

## Potential Provision of Information for Researchers in Academic Field: Opinion

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### Introduction

It is a great pleasure and honour to be invited to work with the Foundation Editor-in-Chief, Co-Editor-in-Chief and the other Members of the Editorial Board of the Journal of Health and Medical Economics, and to contribute an opinion to the inaugural issue. The opinion will focus broadly on the potential provision of information for researchers in this academic field. The general area of health and medical economics, as addressed by the recently established (in 2015) Journal of Health and Medical Economics, holds the promise of an exciting academic platform for a variety of studies in the area. The subject area has great potential as an intersection of applied health science, applied economics, applied econometrics, and applications of cost-benefit analysis. Health and medical economics can potentially draw on a number of related fields in economics, finance and econometrics. For example, a major stimulus to recent research in finance and financial econometrics has been the increasing provision of more comprehensive and higher time frequency data sets. This has culminated in the provision of ultra-high and even Nano, frequency trading data sets, which document market transactions to the millisecond. While this type of frequency will not necessarily be mirrored in the health and medical economics sector, unless the focus is on the behaviour of pharmaceutical and medical stocks in financial markets, perhaps as an analysis of responses to breakthrough developments or patent establishment, there is likely to be an increasing provision of extensive panel data sets that are suitable for research in the area. For example, the Centre for Disease Control and Prevention in the USA, NCHS has developed a record linkage program designed to maximize the scientific value of the Center's population-based surveys. Linked data files enable researchers to examine the factors that influence disability, chronic disease, health care utilization, morbidity, and mortality. NCHS is also linking various NCHS surveys with death certificate records. This linkage of data sources is being increasing mirrored around the globe.

In Europe, Eurostat, the Organisation for Economic Cooperation and Development (OECD) and the World Health Organisation (WHO) have established a common framework for joint healthcare data collection. This provides a framework for EU Member States submit their data to Eurostat. The extensive data coverage includes: healthcare expenditure following the methodology of the system of health accounts (SHA); statistics on human and physical resources in healthcare-supplemented by additional Eurostat data on hospital activities (discharges and procedures).

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More generally, the provision of monetary and non-monetary statistics may be used to evaluate healthcare system responses to various factors. Research facilitated by comprehensive measures of the financial, human and technical resources within the healthcare sector, the allocation of these resources between healthcare activities, groups of healthcare providers, or healthcare professionals, should facilitate a much better understanding of the cost effectiveness of healthcare policies.

Not all information is necessarily available for general research, as yet, given the issues of patient and informational confidentiality. In Australia, the Federal Government has recently linked various medical and welfare services, plus the taxation system, as shown in the screenshot shown in **Figure 1** taken from the myGov portal. This portal provides a convenient way of logging in to Australian Government online services. (The screenshot is from my own access which only currently has the medicare system linked to the system).

As the figure shows, further access could be linked to the eHealth record system, Department of Veteran Affairs, Nanny Pilot Program, National Disability Insurance Scheme, My Aged Care, Australian JobSearch, Child Support, Australian Taxation Office, and Centrelink. (Centrelink is delivered by the Australian Government Department of Human Services and supports people with payments and services at times of major change) (**Figure 1**). The intersection of these various data sources provides a potentially massive panel data set, which would lend itself to research in the general area of health and medical economics. A variety of potential impacts on

Member services	Status	Date linked	Link / Unlinl
<a href="#">Medicare</a>	✔ Linked	11/09/2015	
Personally Controlled eHealth Record System	✘ Unlinked	Not Linked	
Department of Veterans' Affairs	✘ Unlinked	Not Linked	
Nanny Pilot Programme	✘ Unlinked	Not Linked	
National Disability Insurance Scheme	✘ Unlinked	Not Linked	
My Aged Care	✘ Unlinked	Not Linked	
Australian JobSearch	✘ Unlinked	Not Linked	
Child Support	✘ Unlinked	Not Linked	
Australian Taxation Office	✘ Unlinked	Not Linked	
Centrelink	✘ Unlinked	Not Linked	

**Figure 1** The Australian myGov portal.

health could be explored, location, age, gender, and employment, to name but a few. Admittedly, the appropriate safeguards would have to be in place, but it would potentially offer tremendous benefits to healthcare research. The issue of data availability is a crucial one.

In the USA, the American Health Information Management Association (AHIMA), at a more micro level, focuses on the quality of healthcare data. Obviously, a great deal depends on the availability of quality data, given that poor documentation, inaccurate data, and insufficient communication might result in errors and sub-standard outcomes. AHIMA's Data Quality Management Model discusses the business processes that ensure the integrity of an organization's data throughout the information lifecycle, during collection, application, warehousing (or storage), and analysis of such data. The maintenance of source data integrity is also vital.

At the opposite extreme, at a macro level, advances in data-mining techniques means that some research in this field can potentially be undertaken at a global level using information available on the web, news feeds or on Twitter, among others. Keeping abreast of the latest happenings within the healthcare world is a necessity for all medical professionals. New intelligence continually arises from the constant research and fieldwork being conducted. While Twitter is not likely to replace traditional channels for acquiring professional knowledge, it offers a convenient additional tool. Text mining techniques provide a means for assessing perceptions of the relative importance of new medical information available on-line.

In my opinion, the research area of health and medical economics is an exciting one, which is likely to be greatly enhanced by the expanding provision of data resources, and the availability and use of data via the WWW.