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Getting doctors into the bush: General Practitioners' preferences for rural location

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ABSTRACT

A key policy issue in many countries is the maldistribution of doctors across geographic areas, which has important effects on equity of access and health care costs. Many government programs and incentive schemes have been established to encourage doctors to practise in rural areas. However, there is little robust evidence of the effectiveness of such incentive schemes. The aim of this study is to examine the preferences of general practitioners (GPs) for rural location using a discrete choice experiment. This is used to estimate the probabilities of moving to a rural area, and the size of financial incentives GPs would require to move there. GPs were asked to choose between two job options or to stay at their current job as part of the Medicine in Australia: Balancing Employment and Life (MABEL) longitudinal survey of doctors. 3727 GPs completed the experiment. Sixty five per cent of GPs chose to stay where they were in all choices presented to them. Moving to an inland town with less than 5000 population and reasonable levels of other job characteristics would require incentives equivalent to 64% of current average annual personal earnings ($116,000). Moving to a town with a population between 5000 and 20,000 people would require incentives of at least 37% of current annual earnings, around $68,000. The size of incentives depends not only on the area but also on the characteristics of the job. The least attractive rural job package would require incentives of at least 130% of annual earnings, around $237,000. It is important to begin to tailor incentive packages to the characteristics of jobs and of rural areas.

Introduction

A key issue in many countries is shortages of primary care physicians in rural and remote areas (Lawn et al., 2008; Starfield, Shi & Macinko, 2005). Even if a country is thought to have 'enough' doctors overall, they may not be distributed across geographical areas according to health care need. Despite its importance, the delivery of equitable access to medical care is particularly difficult in rural and remote areas, and innovative solutions are often required. Many countries, and Australia is no exception, have a range of policies and schemes to encourage doctors to locate and practise, even if temporarily, in underserved remote and rural areas. These include financial or in-kind incentives, bonded schemes, and a range of other regulatory approaches.

Despite a considerable literature identifying factors that influence the recruitment and retention of doctors in remote and rural areas, to date there exists little rigorous evidence about which incentive schemes or policies are the most effective in increasing the supply of doctors to 'underserved' areas, and more specifically the amount of incentive required to encourage enough doctors to move (Barnighausen & Bloom, 2009; Buykx, Humphreys, Wakerman & Pashen, 2010; Grobler et al., 2009). These reviews found very weak evidence of effectiveness with many poor study designs.

Designing schemes to encourage doctors to locate and remain in remote and rural areas requires an understanding of the various factors that motivate doctors' location decisions. In the absence of data on revealed preferences, discrete choice experiments (DCEs) are increasingly being used to address these issues. There have been eight DCEs published examining the job preferences of

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doctors (Chomitz, Setiadi, Azwar, Ismail & Widiyarti, 1998; Gosden, Bowler & Sutton, 2000; Hanson & Jack, 2010; Hole & Kolstad, 2010; Kolstad, 2011; Scott, 2001; Ubach, Scott, French, Awramenko & Needham, 2003; Wordsworth, Skåtun, Scott & French, 2004). Three of these were for general practitioners (GPs) (Gosden et al., 2000; Scott, 2001; Wordsworth et al., 2004), although none included geographic location as a specific attribute. Other studies for junior doctors and nurses in developing countries have focussed largely on rural location (Chomitz et al., 1998; Hanson et al., 2010; Hole & Kolstad, 2010; Kolstad, 2011).

The aim of this paper is to examine the preferences of GPs for the characteristics of rural practice using a discrete choice experiment. This focuses on the decision to choose between jobs that include geographic location as an attribute. The DCE results are used to examine which attributes of rural jobs are valued the most (and least) by GPs, providing information on where policies should be focused. The probabilities of choosing a range of different rural jobs are also calculated, along with the monetary value (marginal willingness to pay or compensating differentials) of particular attributes. In addition, the paper contributes to the literature on doctors' job preferences in several ways. First, it estimates the total monetary value of different rural job packages (total willingness to pay). The monetary values are expressed in terms of the size of financial incentives that should be offered to encourage GPs to move to a rural area. Second, the DCE includes a 'status quo' option, which is more realistic for respondents. In addition to offering GPs a choice of job A and B, they are offered the option of staying at their current job, whereas most previous published studies have asked respondents to make a 'forced' choice between two types of job (Lagarde & Blaauw, 2009). Finally, the study uses the generalised multinomial logit model that accounts for scale as well as taste heterogeneity (Fiebig, Keane, Louviere & Wasi, 2010).

The Australian context

GPs in Australia are paid largely by fee-for-service, under the Medicare Benefits Schedule (MBS). In rural and remote areas with small populations, additional payments and different funding models are used to support GPs' small business viability and encourage GPs to work and stay in these areas. In Australia, the number of medical practitioners relative to the overall population is 235/100,000 (Australian Institute of Health and Welfare, 2012). However, this number diminishes significantly with increasing distance from capital cities, ranging from 266/100,000 in major cities to 98.5/100,000 in very remote areas. The problem of ensuring an adequate supply of GPs is further exacerbated by the significantly poorer health status of residents in rural, regional and remote Australia, particularly in indigenous communities, compared to that of residents in metropolitan areas (Australian Institute of Health and Welfare, 1998; Smith, Humphreys & Wilson, 2008).

There are few location restrictions for Australian-trained GPs, and most choose not to work outside capital cities. Recent increases in the numbers of practitioners in rural and remote areas are largely due to the recruitment of International Medical Graduates who are mandated to practise in specific areas of need when they arrive, and now comprise over 40% of the rural medical workforce in many areas (Charles, Britt & Valenti, 2004). Medical workforce undersupply in remote and rural areas is influenced by the longer hours of rural practice and on-call (usually increasing with remoteness), the need to offer more complex services and to work in relative professional and social isolation, the need to make capital investments in practice, and until recently the lack of recognition in terms of remuneration (Humphreys et al., 2001). Despite numerous government incentives and programs to increase the supply of medical practitioners in non-metropolitan areas, access to GPs and certain medical specialties remains a particular concern in both rural and remote areas.

GPs in Australia are offered a range of financial and non-financial incentives to practise and stay in rural and remote areas. This additional funding is made available to most non-metropolitan practices, with the amount of funding increasing with remoteness. Many policies are based on providing funding to encourage medical students and those in vocational training to spend time in rural areas, since exposure to rural practice has been shown to be associated with working in a rural area (Rabinowitz, Diamond, Markham & Wortman, 2008).

In 2008 when the data for this paper were collected, the availability of funding was determined by the location of current practice as defined by the Rural, Remote and Metropolitan Areas (RRMA) geographic classification that included seven categories ranging from capital cities to small remote areas. Commonwealth funding to support health services and training in rural areas, including those targeting GPs, included 35 separate programs, with funding delivered through a range of government agencies (Auditor General, 2008). This excludes other schemes provided by state health departments and other agencies. For example, in addition to in-kind support from Divisions of General Practice, Rural Workforce Agencies, and Rural Clinical Schools, funding delivered directly to GPs included one-off infrastructure and training grants, relocation grants (removal expenses and travel), ongoing retention incentives for those already in rural areas, payments to overseas trained doctors, payments to GP Registrars, higher Medicare (fee-for-service) rebates for some GP items, and higher Practice Incentive Program payments according to geographic remoteness.

Since 2008, incentives schemes have been reviewed and consolidated (Department of Health and Ageing, 2008) using a new Australian Standard Geographic Classification – Remoteness Areas (ASGC-RA) system to determine eligibility for some schemes. The main changes for GPs introduced in 2010 were the consolidation of three previous programs into the revised General Practice Rural Incentives Program (GPRIP). The retention scheme for GPs and GP trainees still offer incentive payments that increase according to degree of remoteness, length of service in a rural area, and workload. These payments range between $2500 and $47,000 per year and start once a GP has spent at least 6 months in an eligible area. The third scheme is a one-off relocation incentive grant, and is available to GPs moving to a more remote location than their current location. Payments up to a maximum of $120,000 (for a move from a capital city) are made in two instalments 12 months after they move. Additional rural incentives are available under the Practice Incentives Program (PIP) that provides a rural loading on total PIP payments of between 15% (large rural centres) and 50% (remote areas less than 5000 population), depending on geographic remoteness. Medicare also offers some locum assistance for rural GPs (i.e., funding for temporary replacement GPs to cover for holidays and other absences). The costs of locum placement and travel costs are subsidized for any rural GP, and urban GPs undertaking emergency medicine training and providing locum placement are paid financial incentives (up to $6000). The shortcomings and appropriateness of using this ASGC-RA scheme as the basis for resource allocation has recently been reviewed by the Australian Senate (The Senate Community Affairs References Committee, 2012).

Data

The discrete choice experiment (DCE) was included in Wave 1 (2008) of the Medicine in Australia: Balancing Employment and Life (MABEL) longitudinal survey of doctors. The survey was sent to