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# The impact of transitions in insurance coverage on GP visiting among children in Ireland



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#### ABSTRACT

The use of direct out-of-pocket payments to finance general practitioner (GP) care by the majority of the population in Ireland is unusual in a European context. Currently, approximately 40 per cent of the population have means-tested access to free GP care, while the remainder must pay the full out-of-pocket cost. In this paper, we use nationally representative data from the Growing up in Ireland (GUI) study to examine the impact of transitions in insurance coverage on GP utilisation among children. GUI surveys two cohorts of nearly 20,000 children (aged 9 months and 9 years at baseline); we use data from the first two waves of each cohort (which covers the period 2007–2012). Using difference-in-difference propensity score matching methods, we find significant effects of changes in public health insurance coverage on GP utilisation (i.e., introducing user fees reduces utilisation, while removing them increases utilisation). The results have direct implications for current Irish health policy, and add to the international literature on the effects of insurance on healthcare utilisation.

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#### 1. Introduction

Equity of access to healthcare is regarded as a key objective of national and international health policy. Most countries subscribe to the principal that healthcare should be financed in accordance with ability to pay, and delivered on the basis of need. This necessitates a role for insurance in offering the patient protection against uncertainty. Most developed countries provide publiclyfinanced insurance for many health services, although there is considerable heterogeneity in breadth, scope and height of coverage (Evetovits et al., 2012). The current Irish system of healthcare financing relies predominately on public sources of finance, with smaller contributions from private health insurance (PHI) and direct out-of-pocket payments by individuals. This system of financing, and the associated structure of public healthcare entitlements, has been criticised on equity and efficiency grounds. While the overall contribution of out-of-pocket payments to total healthcare financing is comparable with other EU countries (OECD,

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2015), they are much more significant for general practitioner (GP) care in comparison with other EU states (Evetovits et al., 2012). In addition, the role of private health insurance (PHI) in facilitating faster access to public hospital services for those with PHI over those without PHI but with equivalent health needs has been highlighted (Ruane, 2010; Smith, 2010).

Investigating the impact of insurance on healthcare utilisation and child health is important. A growing body of research suggests that inequities in access to health care during childhood have significant effects on a variety of adult outcomes such as healthcare utilisation, educational attainment, poverty and mortality (Boudreaux et al., 2016; Wherry et al., 2015, 2016). There is now a considerable international literature on the impact of differing levels of health insurance coverage (and by extension, different forms and levels of patient cost-sharing) on healthcare utilisation among adults, often using experimental designs with randomisation. In the RAND Health Insurance Experiment, carried out in six sites across four US states between 1974 and 1982, in which households were randomised to insurance plans with different degrees of cost-sharing, significant negative effects of cost-sharing on healthcare utilisation were observed (Brook et al., 1984; Keeler, 1992; Lohr et al., 1986; Manning et al., 1987; Newhouse and

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Insurance Experiment Group, 1993). More recently, the Oregon Health Insurance Experiment, using a similar randomisation design as the RAND experiment, found that those who became eligible for free healthcare had significantly higher healthcare utilisation, lower out-of-pocket medical expenditures and lower medical debt (Allen et al., 2013; Finkelstein et al., 2012; Taubman et al., 2014).

However, empirical research on the impact of health insurance on the healthcare utilisation patterns of children is less common. In the studies that have been conducted to date, significant positive effects for insurance on healthcare utilisation among children have been found (Boudreaux et al., 2016; Card and Shore-Sheppard, 2004; Currie and Gruber, 1996, 2008; Dafny and Gruber, 2005; Palmer et al., 2015). However, the evidence for significant positive effects on child health is more mixed (de la Mata, 2012; Howell and Kenney, 2012). All of the cited studies originate from the US, and many use variation across states and time to identify the causal effect of Medicaid expansions on healthcare utilisation and child health (Currie, 2000), although alternative estimation strategies such as instrumental variables (IV) and regression discontinuity (RD) have been employed in these and other settings (e.g., Card and Shore-Sheppard, 2004; Palmer et al., 2015; Schaefer et al., 2011).

In the context of policy debates in Ireland and elsewhere around extending public health insurance coverage to children, it is crucial to understand current patterns of healthcare utilisation, not only for highlighting the extent to which current systems lead to financial barriers to accessing healthcare services, but also for forecasting the likely implications of proposals for reform. As discussed, evidence for countries outside the US is particularly sparse. Previous research in the Irish context has been limited to crosssectional analyses due to a lack of available data (Layte and Nolan, 2014, 2015). This paper uses longitudinal data from two cohorts of children from Growing up in Ireland (GUI), the national longitudinal study of children in Ireland to examine the determinants of GP utilisation among children in Ireland. The data allow us to directly examine the effect of changing public healthcare entitlements on GP utilisation, using difference-in-difference propensity score matching methods. This method allows us to estimate the effect of a 'treatment', i.e., a change in entitlement to public healthcare, on the utilisation of GP services over time. We find that introducing user fees for healthcare results in a significant decrease in GP visiting (for the cohort of older children only however), while the removal of user fees results in a proportionately smaller, but still significant increase in GP visiting for both cohorts.

#### 2. Healthcare entitlements in Ireland

Currently, there are two main categories of entitlements to public health services in Ireland. Those in Category I (full medical cardholders, usually termed 'public' patients) are entitled to free public health services (including inpatient and outpatient hospital care, GP care and other primary and community care services), but must pay a co-payment of €2.50 per prescription item, up to a maximum of €25 per family per month. Those in Category II (usually termed 'private' patients) are entitled to subsidised public hospital services, but must pay the full cost of GP services, other primary and community care and prescription medicines (the latter up to a monthly deductible of €144). In 2010, the average cost of a GP consultation was estimated at €51 (National Consumer Agency, 2010). In October 2005, the GP visit card was introduced; GP visit cardholders have the same entitlements to free GP care as Category I individuals, but the same entitlements to all other public health services (including prescription medicines) as Category II individuals. GPs in Ireland act as gatekeepers for secondary care, and the same GPs treat both Category I and II patients.

Eligibility for a full medical/GP visit card is assessed primarily on

the basis of an income means test. In certain cases, individuals who are otherwise ineligible for a full medical/GP visit card may be granted a card on a 'discretionary' basis, if they have particular health needs which would cause them undue hardship (HSE, 2015). The income thresholds for the GP visit card are 50 per cent higher than for the full medical card. From summer 2015, children under 6 years of age, and adults aged 70 + years, were granted automatic entitlement to a GP visit card, regardless of income. As of May 2015 (i.e., before the extension to all under 6s and over 70s), 37.6 per cent of the population had a full medical card and 3.6 per cent had a GP visit card.

A further layer of complexity is added to the Irish system by the existence of PHI. Currently approximately 46 per cent of the population have PHI, which mainly provides coverage for private or semi-private acute hospital services (which may be delivered in public hospitals), but which increasingly offers partial reimbursement of certain primary care expenses (e.g., GP visits, routine dental care, physiotherapy, *etc.*). Full medical card and GP visit cardholders may take out PHI (termed 'dual' coverage), although the proportion of families doing so is small. Table 1 illustrates current healthcare entitlements and user fees in the Irish healthcare system.

Current policy proposals commit to the introduction of free GP care for all those aged 18 years and under, in addition to those aged under 6 and over 70 years of age who became entitled to a GP visit card automatically from summer 2015. In this changing policy context, it is crucial to understand current patterns of healthcare utilisation, not only for highlighting the extent to which the current system leads to financial barriers to accessing healthcare services, but also for forecasting the likely implications of the reform proposals. Providing care free at the point of use has an inherent tension between the benefit of reducing an individual's exposure to financial risk, and the disadvantage of potentially increasing an individual's use of low-value or ineffective health care (Swartz, 2010). Therefore, it is important to understand the likely demand implications of providing free GP care, so that policymakers can cost the proposals and plan effectively.

#### 3. Materials and methods

#### 3.1. Data

Data from Growing up in Ireland (GUI), the national longitudinal study of children in Ireland, are used in this study. GUI surveys two cohorts of children. The Infant Cohort contains information on 11,134 9-month old children and their families who were first surveyed between September 2008 and April 2009 (Quail et al., 2011). The sampling frame was the Child Benefit Register. The Child Cohort represents 8568 9-year old children and their families first surveyed between August 2007 and May 2008 (Thornton et al., 2011). The sampling frame was the primary school system. The second wave of data collection for the Infant Cohort was carried out between December 2010 and July 2011, and for the Child Cohort between August 2011 and March 2012 (Quail et al., 2011; Thornton et al., 2011). We focus our analysis on waves 1 and 2 of each cohort. Ethical approval for each wave of data collection was granted by the Research Ethics Committee of the Irish Department of Child and Youth Affairs (who fund GUI data collection).

Data were collected primarily via computer-aided personal interviewing (CAPI) with the primary caregiver (who in most cases was the child's mother), although in some cases (e.g., for the older children), a separate CAPI was also carried out with the child. The majority of data used in this paper is self-reported by the mother. In this paper we concentrate on children who were present in both waves of the study, who were singletons, and whose primary caregiver was one of their parents. Final sample sizes are 9361 for the

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