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Retaining rural doctors: Doctors' preferences for rural medical workforce incentives

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ABSTRACT

Many governments have implemented incentive programs to improve the retention of doctors in rural areas despite a lack of evidence of their effectiveness. This study examines rural general practitioners' (GPs') preferences for different types of retention incentive policies using a discrete choice experiment (DCE). In 2009, the DCE was administered to a group of 1720 rural GPs as part of the "Medicine in Australia: Balancing Employment and Life (MABEL)" study. We estimate both a mixed logit model and a generalized multinomial logit model to account for different types of unobserved differences in GPs' preferences. Our results indicate that increased level of locum relief incentive, retention payments and rural skills loading leads to an increase in the probability of attracting GPs to stay in rural practice. The locum relief incentive is ranked as the most effective, followed by the retention payments and rural skills loading payments. These findings are important in helping to tailor retention policies to those that are most effective.

1. Introduction

In many developed countries, there is a long-standing shortage of doctors in rural areas. Due to the difficulties associated with attracting and retaining doctors to areas of workforce shortage, governments have implemented several incentive schemes designed to encourage doctors to move to, and stay in, rural areas. Australia is no exception to implementing such incentive programs (Mason, 2013), yet there continue to be shortages of general practitioners (GPs) in rural areas and a lack of high quality evidence that evaluates the effectiveness of such schemes (Barnighausen and Bloom, 2009; Buykx et al., 2010; Grobler et al., 2009; Humphreys et al., 2001).

One key issue is that the average length of stay for doctors practising in rural areas is significantly less than in metropolitan areas. Studies have shown that doctors who move to rural areas are likely to leave rural areas after the first two years (Russell et al., 2013a, 2013b). The specific reasons causing doctors to leave rural areas remain unclear. While some research has highlighted the factors associated with length of stay in rural practice, such as on-call arrangements, professional support and variety of rural practice (Humphreys et al., 2001, 2002), there is a lack of empirical evidence about whether existing retention policies have effectively increased the length of stay of doctors in rural areas, and more importantly which types of incentives are most effective in bringing about improved medical workforce retention in rural areas. This lack of evidence is partly due to the fact that little data exist on doctors' revealed preferences towards different types of incentives. Given this data limitation, we adopt a stated preference approach and employ a discrete choice experiment (DCE) in an attempt to address these issues.

In 2009, we conducted a DCE on rural GPs who participated in the "Medicine in Australia: Balancing Employment and Life (MABEL)" study. At that time rural GPs in Australia were eligible for some assistance from different programs designed to improve rural recruitment and retention. In 1992–93, the General Practice Rural Incentives Program (GPRIP) was established to help address the mal-distribution of GPs in rural areas, and subsequently included a separate Rural Retention Program (RRP) for GPs in rural and remote areas from 1999 (Russell, 2013). In addition, the Practice Incentives Program (PIP) introduced in 1999 includes a component of rural loadings added to total PIP payments payable to the GP practice based on the geographical size of the region and the remoteness of the practice. By the time of our study in 2009, both the GPRIP and RRP remained, though the eligibility criteria and payments formula

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for GPRIP and RRP were changed in 2009–10. Notably, new funding for rural locum relief also began in 2009. Despite these policies existing in the preceding 17 years, difficulty continues in retaining GPs in rural areas. Hence it is important to examine how retention incentive policies can improve the length of stay of doctors practising in rural Australia.

This study aimed to examine rural GPs' preferences for different types of retention incentives using a DCE. Specifically, we considered which key incentives are likely to be most effective in improving the retention of GPs in rural areas. The main purpose of this DCE is to determine whether a new or modified set of incentives is likely to influence retention. Our focus therefore was solely on workplace attributes that governments could modify using specific rural workforce policies. Hence, we limited possible retention incentive packages to a mix of a locum relief guarantee, GP retention payments, a rural skills loading, and family isolation payments to assist with school fees.

This study provides the first comprehensive empirical evidence to inform workforce retention policies on the effectiveness of possible interventions that governments could use to improve the length of stay of GPs in rural areas. Currently, there is little empirical evidence on doctors' preferences towards different job attributes due to the paucity of data on revealed preferences. As a result, DCEs have been increasingly used to address these issues on the job preferences of doctors (Lagarde and Blaauw, 2009). Furthermore, this study acknowledges the distinction between retention incentives and recruitment incentives. While there is undoubtedly some overlap between the factors associated with recruitment and retention, this distinction is particularly important because recruitment and retention may nonetheless require different types of incentive schemes.

2. Data

The DCE was conducted as part of Wave 2 of the "Medicine in Australia: Balancing Employment and Life (MABEL)" longitudinal survey of doctors in 2009. The MABEL study was approved by the University of Melbourne Faculty of Business and Economics Human Ethics Advisory Group (Ref. 0709559) and the Monash University Standing Committee on Ethics in Research Involving Humans (Ref. CF07/1102 – 2007000291). In Wave 1, the survey was sent to the population of 54,750 doctors in Australia and the overall initial response rate was 19.3% (10,498/54,750). In Wave 2, the MABEL survey was sent to a sample of 15,871 doctors including 5074 GPs. These GPs included those who completed the Wave 1 survey in 2008 ($n = 3825$) as well as those GPs who were new in the workforce in 2009 (($n = 1249$) part of the Wave 2 cohort of new doctors) (Yan et al., 2012).

As part of the Wave 2 mail-out, GP surveys that included the DCE were sent to GPs practising in rural areas. The group of rural GPs was defined using the Rural, Remote and Metropolitan Area classification (RRMA), and included GPs in RRMA's rural categories 3–7 (Department of Primary Industries and Energy and Department of Human Services and Health, 1994). Based on this definition, 1720 GPs included in our sampling frame were practising in rural areas at the time and therefore were invited to participate in the DCE (116 in the pilot and 1604 in the main wave).

2.1. Development of questionnaire

All attributes were selected on the basis of existing literature, expert advice from relevant professional organisations on key factors influencing GP retention in nonmetropolitan areas, and the fact that governments could feasibly implement them to improve rural workforce retention (Buykx et al., 2010; Hays et al., 1997; Humphreys et al., 2001; Viscomi et al., 2013; World Health Organization, 2010). All attributes were designed with a baseline level equivalent to 'no change' and two alternative levels of increasing pecuniary or non-pecuniary value.

The first stage of piloting examined content and face validity. This involved face-to-face and telephone interviews with a convenience sample of 10 rural and remote doctors from Victoria, NSW, Queensland and WA. This group covered RRMAs 3–7; males and females; an overseas trained doctor and a GP registrar. Some of the doctors had participated in MABEL Wave 1. The wording of some attributes and the values of some levels were refined during the pilot interviews. Once the desired attributes and levels for the rural GP DCE were chosen, a DCE was included in the Wave 2 pilot to collect data for the prior values of the parameters in our final DCE. The pilot design included an additional attribute (availability of continuing medical education) but this was dropped from the main survey as it is compulsory, and so does not differentiate significantly between doctors based on their location. The final set of attributes and levels used in the DCE are shown in Table 1.

Difficulty getting time off is often a deterrent to taking up practice, and a key trigger to leaving rural practice (Joyce et al., 2003). Many doctors working and living in small and isolated rural areas feel trapped or unable to get relief (Hays et al., 2003; Rourke et al., 2003). We tested two levels of paid locum relief for either four or six weeks per year, based on 'reasonable' levels of paid leave for GPs working in rural communities.

Retention grants for rural GPs have been available for more than ten years (Russell, 2013). A recent evaluation of Australian Government support programs of the health workforce recommended the continuation of retention grants (Mason, 2013), although research suggests that the distribution of funds should better match the context of what work rural doctors do and where they do it (Humphreys et al., 2012). Despite little evidence of their effectiveness, retention grants are simple-to-apply incentives aimed at compensating rural doctors for both their geographic isolation and more complex work practices (Humphreys et al., 2003; Viscomi et al., 2013). With rural doctors already receiving varying retention grant amounts, we tested two levels presented as 25% and 50% increases to their current support.

Rural GPs enjoy the variety and challenge of rural practice, including the opportunity to undertake more complex roles (Humphreys et al., 2003; Pathman et al., 1996; Rourke et al., 2003); however, the number of rural proceduralists are declining (Robinson et al., 2010). Rural doctors have been advocating a rural skills loading, based on the complexity of services they provide (usually procedural) and adjusted for location so the most remote

Table 1
Retention attributes and levels for DCE.

Retention attribute	Levels of Attributes
Locum relief guarantee	No paid locum relief Guaranteed paid locum 4 weeks in 12 months Guaranteed paid locum 6 weeks in 12 months
GP retention payments	No change in retention payments 25% increase in payments 50% increase in payments
Rural skills loading	No rural skills loading 10% procedural and emergency/on-call rural skills loading 20% procedural and emergency/on-call rural skills loading
Family isolation	No secondary school costs paid 50% secondary school costs paid for children boarding away from home 100% secondary school costs paid for children boarding away from home