24.9	44.2	64.4	91.2	104.1	117.4
Long-term interest rates (10-year government rate) (%)	5.53	5.12	4.96	4.12	4.10	3.39	3.78	4.07	–	–	–	–	–
Total unemployment (% of total labour force) ^a	4.2	3.9	4.5	4.6	4.5	4.4	4.5	4.6	6.3	11.9	13.7	14.4	14.7
Long-term unemployment (% of total unemployed) ^{a, c}	–	33.1	30.1	32.8	34.9	33.4	31.6	29.5	27.1	29.2	49.3	59.4	61.7

Note: c) 12 months or more.*Sources:* a) OECD, 2013; b) Eurostat, 2013.

1.3 Broader consequences

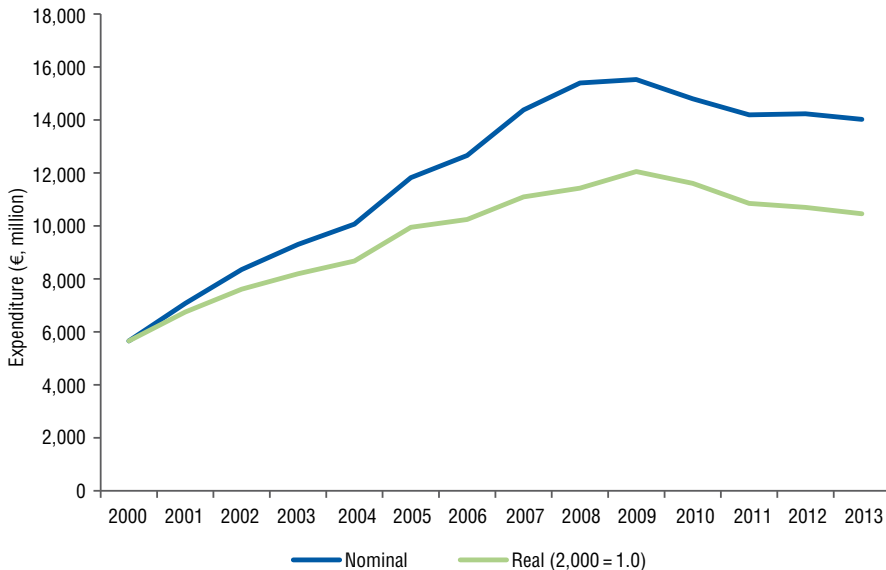
The Irish rate of unemployment increased sharply during the crisis, from under 5% at the end of 2007 to just under 14% at the end of 2012 (CSO, 2013b). Rates of unemployment among the younger population were higher still, at over 30% for males aged 15–24 years in 2012, while at the end of that year, long-term unemployment (defined as out of work for more than a year) accounted for nearly 60% of total unemployment (CSO, 2013b).

Household incomes and poverty rates also were affected, with household incomes falling by over 12% in nominal terms, the “at risk of poverty” rate increasing from 14.4 to 16.0% and the proportion of the population experiencing two or more types of enforced deprivation (e.g. without heating in the last year, unable to afford a hot meal, etc.) increasing from 13.8 to 24.5% over the period 2008 to 2012 (CSO, 2013c). Inflation in health prices has consistently exceeded that of overall prices, and given the heavy reliance on out-of-pocket payments in the Irish health system (see section 3.2), this has created an additional burden on households. In particular, sharp increases in private health insurance (PHI) premiums, in combination with deteriorating household finances, have been reflected in increasing numbers cancelling their PHI cover over the duration of the crisis (see section 3.2 for further discussion).

Health system pressures prior to the crisis

Since the start of the 2000s, overall levels of public expenditure on health have risen rapidly, albeit from a very low base (IR Fig. 1), and per capita levels are now broadly in line with expenditure in other countries (OECD, 2012a). However in the preceding 30 years, Ireland's health expenditure was considerably below the EU average, particularly for capital expenditure, which amounted to just 66% of the EU average over the period 1970–1996 (Wren, 2004).

IR Fig. 1 Public health expenditure (capital plus current) in Ireland, 2000–2013



Note: Public health expenditure includes capital expenditure.

Sources: CSO, 2014a; Department of Public Expenditure and Reform, 2014.

As illustrated in IR Fig. 1, there have been substantial cuts in public expenditure on health since 2008 (see also IR Tables 2 and 3). The total public health budget in 2008 was €15.4 billion, that for 2013 just €13.6 billion (Department of Public Expenditure and Reform, 2012a; Thomas et al., 2012). Much of the reduction in public health expenditure to date has been achieved through cuts to staff numbers and staff pay, as well as driving efficiencies across the public health system (Thomas & Burke, 2012). In October 2012, there was an overrun of €360 million in public health expenditure (Department of Public Expenditure and Reform, 2012a), although this had been reduced to €75 million by the end of 2012 (HSE, 2013d). Overruns such as these illustrate the difficulties of achieving continued expenditure reductions year on year.

The cuts in public health expenditure have occurred against a backdrop of existing political commitments to make improvements in primary and community care, in mental health, in some chronic disease programmes and in the quality of public hospital care. In 2011, the new coalition government made a commitment to introduce free care by general practitioners (GPs) for everyone by 2015 and to implement a universal, single-tier health service through the introduction of universal health insurance (Government of Ireland, 2011a). The new commitments reflect aspects of the pre-election manifestos of both coalition partners.

Studies on Irish health expenditure highlight the importance of national income, population size and distribution, prices and institutional features of the system (such as provider-reimbursement methods) (Brick & Nolan, 2010; Borowitz, Moran & Pearson, 2011; Normand, 2011). The greatest immediate pressure on the Irish health system is the reduced public health budget that is expected to meet the needs of a growing population. The Irish population is relatively young and has the highest fertility rates in the EU (Department of Health, 2012a). Of particular relevance for longer terms financial pressures is the projected increase in the dependency ratio (the ratio of the population aged 65+ years to the population aged 18–64 years) from 0.18 in 2011 to 0.38 in 2041 (Barrett et al., 2011).

High and increasing prices have been a continuous source of financial pressure in the Irish health system. Between 2005 and 2011, health care costs in Ireland increased by over 20%, while overall prices increased by approximately 10% (Thomson, Jowett & Mladovsky, 2012). This very high health inflation was largely driven by continued increases in hospital charges, outpatient fees, doctors' fees and dental fees, which impose a particularly large burden on the section of the population with the lowest income. In addition, PHI premiums rose by 22% in 2011 and a further 16% in 2012 (CSO, 2012a, 2013a), although these increases have also been driven by recent moves by the government to ensure full economic costing of private activity in public hospitals.

IR Table 2 Public expenditure on health in Ireland (including capital expenditure), 2006–2014

	2006	2007	2008	2009	2010	2011	2012	2013 (e)	2014 (e)
Public expenditure (€ millions)	12,658	14,379	15,395	15,529	14,800	14,191	14,043	14,024	13,810

Notes: (e): Estimate; figures for private expenditure are not presented as they are only available up to 2009 but indicate that private expenditure grew by over 20% in nominal terms between 2006 and 2009 (Department of Health, 2012b).

Sources: Department of Public Expenditure and Reform, 2012a, 2014.

IR Table 3 Health care expenditure trends in Ireland, 2000–2011

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
THE per capita (US\$ PPP)	1,761.4	2,060.2	2,331.0	2,529.1	2,762.8	2,937.6	3,181.7	3,571.3	3,848.1	4,036.7	3,780.2	3,699.5
THE (% GDP)	6.1	6.7	7.0	7.3	7.5	7.6	7.5	7.9	9.1	10.0	9.3	8.9
Public expenditure on health (% THE)	75.1	75.6	76.4	76.8	77.3	76.0	75.4	75.7	75.4	72.6	69.6	67.0
Voluntary health insurance (% THE)	7.69	6.39	6.28	6.56	6.78	7.29	8.28	8.04	7.94	11.09	13.61	–
Out-of-pocket spending (% THE)	16.0	15.2	14.4	15.3	15.2	16.1	16.1	14.8	15.3	16.1	18.2	18.2

Notes: PPP: Purchasing power parity; THE: Total health expenditure.

Source: OECD, 2014 (health data for 2012 and beyond are not available).

Approximately 14% of public expenditure on health in Ireland is expenditure on prescription pharmaceuticals (Gorecki et al., 2012). Public expenditure on pharmaceuticals rose very rapidly after 2000, but some recent measures have reversed this trend (see Brick, Gorecki & Nolan (2013) and Gorecki et al. (2012) for a full description), and legislation to introduce a system of reference pricing and generic substitution for certain pharmaceuticals was passed in 2013 (Government of Ireland, 2013b). However, there has been slow progress on the implementation of additional cost-cutting measures (Thomson, Jowett & Mladovsky, 2012) and a recent comparison of ex-factory prices of the leading pharmaceuticals found that originator on-patent and generic pharmaceutical prices were higher in Ireland than in other EU Member States (Brick, Gorecki & Nolan, 2013).¹

Other drivers of increases in expenditure typically include unmet need (areas identified in Ireland include chronic diseases, mental health services and services for children), raised expectations (which may lead to demand for unmet needs to be met) and technological change (although there is some debate over whether technological change is a significant cost driver in health care, see for example Dormont, Grignon & Huber (2006) and Normand (2011)).

A critical source of financial pressure in the Irish health care system is the means-tested medical card scheme, whereby those on low incomes receive free public health care. With rising unemployment and falling incomes, the proportion of the population with medical cards is now over 40%, up from approximately 30% in 2008 (see section 3.2 below).

Despite declining budgets and staff numbers, the Irish public health system is providing more care in certain areas to a growing, ageing population with a higher burden of chronic disease (e.g. inpatient and outpatient throughput has increased year on year since the crisis began; see section 3.3). However, many weaknesses in delivery and financing structures that existed before the economic crisis remain. Despite the increased expenditure on health over the 2000s, Ireland still has a very underdeveloped primary and community care sector; long waits and unequal access for public patients to hospital care;² concerns about poor quality and overstretched hospital infrastructure; and staffing constraints (Health Information and Quality Authority, 2007, 2008a, 2008b; Ruane, 2010).

The 2001 “Primary Care Strategy: A New Direction” recommended the introduction of an interdisciplinary team-based approach to the delivery

1 The study also found that originator off-patent pharmaceutical prices were lower in Ireland than in other EU Member States.

2 While medical cards have been proven to be a pro-poor measure, those with medical cards often have to wait longer to gain access to public hospital care than those with PHI or who can afford to pay privately (Ruane, 2010).

of primary care services (Department of Health and Children, 2001a), but its recommendations have been largely unimplemented. Despite the targets set out in successive Health Service Executive (HSE) national service plans, progress on the development of primary care teams to date has been slow (Comptroller and Auditor General, 2011; Department of Health, 2011; HSE, 2013g). While there are currently 426 primary care teams in place (HSE, 2013g), those working on the ground acknowledge that just a fraction of these are fully functioning teams, as the HSE simply defines a primary care team as one where clinical team meetings have commenced (HSE, 2013g).

A consequence of poor primary and community care service provision is the existence of long waiting lists for certain services. Recent data indicate that at least 72 000 people are waiting for physiotherapy, speech and language and occupational therapy services in the community. This is a minimum figure as waiting lists are not kept in areas where services do not exist and people have no choice but to buy the service privately or go without the service (Oireachtas, 2012a).

Community child and adolescent mental health teams are the first line of specialist mental health services. “A Vision for Change”, the national mental health policy published in 2006, outlined that there should be 92 such teams with 1196 staff in place by 2012 (Department of Health and Children, 2006). A recent review shows that just 58 of these teams are in place, with under 40% of the staffing required, and that waiting times remain high (HSE, 2013g). The government target for December 2012 was that no child would wait more than a year for their first appointment. However, by December 2012, there were 338 children waiting for their first appointment (HSE, 2012b). The waiting list for these child and adolescent mental health services was up 17% from December 2011 (HSE, 2012b). No such data are kept on adult mental health services but the 2012 Annual Report of the Inspector of Mental Health stated that “services were stagnant and perhaps have slipped backwards” (Mental Health Commission, 2013).

Home help services are an essential mechanism for caring for people in their own homes and keeping them out of hospitals and nursing homes, particularly older people. In 2008, 12.6 million home help hours were delivered to 55 366 individuals; in 2012 just 9.8 million hours were provided to 44 387 individuals, reflecting cuts to the health budget and community services (HSE, 2008, 2013g).

There has been strong political pressure to reduce long waiting times for treatment for public patients. Despite a dedicated budget for an independent treatment purchase fund since 2002 and renewed political pressure after the election of a new government in spring 2011, the numbers waiting for elective public hospital inpatient/day treatment have remained high. The HSE committed

to the target that no adult should have to wait more than eight months for inpatient or day treatment by the end of June 2013; unfortunately, the numbers waiting in excess of eight months for both inpatient and day treatment continued to increase through 2013 (HSE, 2013f), despite some promising reductions in the numbers at the end of 2012/2013 (National Treatment Purchase Fund, 2013). In terms of outpatient services, over 100 000 people were waiting in excess of 12 months for a public hospital outpatient appointment in April 2013 (the HSE target was zero by end June 2013) (HSE, 2013f).

The current nature of health coverage in Ireland is a significant weakness. Ireland is the only European country not to offer universal access to free or heavily subsidized GP care, and out-of-pocket GP costs are correspondingly much higher than in other countries (Thomson, Jowett & Mladovsky, 2012). In addition, Ireland's unusual mix of public funding, PHI and out-of-pocket payments (Ruane, 2010; Smith, 2010b) results in a complex, and often conflicting, set of financial incentives (Brick et al., 2012). Despite its relatively small contribution to overall health financing in Ireland, PHI plays an important role in financing specific types of care, particularly public hospital care, and is subsidized by the state via tax relief on premiums and by the practice of not charging the full cost of private beds in public hospitals.³ In this way, the existence of PHI distorts the incentives facing users and providers of health care, with well-documented negative effects on equity and efficiency (Nolan & Wiley, 2000; O'Reilly & Wiley, 2010; Brick et al., 2012).

³ However, recently drafted legislation provides for significantly increased charges for private beds in public hospitals (Government of Ireland, 2013a).

Health system responses to the crisis

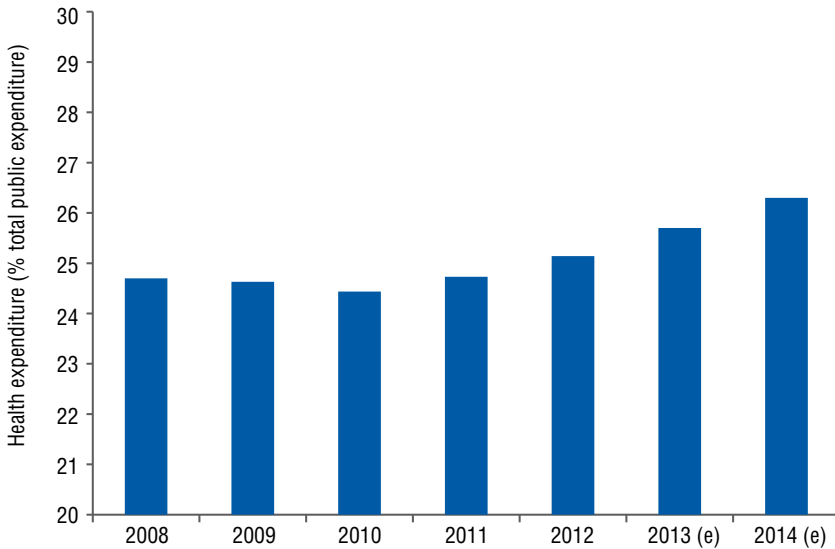
3.1 Changes to public funding for the health system

Successive budgets since October 2008 sought to curtail public expenditure, including health, as a response to the crisis. Over the course of the Troika bailout, stricter parameters and supervision have been placed on health expenditure. As illustrated in IR Table 2, public health expenditure fell by approximately 9% in nominal terms between 2008 and 2012 and further large adjustments were required in 2013–2014. The public health system has suffered unprecedented cuts in real terms at a time when financial pressures from demographic changes and policy needs are very strong (IR Table 3).

The proportion of total health expenditure coming from statutory or public sources in Ireland reduced gradually from a high of 77% in 2004 to 67% in 2011 (IR Fig. 2 and Table 3), consistent with trends towards increasing out-of-pocket expenditure by individuals. This reduction means that, for the first time in recent years, statutory funding in Ireland as a share of total health expenditure has fallen below the average for Organisation for Economic Co-operation and Development (OECD) countries and is quite low for a European tax-based health financing system. Private health expenditure has continued to increase (Department of Health, 2012a), but since 2008, the numbers of households purchasing PHI has been declining (Health Insurance Authority, 2013). While health now accounts for a larger share of declining public expenditure, the recovery in the share devoted to health also highlights that the initial pace of cuts could not be sustained given demand pressures.⁴

⁴ In addition, it is important to understand the extent to which cost-shifting to the private sector has occurred, via the government's policy to increase out-of-pocket payments and the rapid increase in premiums for PHI (discussed in section 3.2).

IR Fig. 2 *Proportion of total public expenditure devoted to health in Ireland, 2007–2014*



Note: (e): Estimate.

Source: Department of Public Expenditure and Reform, 2012a, 2014.

As noted, government revenues became increasingly reliant on indirect taxation after 2000, although by 2011, the proportion of total government revenue generated by indirect taxes had fallen below the level in 2000 as the government sought to stabilize its finances (Thomson, Jowett & Mladovsky, 2012). Prior to the crisis, public funding for health was marginally progressive (Smith, 2010a). Since then, a number of changes to direct taxation policy suggest that this source has become more progressive (Thomson, Jowett & Mladovsky, 2012). Smith (2010a) concluded that indirect taxes were regressive in the late 1990s/early 2000s. Analysing welfare and direct taxation changes in each of the six “austerity” budgets since 2008, Callan et al. (2012) found that the overall impact has been progressive but that recent budgets have been regressive because of the front-loading of tax increases and effective public sector pay cuts in the period October 2008 to April 2009.

Sin taxes (e.g. taxes on alcohol and tobacco) currently play a limited role within public revenue in Ireland (Thomson, Jowett & Mladovsky, 2012). A Special Action Group on Obesity was established in 2011 and in May 2013 the Institute of Public Health in Ireland published its health impact assessment of a proposed tax on sugar-sweetened drinks (Institute of Public Health in Ireland, 2013). However, a sugar tax has not been introduced and there are no plans at present to do so.

3.2 Changes to coverage

The breadth (who), scope (what) and depth (how much) of public cover have all changed over the duration of the crisis.

Population entitlement

Statutory entitlements to publicly financed health care in Ireland are complex (Brick et al., 2010; Thomson, Jowett & Mladovsky, 2012), as described in IR Table 4. The most significant change reducing the breadth of cover was the abolition, in 2009, of the automatic entitlement to a medical card for those aged over 70. Nevertheless, more than half a million more people had medical cards in 2013 than in 2008, reflecting lower incomes and a significant extension of coverage during the crisis.

IR Table 4 *Entitlement to publicly financed health care in Ireland, 2013*

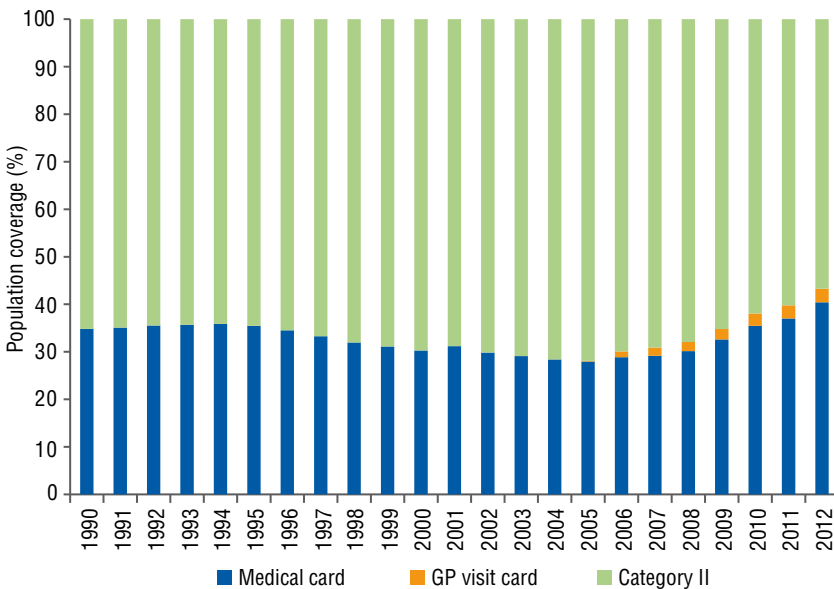
Type of care	Category I (medical card holders)	Category II (do not hold medical cards)	GP visit card
GP services	Free	Pay full charge	Free
Pharmaceuticals	Pay €1.50 per prescription item up to €19.50 per month per family (General Medical Services Scheme)	Pay full cost up to €144 per month per family (Drugs Payment Scheme); free for specified long-term illnesses (Long Term Illness/High Technology Drug Schemes)	As for category II
Public hospital inpatient care	Free	Pay €75 per night up to €750 per year per person	As for category II
Public hospital outpatient care	Free	Free emergency department attendance with GP referral or pay €100 per visit without GP referral; free access to all other outpatient services	As for category II
Other	Various entitlements to community, personal and social care services, dental, ophthalmic and aural care services; other benefits (e.g. maternity and infant care)	As for category I	As for category I

Source: Thomson, Jowett & Mladovsky, 2012.

Eligibility for category I (medical card holders) is primarily determined on the basis of an income means test. Individuals in category II, including GP visit card holders, have access to a range of public assistance schemes such as the Drugs Payment Scheme, the Long Term Illness Scheme and the Treatment Benefit Scheme (see Thomson, Jowett & Mladovsky (2012) for further details).

The share of the population in category I fell in the late 1990s because of the rapid economic growth, a steady decline in unemployment and annual increases in real incomes (IR Fig. 3). However, it has increased steadily since 2005 (along with the introduction of the GP visit card), and from 2008 with the onset of the severe and prolonged recession. In December 2012, 40.4% of the population had a medical card, with an additional 2.9% of the population holding a GP visit card.

IR Fig. 3 *Population coverage by category in Ireland, 1990–2012*



Note: Population data refer to April but coverage data refer to December.

Sources: HSE, 2011a, 2012c, 2013g; CSO, 2014b; also annual reports (various years) from the Primary Care Reimbursement Service and the General Medical Services Payment Board.

Many people in category II and a small proportion of those in category I purchase PHI, which is supported in public policy via generous tax relief. PHI cover increased steadily over time, reaching a peak of 51.4% of the population in 2006, but then declining to 46.0% in 2012⁵ and is declining at an increasing rate (Health Insurance Authority, 2013). Originally designed to offer cover for hospital care, several PHI plans now also offer some cover for GP and other primary care expenses. While everyone is entitled to public hospital care at a maximum cost of €800 per annum, individuals take out PHI in order to gain faster access into the public hospital system (Watson & Williams, 2001).

⁵ Figures calculated from the Health Insurance Authority (2012, 2013) and the CSO databank.

Proposed changes to population coverage are part of wider government commitments to reform health financing in Ireland, as set out in the 2011 Programme for Government (Government of Ireland, 2011a). Under the banner of “universal health insurance”, entitlement to GP visit cards is to be extended to the whole population by 2015. Movement towards this goal began with the drafting of primary legislation to provide GP visit cards to those covered by certain illnesses (Dáil Éireann, 2012), but this aspect of the plan has since been dropped because of legislative difficulties (Cullen, 2013). An alternative mechanism for the extension of free GP care to the entire population is currently being developed, with suggestions that it will be extended on an age-related basis starting with children under 5 years of age.

Key targets in the phasing in of universal primary care have been missed. It is not clear how the Programme for Government proposals will change coverage in practice, partly because details of expanded coverage of other services have yet to be specified and partly because of the budgetary environment. Furthermore, the 2013 Budget announced plans to restrict eligibility to medical cards for 2013, specifically taking full medical cards away from 40 000 people and replacing them with GP visit cards (HSE, 2013b). Moreover, the HSE Service Plan allowed for a net increase of 60 000 full medical cards in 2013, considerably less than the approximately 160 000 full medical cards granted in 2012 (HSE, 2013d), highlighting that further rationing of medical cards would lie ahead. One million medical card reviews were planned for 2014.

Between September 2013 and March 2014, 65 000 medical cards were withdrawn. This was a result of the increased standardization of eligibility criteria brought about by the centralizing of the medical card assessment service in 2012/2013, combined with reducing income limits and tighter conditions for eligibility, as well as better linking with other government data. There was huge public and political discontent, with a range of high-profile stories in the public domain of very sick people losing their medical cards. In response to this, combined with a very poor performance of government parties in local and European elections in May 2014, the government suspended reviews of all discretionary medical cards, the removal of which caused the most controversy. They also committed to extending medical card access on the basis of need, not just financial hardship. An expert panel was established to advise government on how best to progress this issue by Autumn 2014.

The benefits package and user charges

The scope of cover has been reduced through the introduction of limits to dental and ophthalmic benefits for the whole population and the rationing of some services such as therapies and home help (IR Table 5). However, most of the changes have targeted the depth of cover by increasing user charges.

IR Table 5 *Changes to statutory entitlement in Ireland, 2008–2013*

Year	Category I	Category II (includes GP visit card)
2008	None	All: increase in hospital emergency department attendance charge (without a referral) to €66 (from €60); increase in the public hospital inpatient charge to €66 per day (from €60) DPS: increase in monthly deductible to €90 (from €85)
2009	Automatic entitlement to medical cards removed from people over 70 years of age and replaced with a means test	All: increase in hospital emergency department attendance charge (without a referral letter) to €100 (from €66); increase in the public hospital inpatient charge to €75 per day DPS: increase in monthly deductible to €100 Tax relief on unreimbursed medical expenses restricted to the standard rate of tax (20%)
2010	GMS: introduction of €0.50 charge per prescription item (October) Dental Treatment Services Scheme: dental entitlements cut (April)	DPS: increase in monthly deductible to €120 TBS: dental and ophthalmic entitlements cut
2011	None	None
2012	None	DPS: increase in monthly deductible to €132 TBS: aural entitlements cut Long Term Illness Scheme: commitment to extend entitlement to free GP care as phase 1 of free primary care strategy (abandoned and due to be replaced with an alternative plan to extend free GP care to the entire population) ^a
2013	GMS: increase to €1.50 in charge per prescription item Lowering of thresholds for medical cards for the those over 70 years of age to exclude a further 40,000 people (April)	DPS: increase in monthly deductible to €144 Hospitals: increase in the public hospital inpatient charge to €80 per day

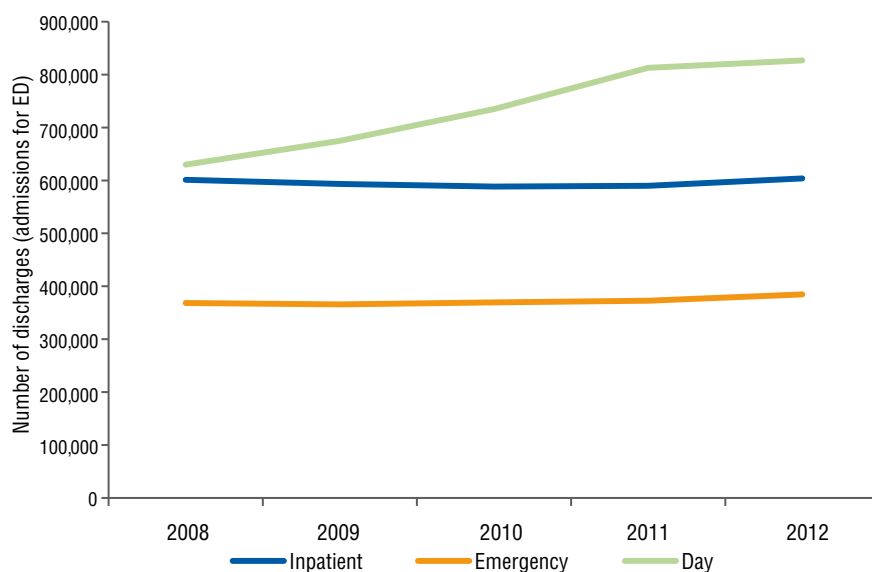
Notes: DPS: Drug Payment Scheme; GMS: General Medical Scheme; TBS: Treatment Benefit Scheme; unless otherwise stated, all measures came into force on 1 January of each year; ^aIn May 2013, it was reported that the government had encountered legal difficulties in drafting legislation to extend free GP care to those covered by the Long-term Illness Scheme (Cullen, 2013). An alternative plan to extend free GP care to the entire population is currently being developed although no further details are available.

Sources: Thomson, Jowett & Mladovsky, 2012; HSE, 2013ab; Citizen's Information Board, 2014.

3.3 Changes to health service planning, purchasing and delivery

As noted, there is evidence that in several areas the health system is doing more with fewer resources (e.g. inpatient, emergency and day case activity) (IR Fig. 4).

IR Fig. 4 *Inpatient, emergency and day case activity in Ireland, 2008–2012*



Note: ED: Emergency department.

Sources: HSE, 2010, 2011b, 2012b, 2013g.

Further improvements in efficiency have been achieved by:

- reducing the unit costs of health system inputs (such as human resources and pharmaceuticals);
- improving productivity; and
- moving some activities to more cost-effective levels of care.

Nevertheless, there is still scope for more efficiency in the system.

Payments to health workers and human resources policies

As pay accounts for approximately 50% of overall public health expenditure (but can be as high as 70% in the acute hospital sector) (Brick & Nolan, 2010), securing greater efficiencies in this expenditure via reductions in numbers, as well as optimal use of existing staff, has become a key mechanism for cutting costs. In common with the general public service, the public health service is subject to a moratorium on recruitment and promotions (since 2009),

albeit with some exceptions (medical consultants, physiotherapists, etc.). In addition, there have been reductions in pay, and a number of incentivized voluntary retirement schemes. The number of full-time equivalents in the public health service has fallen by over 11 000 (or nearly 10%) since 2007, and there are now just over 101 000 full-time equivalent staff in the public health system (HSE, 2013c). However, in this context, there are concerns over the costs of employing replacement agency staff, and despite efforts to reduce agency costs, the HSE reduced its expenditure on agency staff by just 2% in 2012 (HSE, 2013d). There are also concerns over curtailment of some services (e.g. cancelled surgery, reduced community services). Apart from restrictions on numbers employed, changes to staffing levels, skill-mix and staff attendance patterns/rosters are being implemented within the context of the 2010–2014 and 2013–2016 Public Service Agreements (also known as the Croke Park and Haddington Road agreements, respectively). Under the terms of these agreements, staff have agreed to greater flexibility to help to achieve efficiencies in exchange for a commitment to no further pay reductions and no compulsory redundancies (up to 2016). The Haddington Road Agreement took effect from 1 July 2013 and provides for further pay cuts for those earning over €65 000 per annum, increment freezes, increases in hours worked and decreases in overtime and other premium payments.

As part of the Financial Emergency Measures in the Public Interest (FEMPI) Act 2009, there were reductions in the rates of payment to GPs, pharmacists and opticians in 2009, 2010 and 2011 (Government of Ireland, 2009, 2010, 2011b) and further cuts for GPs and pharmacists were introduced in 2012 and 2013 (Department of Health, 2013). The 2011 Programme for Government contains a commitment to introduce a new contract for GPs and to reduce the amount GPs and hospital consultants are paid (Government of Ireland, 2011a). A 30% lower pay scale for new consultant recruits was introduced from 1 October 2012 (HSE, 2012a). In February 2014, a draft new GP contract was published that, if introduced, will radically alter the way GPs are paid and the type of services they provide. It has a much greater emphasis on public health and the management of chronic diseases, as well as containing more controversial measures such as a gagging clause on GPs and the ability to cut fees at any time. After months of a stand-off between GPs and government, both sides entered negotiations on a new contract in May 2014.

Pharmaceutical sector reforms

As a first step to secure greater efficiencies in the provision of pharmacy services, recent attempts have focused largely on securing price reductions, rather than attempting to influence product mix or volume. Setting the reimbursement price for pharmacy services in Ireland follows a complex procedure (Brick & Nolan,

2010; Brick et al., 2010; Gorecki et al., 2012; Brick, Gorecki & Nolan, 2013). In recent years, the ex-factory price, wholesale mark-up and retail mark-up have all been targeted (see Table 2.3 in Gorecki et al. (2012) for a summary). However, in spite of these reductions and the recent legislation on reference pricing and generic substitution (Government of Ireland, 2013b), there have been few attempts to adopt other initiatives that would cut costs significantly, such as competitive tendering for high volume off-patent products.

A new deal with pharmaceutical manufacturers in October 2013 included reductions in the cost of in-patent and off-patent pharmaceuticals, as well as securing the provision of new and innovative pharmaceuticals. Although earmarked to deliver savings of €400 million over three years, a detailed reading of the agreement shows that new pharmaceutical costs are estimated at €210 million, therefore resulting in net savings of only €190 million (Oireachtas, 2012b). Initial savings promised under this deal were not realized in 2012 and contributed to the need for a supplementary health budget in December 2012. A new agreement with the representative body of generic manufacturers was also completed in October 2013. The newly enacted legislation on reference pricing and generic substitution gives the HSE the power to use additional criteria other than the agreements with the pharmaceutical manufacturers (e.g. tendering, prices in other countries, etc.) to set pharmaceutical prices in Ireland. While this is a significant development, the impact of the new legislation on future pharmaceutical expenditure is uncertain (Brick, Gorecki & Nolan, 2013).

Delivery of clinical care programmes

Since 2008/2009, the HSE has been developing national clinical care programmes in an effort to improve quality of care and to provide more efficient care pathways and planned patient care. The cancer care programmes and subsequent clinical care programmes were a response to a series of high-profile patient safety concerns that occurred during 2007–2008 (Health Information and Quality Authority, 2008a,b). The programmes have been designed to achieve high levels of acceptance from clinicians, who have been closely involved in their development. In many cases, the ambition is both to improve the quality of patient care and to release resources for reinvestment in the service. The approach has similarities to the successful development of new models of cancer care in Ireland, which have achieved important improvements in outcomes and have reduced variation in the care provided (HSE, 2013a).

The clinical care programmes have been reinforced by a renewed focus of the government and the HSE on initiatives to increase efficiency by improving

delivery, including work done by the Special Delivery Unit. The Special Delivery Unit, originally set up in the Department of Health, became part of the HSE in January 2013 and is focused on driving down waiting times for hospital treatment.

Hospital services

In terms of acute hospital services, the Programme for Government contains a commitment to pay hospitals according to the care they deliver and to incentivize them to deliver more care in a “money follows the patient” system (Government of Ireland, 2011a). Up to 2012, all public hospitals received annual budgetary allocations in return for undertaking activity levels specified in the HSE's annual national service plans, with allocations largely determined by historic factors (with a small proportion of resources allocated on a case-mix basis). From 2013, public hospital resources will be allocated on the basis of projected expenditure, in preparation for the “money follows the patient” system in 2014 (HSE, 2013e).

The payment of public hospital consultants has been the subject of much discussion since the agreement of a new consultant contract in 2008, with the degree of compliance by some consultants in relation to private practice also coming under particular scrutiny (Comptroller and Auditor General, 2010). Currently, public hospital services are delivered by a network of 52 hospitals, 34 of which are owned and operated by the HSE. The Programme for Government contains a commitment to establish all acute public hospitals as independent, non-profit-making trusts (Government of Ireland, 2011a).

Delivery of integrated care

Previous analyses of the Irish health system noted the barriers to the delivery of integrated care, such as incompatible financial incentives (on the part of both users and providers), human resource constraints and poorly developed community care services (Ruane, 2010; Brick et al., 2012). Such issues will have to be resolved to secure the full potential of efficiency gains.

Implications for health system performance and health

4.1 Cost savings and efficiency

Ireland entered its Troika bailout in October 2010 with regular reporting by both the European Commission and the International Monetary Fund. These reviews were published along with the quarterly renewed Memorandum of Understanding in a specific section of the Department of Finance's web site (2014), demonstrating the high level of monitoring of the agreement. The review reports provide a detailed analysis on how Ireland was meeting its commitments under the Memorandum of Understanding. Up to 2012, there was little if any mention of the health system. However, throughout 2012, there was growing attention to health. This culminated in the European Commission Working Document, *Economic Adjustment Programme for Ireland*, where the health sector received attention in the “fiscal policies” section. The report highlighted how, despite efforts to curtail health expenditure, there was an estimated overrun of €370 million in the HSE, which when combined with other “spending pressures... the structural gap of the health vote is about €700 million” (European Commission, 2012, p. 21).

The Working Document pointed out how government measures intended to save money in 2012 had not materialized and specifically mentioned the failure to legislate for charging private patients in public hospitals and to enact measures to reduce the pharmaceutical bill. The Commission highlighted the scope to increase efficiencies and cost-effectiveness, such as the introduction of a unique patient identifier and “money follows the patient” to foster integrated care. It also detailed how Ireland was paying more to doctors, particularly specialists. While it acknowledged the 30% cut in pay to newly appointed consultants, it suggested a “review of the market for medical staff”, noting the lower proportion of medical consultants in Ireland compared with other EU Member States (European

Commission, 2012, p. 23). The report also suggests increasing “copayments for products and services, and tackling the unsustainable growth in medical cards, including greater use of GP visit cards to substitute for more expensive medical cards” (European Commission, 2012, p. 22).

4.2 Access to services

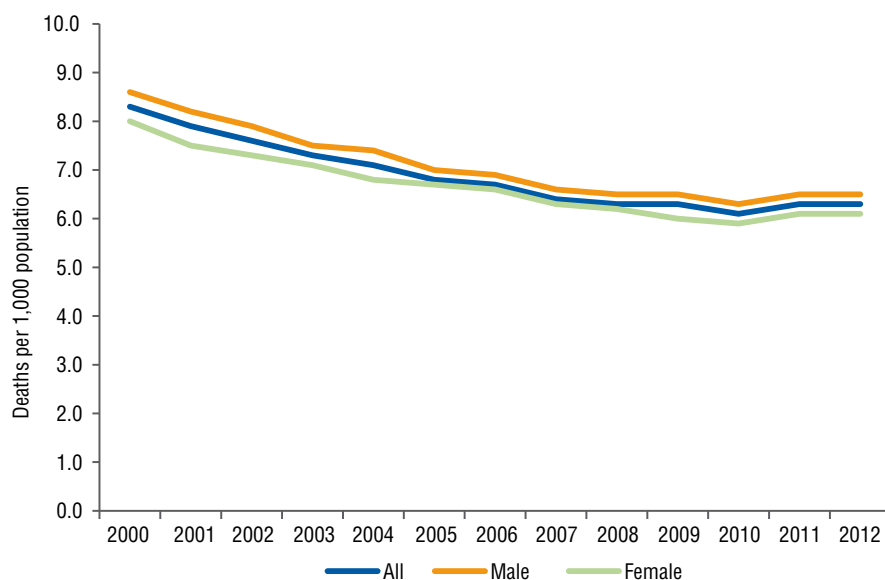
While there is plenty of evidence regarding inequalities in health and health care utilization in Ireland (see Thomson, Jowett & Mladovsky (2012) for a review), there are no published data on trends since the onset of the crisis. However, in the context of reductions in breadth, scope and height of public cover, it is likely that barriers to access to health services have increased during the crisis.

4.3 Impact on health

Rates of poverty and deprivation have increased in Ireland since the beginning of the crisis. Given the causal relationship between poverty and ill health, it is inevitable that increases in poverty will impact on population health, although they are not yet evident in most health statistics. There are two possible explanations for this: first, the time lag effect between declining incomes, increasing poverty and poorer health and, second, the delay in the publication of timely health statistics. As a result, it is probably still too early to observe any potential associations, and even more difficult to determine a causal relationship between the current crisis and health outcomes.

Published data indicate that the economic crisis has, so far, not been associated with negative effects on mortality. The upward trend in life expectancy at birth has continued to 2011, the latest year for which data are available (Department of Health, 2012a; OECD, 2013). Population deaths rates for men and women have continued to decline, although all death rates experienced a slight increase from 2010 to 2011 before stabilizing again in 2012 (see IR Fig. 5).

Information on age-standardized death rates is available up to 2010 only but indicates a steady decline in all-cause mortality (OECD, 2012b). While age-standardized rates of death for external causes have fallen over the period of the crisis, much of this fall is accounted for by a substantial fall in deaths from accidental causes, particularly traffic accidents. While the age-standardized rate of death for “intentional self-harm” has remained relatively steady over the period 2008–2010 (OECD, 2013), more recent data suggest that the number of deaths by suicide per 1000 population has increased over the period 2007–2012, although the rate fell between 2011 and 2012 (CSO, 2013d).

IR Fig. 5 Total, male and female death rates per 1000 population in Ireland, 2000–2012

Source: CSO, 2014b.

A recent study in Cork City identified an association between the impact of the economic crisis and suicide (Arensman et al., 2012), while a number of studies have analysed the impact of economic crises (and particularly the experience of unemployment) on both physical and mental health, as well as health behaviours (Delaney, Egan & O'Connell, 2011; Institute of Public Health in Ireland, 2011). There has been a consistent increase in calls to mental health support services in the past five years. Organizations such as the Samaritans directly link the increased demand for their services with the broader economic crisis (Samaritans, 2012). While tobacco consumption has been falling steadily in Ireland since 2000, alcohol consumption started to decline with the onset of the economic crisis (Department of Health, 2012a).

An important indicator of population health status is self-assessed health, which has been found to be a good predictor of mortality and use of health care in numerous international studies (Idler & Benyamini, 1997; van Doorslaer et al., 2000; Burstrom & Fredlund, 2001). There is little evidence that perceptions of health have declined over the period of the crisis in Ireland. Data from the Quarterly National Household Survey show that while there was a decline in the proportion reporting “very good” health over the period 2007–2010 (from 47% to 45%), the proportion reporting “good” health increased from 40% to 42%, and the proportion reporting “fair” or “bad/very bad” health was unchanged (CSO, 2011). More recent data are not yet available.

While it is extremely difficult to infer causal relationships between economic crises and health outcomes, behaviours or inequalities at the population level, the trends observed are consistent with those found in previous analyses for other countries. In general, there is no simple answer to the question of how economic crises impact on health outcomes, behaviours and inequalities (Suhrcke, Stuckler & Leone, 2009; Suhrcke & Stuckler, 2012). For example, Ruhm (2000) found that total mortality and eight of the ten sources of fatalities exhibited a pro-cyclical fluctuation in the United States over the period 1972–1991, with suicides representing an important exception. However, the association at the individual level between lower income, unemployment and poor health is well established (reviewed by Suhrcke & Stuckler, 2012). Recently, the impact of the economic crisis on health outcomes in Ireland has been debated in a series of responses to an editorial in the *British Medical Journal* on health and the economic crisis in Europe (Carney, 2013; Jackson, 2013; Walsh & Walsh, 2013).

Discussion

5.1 Drivers of change

The core driver of change has been the need for fiscal consolidation. Public expenditure on health increased rapidly in the pre-crisis period; nonetheless, by 2008, primary and community care services were poorly developed; the public hospital system was experiencing capacity constraints and significant patient safety concerns; and price inflation was well in excess of that experienced in other sectors of the economy (and in most other EU Member States). Nevertheless, the huge growth in health expenditure that had occurred during the boom years meant that there was room for efficiency gains in the recession. Essentially, built-in inefficiency provided a cushion for the hard fall of significant budget cuts in health. The system is now certainly more efficient than at the beginning of the crisis and is generally doing more with less (Thomson, Jowett & Mladovsky, 2012). The recession, at least in the first few years, proved to be a useful mechanism to reduce input costs (which were very high by international standards) and to increase productivity by treating patients more cost-effectively (e.g. increased day care in hospitals).

However, with further reductions in public health expenditure required over the period 2013–2015, there are doubts over the capacity of the system to absorb further cuts without damaging patient access and care (Thomson, Jowett & Mladovsky, 2012). In addition, it is now clear that the cuts proposed in each budget have proved increasingly hard to realize because of continued cost pressures (e.g. in terms of expenditure on agency staff) and failure to implement some key cost-reduction initiatives in the face of stakeholder pressure. Some input prices still remain high by international standards (Thomson, Jowett & Mladovsky, 2012; Brick, Gorecki & Nolan, 2013). It is also important to remember that such cuts are occurring in the context of a system that is

experiencing significantly increased demands in the form of population ageing, increased fertility and rising rates of chronic disease.

5.2 Content and process of change

Despite the significant cuts in public health expenditure that have occurred, a crucial safety net for vulnerable groups has been maintained via the medical card scheme. However, there have been recent changes to both the breadth and depth of cover in the medical card scheme, and for those not covered by a medical card, the scope and depth of public cover has been continually eroded (see IR Table 5). The latter has occurred despite a recent report that found that Ireland is unusual internationally in terms of the high level of user fees that are charged for public health services (see Table 4.6 in Thomson, Jowett & Mladovsky, 2012).

In addition, in the context of a system that requires the majority of the population to pay the full, unregulated, out-of-pocket cost for primary care services, continued price inflation in doctors' and dentists' fees is a concern. Health care affordability is likely to become an even greater issue in future, as average annual disposable incomes continue to fall.

However, for the first time in the history of the Irish State, the principle of “a universal, single-tier health service, which guarantees access to medical care based on need, not income” (Government of Ireland, 2011a) is a core component of official health policy. The Programme for Government notes that everyone in Ireland will be able to obtain statutory benefits from an “insurer” of their choice, including a public option. The assumption is that private insurers operating in the PHI market will compete with a public entity to offer statutory coverage. It is questionable whether a competitive insurance system will help to improve efficiency and control costs. The experience of insurer competition in Germany, the Netherlands and Switzerland suggests that such systems have not been effective in health care cost control (Westert et al., 2010; Maarse & Paulus, 2011; Schut and van de Ven, 2011; Busse & Blümel, 2014).

The Programme for Government sets out an ambitious range of reforms for the Irish health system. This involves the introduction of free GP care and universal health insurance, ostensibly all by 2016. In this regard, the economic crisis has helped to highlight the need for reform in the system, which was largely ignored in the pre-crisis period. The crisis has also reduced opposition to change (O’Riordan & Thomas, 2010) as can be seen most clearly by the implementation of the Public Service Agreements and the acceptance by stakeholders of the broad range of initiatives to cut costs around human resources and pharmaceuticals.

The ultimate aim of Irish and international health policy is to improve population health (Department of Health and Children, 2001b). In this regard, it is important to analyse the extent to which the economic crisis, and health system responses, have impacted on population health. Impacts on general population health are difficult to identify at this stage of the crisis because of the time lag in effects, although some initial health impacts have been identified in the Irish context, particularly in terms of mental health outcomes, as detailed above.

5.3 Implementation challenges

Despite the acknowledgement of the need for changes, the continued austerity seems now to be working against reform. In 2013, the first steps to free GP care were postponed. Further delays in implementing policy may well be likely as the health system battles to continue to provide quality care with shrinking budgets and demographic pressures. In addition, it is unlikely that capacity can be expanded sufficiently to cope with the effects of removing price barriers to care without an injection of more funds and resources into the system (Thomas, Normand & Smith, 2008).

Perhaps of even greater concern is the slow erosion of public health entitlements and increase in co-payments that has occurred throughout the crisis. The creation of increased barriers to accessing pharmaceuticals through higher co-payments is of particular concern. Developments such as these raise questions about the extent to which the principle of “a universal, single-tier health service, which guarantees access to medical care based on need, not income” is being implemented in the current climate.

5.4 Resilience in response to the crisis

Beyond the substantive issues outlined above, some reflection is possible at this early stage of analysis. Interviews with senior health system decision-makers (carried out as part of a wider project on resilience in the Irish health system) provide some important insights.⁶ As mentioned above, the core driver of change throughout the crisis has been the requirement for fiscal consolidation. Interviewees reflected that, “the financial requirements and the economic sovereignty of the country is taking precedent now”. The bailout agreement with the Troika (which ran to the end of 2013) framed this consolidation: “the arrangement with our partners as we call them, the EU/IMF and the ECB [the Troika] is ruling our policy approach”.

⁶ This section draws heavily on interviews with senior health system decision-makers in Ireland as part of the HRB-funded project “Resilience of the Irish health system: surviving and utilising the economic contraction”. Further details on the methodology for the qualitative component of the research are available from Health Policy and Management (2013). See also Thomas et al. (2013).

In the years before the crisis, the health system was largely in development mode. Interviewees noted, though, a lack of strategic thinking during this time, “in the period, say from 1997 to 2008, the solution to most problems, including health, was to throw money at the problem”. The crisis, and by implication the cost-cutting that has followed, was considered an opportunity to address what interviewees considered to be an over-resourcing of the system during the years of budgetary surplus: “in terms of strategic development the fact that we are in such huge economic and financial difficulty means that people are likely to be far more open to looking at alternative major reforms in health care than they would have been previously”. The influence of the Troika has “allowed or forced the political system to make more unpalatable decisions than they otherwise would have made”.

The health system reform policy itself may be considered another important driver of change as, at least in principle it is framing decisions being made. Nonetheless, implementation is fraught with a range of challenges, both organizational and political. These include, among others, stakeholder resistance, system complexity and pressure for reform in other sectors, which diffuses the focus on health. In effect, the economic crisis is forcing fiscal consolidation decisions, such as increased out-of-pocket payments, which seem to undermine the global policy drive towards universality for example.

Despite negative effects of the crisis, such as a reduction in health funding, less access to health care and less coverage, interviewees noted that “managing with less” has resulted in greater system efficiency and productivity. This trend seems now to have reached its limit, however, as the crisis is sustained and further rationalization becomes more difficult. Within these parameters, a tentative sequence has been identified whereby the first phase response of the Irish health system to the crisis has resulted in limited levels of financial resilience and significant adaptive resilience – enabled by surplus resourcing of the system during the period of economic boom (Thomas et al., 2012).

The system is now in a more challenging phase during which its transformative capacity is being tested. If the crisis as “opportunity” and the health system reform policy are core drivers of change, benefiting from this time in terms of better service delivery and health outcomes will require different kinds of system response. Whether changed system patterns are possible is unclear. Interviewees questioned, for example, if politicians could overcome the challenges of system reform, “I think we have learned a lot from it [the recession] certainly but with a question, is the political will there to take it on, to sort it out?” Further challenges include the capacity to use evidence to drive policy, a noted lack of management capacity to deliver on efficiency and reform targets, and a lack of integrated management systems.

Such organizational challenges compound the strategic process of response to the crisis. In practice this seems to some extent unplanned or reactive; interviewees recognized that their core challenge at that moment was to maintain a safe and efficient service first and foremost. Generating the motivation and additional resources for system reform is difficult. Reflection and lesson learning are questioned in this context: “we don't think clearly or radically enough to bring about these kinds of changes”. It is too early to clearly identify the lessons being learnt in practice through the experience of the crisis; nonetheless the opportunities to do this are valued, “I think we need to be prepared to step back a bit and think more. So often in this job and in the health services generally at any sort of a senior level you're just working flat out from one thing to the next to the next to the next and it's difficult to take the time out and step back and say, 'look what are we learning from this?'”. Beyond the fiscal indicators of system resilience and preparedness, as reported above, identifying and understanding the full consequence and implications of the economic crisis for the health system will require prioritizing high-quality reflection and dialogue.

Conclusions

The Irish economy suffered a particularly severe financial and economic crisis. Key domestic causes were related to the fragility of the banking system, procyclical government expenditure, an imbalanced taxation portfolio and lax government oversight and regulation. While in response, public expenditure on health has fallen by about 9% since its peak, public health care expenditure has been relatively protected in the recession compared with other sectors, primarily because of cost pressures from demographic trends and from increasing chronic disease prevalence.

Substantial efficiencies have been made to the public health care system through an emphasis on lowering unit costs, increasing productivity and reallocating services across levels of care. While there is potential for more efficiency, the “easy” cuts have been made and political obstacles to further cuts are very real around human resources and pharmaceuticals.

The affordability of accessing services is a concern, given the lower health care expenditure by government and regular increases of co-payments for a variety of services and for insurance premiums. Consequently, there is an increasing burden on households to pay for health care at the same time that disposable income has fallen. Nevertheless, the medical card scheme has functioned well and protected access to health care for the poorest and for most of those aged over 70. While the government's commitment towards a new universal health care system remains intact, progress has been delayed and there are concerns about implementation within the continued context of scarce public resources.

Appendix 1

Major crisis-related events and changes in the Irish health care system, 2008–2013

Date	Event/action
2008	
January	DoH increased emergency department, public hospital inpatient and prescription ^a charges for private (i.e. non-medical card) ^b patients
September	Government introduced Bank Guarantee Scheme
2009	
January	DoH increased emergency department, public hospital inpatient and prescription charges for private patients Tax relief on unreimbursed medical expenses restricted to the standard rate of tax (i.e. 20%) DoH removed automatic entitlement to medical cards from people over 70 years of age and replaced it with a means test DoH announced first in a series of annual increases in private and semi-private beds in public hospitals
March	Government introduced a pension-related deduction across the public service Government introduced a moratorium on recruitment and promotions across the public service (an incentivized early retirement scheme also introduced)
May	DoH implemented the first in a series of reductions in payments to health professionals (e.g. GPs, dentists, ophthalmologists, pharmacists, etc.) under the Financial Emergency Measures in the Public Interest (FEMPI) Act Government the doubled health levy and lowered the income threshold for the higher rate
November	Government made extra funds available to cover large increased demand under the medical card scheme
2010	
January	Government introduced progressive public sector pay cuts of between 5 and 15% DoH increased prescription charges for private patients and cut entitlements for private patients under the Treatment Benefit Scheme DoH announced first in a series of major annual cuts to public health budget ^c
February	DoH published interim agreements with pharmaceutical manufacturers
April	DoH cut entitlements for medical card patients under the Dental Treatment Services Scheme
June	DoH negotiated a Public Service Agreement with health professionals (as part of an agreement with the wider public service)

2010

October	DoH introduced prescription charges for medical card patients
November	Ireland accepted an EU–IMF Programme of Financial Support worth €85 billion for the period 2010–2013

2011

January	Government abolished the health levy and replaced it with a (non-earmarked) universal social charge
March	New coalition government announced commitment to a universal health insurance system (by 2016) and free primary care (to be phased in by 2015) in its Programme for Government

2012

January	DoH published interim agreements with pharmaceutical manufacturers DoH increased prescription charges for private patients and cut entitlements for private patients under the Treatment Benefit Scheme
June	DoH published further interim agreements with pharmaceutical manufacturers
September	DoH introduced lower pay scales for newly appointed hospital consultants and nurses
November	DoH reached new agreements for the period 2012–2015 with pharmaceutical manufacturers EU–IMF expressed concern over health budget overruns (with a particular focus on pharmaceutical prices, costs to the state of private practice in public hospitals, salary levels and medical card costs)
December	First phase of the free primary care policy (GP visit cards for those on the Long Term Illness Scheme) delayed

2013

January	DoH increased public hospital inpatient and prescription charges for private patients DoH increased prescription charges for medical card patients DoH decreased medical card income thresholds for over 70s DoH announced its intention to restrict access to medical cards for the remainder of the population through revised criteria for eligibility (legislation needed)
May	Government announced that the commitment to extend free GP care to those covered by the Long-Term Illness Scheme had been dropped; an alternative plan was being drafted New legislation to implement reference pricing and generic substitution was signed into law
July	Further public sector pay cuts, changes to overtime and premium payments, increases in working hours and other workplace reforms were implemented as part of the second Public Service Agreement (“Haddington Road”) for the period 2013–2015

Notes: DoH: Department of Health; ^aPrescription charges for private patients increased by raising the monthly deductible for the Drugs Payment Scheme; ^bSee Thomson, Jowett and Mladovsky (2012) for a detailed description of entitlements to public health services in Ireland; ^cSee IR Fig. 1 for further details.

References

Arensman E et al. (2012). *First report of the Suicide Support and Information System*. Cork, National Suicide Research Foundation.

Barrett A et al. (2011). *Fifty plus in Ireland 2011. First results from the Irish Longitudinal Study on Ageing (TILDA)*. Dublin, The Irish Longitudinal Study on Ageing.

Borowitz M, Moran V, Pearson M (2011). The performance of the Irish health system in an international context. In: Callan T, ed. *Budget perspectives 2012*. Dublin, Economic and Social Research Institute:23–56.

Brick A, Nolan A (2010). The sustainability of Irish health expenditure. In: Callan T, ed. *Budget perspectives 2011*. Dublin, Economic and Social Research Institute:83–118.

Brick A et al. (2010). *Resource allocation, financing and sustainability in health care. Evidence for the Expert Group on Resource Allocation and Financing in the Health Sector*. Dublin, Department of Health and Children and Economic and Social Research Institute.

Brick A et al. (2012). Conflicting financial incentives in the Irish health-care system. *Economic and Social Review*, 43: 273–301.

Brick A, Gorecki P, Nolan A (2013). *Ireland: pharmaceutical prices, prescribing practices and usage of generics in a comparative context*. Dublin, Economic and Social Research Institute (ESRI Research Series No. 32).

Burström B, Fredlund P (2001). Self rated health: is it as good a predictor of subsequent mortality among adults in lower as well as in higher social classes? *Journal of Epidemiology & Community Health*, 55: 836–840.

Busse R, Blümel M (2014). Germany: health system review. *Health Systems in Transition*, 16(2):1–296.

Callan T et al. (2012). *Budget 2013: distributional impact*. Dublin, Economic and Social Research Institute.

Carney P (2013). Re: health and the economic crisis. *BMJ*, 346: f4140.

Carswell S (2012). Nine-year government bond drops below 6%: lowest rate since bailout. *Irish Times*, 22 August.

Citizen's Information Board (2014). *Budget 2013* [online]. Dublin, Citizen's Information Board (http://www.citizensinformation.ie/en/money_and_tax/budget_2013.html, accessed 29 October 2014).

Comptroller and Auditor General (2010). *Annual report 2009*. Dublin, Stationery Office.

Comptroller and Auditor General (2011). *Annual report 2010*. Dublin, Stationery Office.

CSO (2011). *Quarterly national household survey (Q3 2010): health status and health services utilisation*. Dublin, Central Statistics Office.

CSO (2012a). *Consumer price index detailed sub-indices, December 2011*. Dublin, Central Statistics Office.

CSO (2012b). *Quarterly national accounts (Q4 2011 and year 2011 preliminary)*. Dublin, Central Statistics Office.

CSO (2013a). *Consumer price index detailed sub-indices, December 2012*. Dublin, Central Statistics Office.

CSO (2013b). *Quarterly national household survey (Q1 2013)*. Dublin, Central Statistics Office.

CSO (2013c). *Survey on income and living conditions (SILC): 2011 and revised 2010 results*. Dublin, Central Statistics Office.

CSO (2013d). *Vital statistics (Q4 and yearly summary)*. Dublin, Central Statistics Office.

CSO (2014a). *Statistics: CPA01: consumer price index by commodity group, year and statistic*. Dublin, Central Statistics Office (<http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?Maintable=CPA01&PLanguage=0>, 3 November 2014).

CSO (2014b). *Statistics: CNA20: population by yearly age, sex, marital status and year*. Dublin, Central Statistics Office (<http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?MainTable=CNA20&PLanguage=0&PXSIId=0>, 3 November 2014).

Cullen P (2013). GP card plan for long-term illness to be dropped. *Irish Times*, 8 May.

Dáil Éireann (2012). Long-term illness scheme. *Written Answers*, 771(3): 5.

Delaney L, Egan M, O'Connell N (2011). *The experience of unemployment in Ireland: a thematic analysis*. Dublin, University College Dublin (Geary WP2011/16).

Department of Health (2011). *Comprehensive review of expenditure September 2011*. Dublin, Department of Health.

Department of Health (2012a). *Health in Ireland: key trends 2012*. Dublin, Department of Health.

Department of Health (2012b). *Health statistics 2011*. Dublin, Department of Health.

Department of Health (2013). *Reduction in fees paid to general practitioners and pharmacists*. Dublin, Department of Health.

Department of Health and Children (2001a). *Primary care: a new direction*. Dublin, The Stationery Office.

Department of Health and Children (2001b). *Quality and fairness: a health system for you*. Dublin, The Stationery Office.

Department of Health and Children (2006). *Report of the Expert Group on Mental Health Policy: a vision for change*. Dublin, The Stationery Office.

Department of Finance (2014). *Ireland's programme (EU–IMF programme)*. Dublin, Department of Finance (<http://www.finance.gov.ie/what-we-do/eu-international/irelands-programme-eu-imf-programme>, accessed 29 October 2014).

Department of Public Expenditure and Reform (2012a). *Expenditure report 2013*. Dublin, Department of Public Expenditure and Reform.

Department of Public Expenditure and Reform (2012b). *Medium term fiscal statement November 2012 incorporating the Department of Finance's autumn forecasts*. Dublin, Department of Public Expenditure and Reform.

Department of Public Expenditure and Reform (2014). *Estimates of public expenditure 2000–2013*. Dublin, Department of Public Expenditure and Reform (<http://databank.per.gov.ie/Expenditure.aspx?rep=GrossVH>, accessed 29 October 2014).

Dormont B, Grignon M, Huber H (2006). Health expenditure growth: reassessing the threat of ageing. *Health Economics*, 15: 947–963.

Duffy D, Timoney K (2013). *Quarterly economic commentary: spring 2013*. Dublin, Economic and Social Research Institute.

European Commission (2012). *Economic adjustment programme for Ireland*. Brussels, Directorate General for Economic and Financial Affairs [Winter 2012 European Commission Working Document].

Eurostat (2013). *Health and long term care indicators*. Luxembourg, Eurostat (http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/social_protection_social_inclusion/indicators/health_long_term_care, accessed 9 August 2013).

Gorecki P et al. (2012). *Delivery of pharmaceuticals in Ireland: getting a bigger bang for the buck*. Dublin, Economic and Social Research Institute (ESRI Research Series 24).

Government of Ireland (2009). *Statutory Instrument No. 262 of 2009: health professionals (reductions of payments to general practitioners) regulations 2009*. Dublin, The Stationery Office.

Government of Ireland (2010). *Statutory Instrument No. 638 of 2010: health professionals (reductions of payments to general practitioners) regulations 2010*. Dublin, The Stationery Office.

Government of Ireland (2011a). *Government for national recovery 2011–2016*. Dublin, Stationery Office.

Government of Ireland (2011b). *Statutory Instrument No. 556 of 2011: health professionals (reductions of payments to general practitioners) regulations 2011*. Dublin, The Stationery Office.

Government of Ireland (2013a). *Health (Amendment) Bill 2013*. Dublin, Stationery Office.

Government of Ireland (2013b). *Health (Pricing and Supply of Medical Goods) Act 2013*. Dublin, Stationery Office.

Health Information and Quality Authority (2007). *National Hygiene Services quality review 2007*. Dublin, Health Information and Quality Authority.

Health Information and Quality Authority (2008a). *Investigation into the circumstances surrounding the provision of care to Rebecca O'Malley, in relation to her symptomatic breast disease, the Pathology Services at Cork University Hospital, Symptomatic Breast Disease Services at Mid Western Regional*. Dublin, Health Information and Quality Authority.

Health Information and Quality Authority (2008b). *Investigation report into the pathology service and the symptomatic breast disease service at University Hospital Galway*. Dublin, Health Information and Quality Authority.

Health Insurance Authority (2012). *Annual report and accounts 2011*. Dublin, Health Insurance Authority.

Health Insurance Authority (2013). *May newsletter*. Dublin, Health Insurance Authority.

Health Policy and Management (2013). *Research projects*. Dublin, Health Policy and Management, Trinity College (www.medicine.tcd.ie/health_policy_management/research/research-projects/Resilience-Project.php, accessed 29 October 2014).

HSE (2008). *National service plan 2009*. Dublin, Health Service Executive (http://www.hse.ie/eng/services/Publications/corporate/National_Service_Plan_2009.pdf, accessed 29 October 2014).

HSE (2010). *Supplementary report December 2009*. Dublin, Health Service Executive.

HSE (2011a). *Supplementary report June 2011*. Dublin, Health Service Executive.

HSE (2011b). *Supplementary report December 2010*. Dublin, Health Service Executive.

HSE (2012a). *Revised salary scales: new medical consultants*. Dublin, Health Service Executive (HR Circular 017/2012).

HSE (2012b). *Supplementary report December 2011*. Dublin, Health Service Executive.

HSE (2012c). *Supplementary report June 2012*. Dublin, Health Service Executive.

HSE (2013a). *List of national clinical care programmes*. Dublin, Health Service Executive (<http://www.hse.ie/eng/about/Who/clinical/natclinprog/>, accessed 29 October 2014).

HSE (2013b). *National service plan 2013*. Dublin, Health Service Executive.

HSE (2013c). *Performance report April 2013*. Dublin, Health Service Executive.

HSE (2013d). *Performance report December 2012*. Dublin, Health Service Executive.

HSE (2013e). *PQ 7530-13*. Dublin, Health Service Executive.

HSE (2013f). *Supplementary report April 2013*. Dublin, Health Service Executive.

HSE (2013g). *Supplementary report December 2012*. Dublin, Health Service Executive.

Idler E, Benyamini Y (1997). Self-rated health and mortality: a review of twenty-seven community studies. *Journal of Health and Social Behaviour*, 38: 21–37.

Institute of Public Health in Ireland (2011). *Facing the challenge. The impact of recession and unemployment on men's health in Ireland*. Dublin, Institute of Public Health in Ireland.

Institute of Public Health in Ireland (2013). *Proposed sugar sweetened drinks tax: health impact assessment full report*. Dublin, Institute of Public Health.

Jackson T (2013). Re: health and the economic crisis. *BMJ*, 346: f4140.

Maarse H, Paulus A (2011). The politics of health care reform in the Netherlands since 2006. *Health Economics, Policy and Law*, 6: 125–134.

Mental Health Commission (2013). *Annual report of the Mental Health Commission including the report of the Inspector of Mental Health Services*. Dublin. Mental Health Commission.

National Treatment Purchase Fund (2013). *National trend analysis of waiting times*. Dublin, National Treatment Purchase Fund.

Nolan B, Wiley M (2000). *Private practice in Irish public hospitals*. Dublin, Economic and Social Research Institute (General Research Series 175).

Normand C (2011). The health care system in Ireland: controlling expenditure and making best use of resources. In: Callan T, ed. *Budget Perspectives 2012*. Dublin, Economic and Social Research Institute: 57–84.

OECD (2012a). *Health at a glance 2011. OECD indicators*. Paris, Organisation for Co-operation and Development.

OECD (2012b). *Health statistics 2012*. Paris, Organisation for Co-operation and Development (<http://www.oecd.org/els/health-systems/health-data.htm>, accessed 5 November 2014).

OECD (2013). *Health statistics 2013*. Paris, Organisation for Co-operation and Development (<http://www.oecd.org/els/health-systems/health-data.htm>, accessed 5 November 2014).

OECD (2014). *Health statistics 2014*. Paris, Organisation for Co-operation and Development (<http://www.oecd.org/els/health-systems/health-data.htm>, accessed 5 November 2014).

Oireachtas (2012a). *Dáil question response from Minister of State at the Department of Health (Ms Lynch) to Deputy Róisín Shortall for written answer on 21 February 2013 (Parliamentary Question Ref 9490/13)*. Dublin, Oireachtas (<http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/takes/dail2013022100075?opendocumentWRAA01200>, accessed 29 October 2014).

Oireachtas (2012b). *Dáil question response to Thomas Broughan from Minister James Reilly, 23 October 2012 (Parliamentary Question 658)*. Dublin, Oireachtas [http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/\(indexlookupdail\)/20121023-WRAA?opendocumentWRAA02200](http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/(indexlookupdail)/20121023-WRAA?opendocumentWRAA02200), accessed 29 October 2014).

O'Reilly J, Wiley M (2010). Who's that sleeping in my bed? Potential and actual utilisation of public and private beds in-patient beds in Irish acute public hospitals. *Journal of Health Services Research and Policy*, 15: 210–214.

O'Riordan M, Thomas S (2011). *Support for policy development of SHI in Ireland: a review of stakeholder views and values*. Dublin, Trinity College and NUI Galway (prepared for the Minister of Health).

Ruane F (2010). *Report of the Expert Group on Resource Allocation and Financing in the Health Sector*. Dublin, Department of Health and Children.

Ruhm C (2000). Are recessions good for your health? *Quarterly Journal of Economics*, 115: 617–650.

Samaritans (2012). *Impact report 2010–2011*. Dublin. Samaritans. <http://www.samaritans.org/sites/default/files/kcfinder/files/samaritans%20ireland%20impact%20report.pdf>, accessed 29 October 2014).

Schut E, van de Ven W (2011). Effects of purchaser competition in the Dutch health system: is the glass half full or half empty? *Health Economics, Policy and Law*, 6: 109–123.

Smith S (2010a). Equity in Irish health care financing: measurement issues. *Health Economics, Policy and Law*, 5: 149–169.

Smith S (2010b). The Irish health basket: a basket case? *European Journal of Health Economics*, 11: 343–350.

Suhrcke M, Stuckler D (2012). Will the recession be bad for our health? It depends. *Social Science & Medicine*, 74: 647–653.

Suhrcke M, Stuckler D, Leone T (2009). *Recession and health in Europe: what to expect?* Brussels, European Commission DG Employment, Social Affairs and Equal Opportunities.

Thomas S, Burke S (2012). Coping with austerity in the Irish health system. *Eurohealth*, 18: 7–9.

Thomas S, Normand C, Smith S (2008). *Social health insurance: further options for Ireland*. Dublin, Trinity College Dublin and the Adelaide Hospital Society.

Thomas S, Ryan P, Normand C (2010). *Effective foundations for the financing and organisation of social health insurance in Ireland*. Dublin, the Adelaide Hospital Society.

Thomas S et al. (2012). *Resilience of the Irish health system: surviving and using the economic contraction*. Dublin, Trinity College Dublin (Year 1 report of the Resilience Project).

Thomson S, Jowett M, Mladovsky P, eds. (2012). *Health system responses to financial pressures in Ireland: policy options in an international context*. Copenhagen, WHO Regional Office for Europe for the European Observatory on Health Systems and Policies (http://www.euro.who.int/__data/assets/pdf_file/0006/260088/Health-system-responses-to-financial-pressures-in-Ireland.pdf, accessed 29 October 2014).

Thomas S et al. (2013). A framework for assessing health system resilience in an economic crisis: Ireland as a test case. *BMC Health Services Research*, 13: 450.

van Doorslaer et al. (2000). Equity in the delivery of health care in Europe and the US. *Journal of Health Economics*, 19: 553–583.

Walsh B, Walsh D (2013). Re: health and the economic crisis. *BMJ*, 346: f4140.

Watson D, Williams J (2001). *Perceptions of the quality of health care in the public and private sectors in Ireland*. Dublin, University College Dublin (Report to the Centre for Insurance Studies, Graduate Business School, University College Dublin).

Westert G et al. (2010). *Dutch health care performance report 2010*. Bilthoven, National Institute for Public Health and the Environment.

Wren M-A (2004). *Health spending and the black hole*. Dublin, Economic and Social Research Institute (Quarterly Economic Commentary) (http://www.esri.ie/pdf/QEC0904SA_Wren.pdf, accessed 29 October 2014).

About the authors

Anne Nolan is a senior research officer at the Economic and Social Research Institute, Ireland.

Stephen Thomas is Assistant Professor at the Centre for Health Policy and Management, Trinity College Dublin.

Sarah Barry is a research fellow at the Centre for Health Policy and Management, Trinity College Dublin.

Sara Burke is a postdoctoral researcher at the Centre for Health Policy and Management, Trinity College Dublin.

