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Health services use and lifestyle choices of Indigenous and non-Indigenous Australians

Stephen Whelan [1], Donald J. Wright*

School of Economics, Faculty of Arts and Social Sciences, University of Sydney, NSW 2006, Australia

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ABSTRACT

In many countries, the health outcomes of Indigenous populations are far worse than those of non-Indigenous populations. Two possible reasons for these differences are poor lifestyle choices and a lack of access to health services when ill. This paper uses Australian data on 17,449 adults, which was collected in the National Health Survey 2004–05 and the National Aboriginal and Torres Strait Islander Health Survey 2004–05, to examine whether Indigenous Australians make different lifestyle choices and health services use than non-Indigenous Australians. After controlling for a range of observable characteristics, it is found that Indigenous Australian are more likely to make poorer lifestyle choices, but are more likely to use health services than non-Indigenous Australians. There is evidence that these results are magnified for Indigenous Australians who live in remote areas. As the lifestyle choices of Indigenous Australians are so different from those of non-Indigenous Australians, the payoff from policies aimed at changing these choices is likely to be large both in terms of the efficient use of the health budget and more importantly in terms of health outcomes for Indigenous Australians.

Introduction

Indigenous Australians represent around 2.5 percent of the total Australian population. In the Australian context an Indigenous individual is someone who identifies as an Aboriginal or Torres Strait Islander. This approach is consistent with the concept of identity discussed by Hall and Patrinos (2012).

In a recent paper, Booth and Carroll (2008) found that the probability of a non-remote Indigenous Australian reporting self-assessed health in a better category (for example, good as opposed to fair) was .33 while that for a non-Indigenous Australian was .52. Although comparing self-assessed health across diverse cultural groupings can be problematic (Lindeboom & van Doorslaer, 2004; Murray, Tandon, Salomon, Mathers, & Sadana, 2002), these results are consistent with objective evidence that indicates that the health of Indigenous Australians is significantly worse than that of non-Indigenous Australians. For example, life expectancy at birth of an Indigenous male (female) in 1996–2001 was 59.4 (64.8) while for the entire Australian male population in 2000 it was 76.6 (82.0) (Australian Bureau of Statistics (ABS), 2006b). Indeed on a whole range of health measures Indigenous Australians have markedly worse outcomes than their non-Indigenous counterparts. For example, after adjusting for age, Indigenous Australians are over three times more likely to suffer from diabetes and one and a half more times likely to suffer from asthma than non-Indigenous Australians (ABS, 2006c).

The poor health experienced by Indigenous Australians has important implications for health expenditures. The Australian Institute of Health and Welfare reports that average health expenditure for Indigenous Australians was 1.39 times that for non-Indigenous Australians in 2008–09. Similarly, per capita expenditure on public hospital services for Indigenous Australians was more than double that of the non-Indigenous population. Clearly, an understanding of the underlying cause of these patterns potentially has important implications for the allocation and availability of resources.

Australia is not alone in experiencing poor health outcomes for its Indigenous population. In fact, the common thread of a series of recent papers discussing Indigenous health in Africa, Asia, Latin America, and the Caribbean, is that Indigenous populations have substantially worse health outcomes than non-Indigenous populations (Montenegro & Stephens, 2006; Ohenjo et al., 2006; Stephens, Porter, Nettleton, & Willis, 2006). These problems are highlighted by considering mortality. In Canada, life expectancy in 2000 for its Registered Indian male (female) population was 68.9 (76.6) compared to 77 (82.1) for the entire male (female) population (Health Canada, 2010). In the United States of America in 1996–98,

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* Corresponding author. Tel.: +61 2 93516609; fax: +61 2 93514341.
E-mail addresses: stephen.whelan@sydney.edu.au (S. Whelan), don.wright@sydney.edu.au (D.J. Wright).
[1] Tel.: +61 2 90369251; fax: +61 2 93514341.

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life expectancy for Native Americans was 70.6 while for all U.S. races it was 76.5 (US Commission on Civil Rights, 2004). Finally, in New Zealand in 2000–2002, life expectancy for Maori males (females) was 69 (73) while for non-Maori males (females) it was 77 (82) (Social Report, 2009). It is notable that in terms of life expectancy differences between Indigenous and non-Indigenous populations, Australia performs significantly worse than Canada, the U.S., and New Zealand.

There is a range of possible reasons for the poor health outcomes experienced by Indigenous Australians. This paper concentrates on two, the non-use of health services when ill and poor lifestyle choices. It is important to note that these two reasons may themselves be the result of wider cultural and historical influences that have led to a cycle of social exclusion and poor health outcomes (Brady, 2000; HealthInfoNet, 2012; Johnston & Thomas, 2008). While likely to be important, a thorough analysis of these wider influences is beyond the scope of this study.

Evidence that lifestyle choices can lead to poor health outcomes as measured by self-assessed health status or mortality is well documented (Balia & Jones, 2008; Contoyannis & Jones, 2004). Moreover, different underlying reasons for poor health outcomes have important implications for policy choices. For example, if lifestyle choices rather than the use of available health services are the main source of poor health outcomes, this has important implications for how resources should be targeted to improve the health outcomes of Indigenous Australians. In particular, expenditure on preventative measures such as improving smoking choices may prove more cost effective than increased expenditure on therapeutic measures. The aim of this paper is to shed some light on these issues and in turn inform the policy debate surrounding the health of Indigenous Australians.

There is also a substantial literature on lifestyle choices of Indigenous populations. It is consistently found that Indigenous populations make poorer lifestyle choices than non-Indigenous populations. For example, in New Zealand and the United States smoking prevalence is much higher among the Indigenous population than the non-Indigenous population (Bramley, 2005). The same is true in Canada (Anand et al., 2001), and Australia (ABS, 2006c). With regard to alcohol consumption, Indigenous populations in Australia, Canada, New Zealand, and the United States consume alcohol at riskier levels than their non-Indigenous counterparts (Brady, 2000). On the other hand, ABS (2006c) reports that in Australia, after adjusting for age, the proportions of Indigenous and non-Indigenous adults who reported drinking at risky or high risk levels were similar and around 15%.

Data on health services use by Indigenous populations is harder to find. However, there is a general perception that access to health services is poor for Indigenous populations (Lloyd & Wise, 2010; Stephens et al., 2006). Evidence supporting this perception was provided by Newbold (1997) who used single equation methods to demonstrate that Aboriginal Canadians were much less likely to use physician services relative to the overall Canadian population. This pattern was more pronounced for Aboriginal Canadians living in rural areas or on reserves. On the other hand, Deeble et al. (1998, p. 56) found that expenditures on publicly provided health services by Indigenous and non-Indigenous Australians were similar after controlling for income. Although Wilson, Rosenberg, and Abonyi (2011) do not compare Canadian Indigenous health services use to that of non-Indigenous Canadians, they do find that older Indigenous Canadians are more likely to use a physician and less likely to use a nurse than their younger counterparts. The papers by Newbold (1997) and Wilson et al. (2011) are unique among the studies mentioned above in that they control for various demographic and socio-economic variables and use single equation multi-variate regression methods.

In this paper, systems of multi-variate probit and linear probability equations with possible correlated errors are estimated. The dependent variables represent both health services use and lifestyle choice variables while the explanatory variables include Indigenous status, measures of geographical isolation (remoteness), demographic variables, socio-economic variables, and long-term health conditions. To the authors knowledge, such an approach is unique in the literature that compares Indigenous to non-Indigenous health services use and lifestyle choices. In addition, it is the first paper that uses Australian data to make such comparisons in a multi-variate setting.

The results of the empirical analysis provide answers to the central questions of this paper, namely, (i) are Indigenous Australians more or less likely to use health services when ill relative to non-Indigenous Australians, (ii) are Indigenous Australians more or less likely to adopt lifestyle choices that lead to or exacerbate adverse health outcomes relative to non-Indigenous Australians, and (iii) do Indigenous Australians who reside in more geographically isolated or remote communities make health services use and lifestyle choices that are different from those residing closer to or in urban centres.

Controlling for demographic, socio-economic, and long-term health conditions is crucial in answering these questions as Indigenous Australians, like Indigenous populations throughout the world, are amongst the poorest, least educated, and unhealthiest sections of the overall community (ABS, 2006c; Hall & Patrinos, 2012). Whether Indigenous Australians make different health services use and lifestyle choice decisions than non-Indigenous Australians after controlling for demographic, socio-economic, and long-term health conditions, has important implications for the nature of appropriate policy responses. Moreover, if lifestyle choices and health services use do not differ, then an argument can be made that health resources should be directed to all disadvantaged Australians and not specifically targeted to Indigenous Australians.

Given that a large proportion of Indigenous Australians (24%) (ABS, 2006a), reside outside urban centres an understanding of the different behaviours of that group is critical for policy development. As Hall and Patrinos (2012) note, spatial or geographic considerations appear to be important influences on poverty outcomes for Indigenous peoples around the world (p. 378). It is possible that similar influences are important for health services use and lifestyle choices.

Theoretical model

In Appendix A, a two-period constrained optimisation model, which is based on Becker (1965), Contoyannis and Jones (2004), and Balia and Jones (2008), is developed. In each period, given their health state, individuals make consumption activities choices (including lifestyle choices such as whether to smoke or not) and health services use choices to maximise expected utility looking forward to the effect these choices have on their future health states. These choices depend on the prices of goods, the prices of health services, observable and unobservable influences on utility and health, and individuals' health states. The model is used to motivate and inform the empirical analysis that follows.

Institutions and the data

Institutional setting

In 2004, Australia had a mix of public and private provision of health services. In general, private health insurance is available to cover gaps between public reimbursement and doctor charges for services delivered in private hospitals as well as private hospital