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The Development of a National Census of the Health Information Workforce: Expert Panel Recommendations

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Abstract. ***Background.*** There is a need to develop a national census of the health information workforce to inform the planning and forecasting of the workforce and inform education and training needs. Yet, this raises a number of issues that need to be incorporated into the planning stage. This paper discusses the issues and recommendations for the development of a national health information workforce census and an Expert Panel's recommendations for how we should proceed. ***Methods.*** Nominated participants from Australia and New Zealand participated as Expert Panel members in focus groups to identify and discuss the issues. Recommendations were identified during the focus groups and documented for participant verification. These were then grouped into themes. ***Results and Discussion.*** The themes of the issues and considerations identified in the focus groups were: Aim of the census; Census advertisement; Census delivery; Participants; Longitudinal study; Types of data elements; Data development and standards; Data ownership, access and governance; Global census; Dissemination of results.

Keywords. Health information, workforce, manpower, census, minimum data set

Introduction

The health information workforce (HIW) is critical to ensuring the effective and efficient functioning of healthcare organisations. At present Australia, like other countries around the world, has limited capacity to identify and plan for the needs of this critical yet often unacknowledged professional group. To enable high quality and safe care into the future we need to know, as a minimum, HIW issues such as the composition, education and training needs, and emerging challenges. A national census of the health information workforce will enable the collection of data to allow the

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quantification and qualification of this workforce. This paper discusses the issues and considerations for the development of a national health information workforce census and an Expert Panel's recommendations for how we should proceed.

1. Background

Health organisations and national health systems are increasingly adopting digital health. Digital health technologies can be used within an organisation, but are often large-scale implementations that allow integration and data exchange across health service provider organisations and among care providers, researchers and public health. Newer examples have emerged with health-related mobile apps and social media or other networking and sharing platforms.

This approach to health service redesign is underpinned by bodies of knowledge in health information management, health information systems, health information technology, and holistically, health informatics. Thus, with digitally-enabled ways of working in health has come a rising recognition of the importance of health information infrastructures within health care. This in turn has placed a new focus on the people who work with health information, and the concept of health information work as specialised work, encompassing roles such as health information professional, health IT manager, health information manager, clinical information officer, health informatician, clinical classifications officer, data analyst, and health librarian.

But what do these roles entail, exactly? The challenges that exist in identifying the unique characteristics of such work have become more and more complex. Longstanding discussions of the convergence of health information roles have persisted into recent years in the literature [1-4]. The unifying or common dimension generally acknowledged is that these roles are concerned with optimising the use of data, information, and knowledge as broadly as possible throughout the health system.

In the past decade, Australian health information professionals have advocated for clearer definitions of the health information workforce: What is its scope, knowledge domain, professional competencies? This has partly come about through health information professionals' concerns about lack of recognition as a contributor to health care services, and in response to recently-introduced broad-ranging regulation and registration of other sorts of health professionals. Both government and professional bodies have attempted to gather data on the size of individual disciplines within the health information workforce [5-8]. The 2013 Health Workforce Australia report recommended there be an improved data collection process for the health information workforce [7].

A subsequent examination of the key considerations for national health information workforce data collection was held as a focus group in 2015, led by Butler-Henderson and colleagues [9]. The main recommendation that arose from this work was the need to progress the development of a national census to enable workforce planning and forecasting. This data could be used to inform the education and training needs now and for the future. Once established, the minimum data elements could be included consistently in every deployment of a national census for the health information workforce.

The aim of the study reported in the present paper was, through inter-professional consultations with health information workforce experts, to collect and analyse issues for the development of this national workforce census, and to workshop how these could be addressed.

2. Methods

In 2016, a collaboration between the University of Tasmania and the University of Melbourne commenced the development and testing of a health information workforce minimum dataset. A Delphi approach was selected as the overall study design for this study. In the first Delphi stage, ten professional bodies, employers, and government organisations were identified to nominate representatives in an Expert Panel: Australian Digital Health Agency, Australian Information Industry Association, Australian Library and Information Association Health Libraries Australia, Australasian College of Health Informatics, Clinical Coding Society of Australia, Healthcare Financial Management Association, Health Informatics Society of Australia, Health Information Management Association of Australia, the Victorian Health and Human Services Workforce Branch. The Health Informatics New Zealand was also included in this study to ensure the minimum dataset would be applicable for other countries. Representatives were required to have extensive (i.e. >10 years) professional experience, be available to attend a full day focus group session in either Melbourne or Sydney, and consent to participate in multiple rounds for the study.

Expert Panel members undertook pre-focus group readings to ensure they had a thorough understanding of the literature on this topic. During the focus group, participants were required to list on a blank piece of paper up to ten issues or considerations for the development and deployment of a national census. These were then discussed throughout the day, and the issues and recommendation documented and presented back to the participants at the conclusion of the focus group to confirm the contents reflected the items discussed. Each group were also invited to raise any additional considerations during this review. Following the focus groups, the two lists from Sydney and Melbourne were merged by the Investigators into one list, and sorted under themes.

3. Results and Discussion of Implications

Across the two focus groups, there were thirteen participants. They represented key stakeholders including: Australian Information Industry Association, Australian Library and Information Association Health Libraries Australia, Clinical Coding Society of Australia, Health Informatics New Zealand, Health Informatics Society of Australia, Health Information Management Association of Australia, and the Victorian Health and Human Services Workforce Branch. The issues and recommendations raised are grouped into ten themes (Table 1). The University of Tasmania has committed to support the project, including human resources for at least the next ten years, to ensure the development of the minimum dataset and deployment of at least three census.

Participants identified the *Aim* as an important consideration. There was recognition that it will be revised by stakeholders over time to account for new priorities for which the data will be used. Ongoing consideration of what the census data will be used for will revise the data elements required to be collected. To ensure the revision process and data development is informed by key stakeholders, there are a number of strategies in place, including: engagement with the Management Group; the Expert Panel ongoing review of current literature; a large consultation group reviewing data elements; and, providing regular communication with stakeholders.

Informing potential participants of the census will be another key consideration. A website for the health information workforce census will provide participants with information, including the date of the next census, a form to register for communications and reports, a form to register for the longitudinal study, governance documents, and contact information. The Management Group is also considering how to use social media to engage with stakeholders and participants.

Table 1. Summary of the key themes and recommendations from the Expert Panel.

Theme	Key details and recommendations
Aim of the census	• Aim: To quantify and qualify the health information workforce in Australia to enable planning, forecasting, and to inform education and training. • Only two years should lapse between the first and second census, to encourage engagement and provide short-term comparative data, and then every three years thereafter.
Census advertisement	• Early and regular engagement with key stakeholders. • Development of a 'Stakeholder Engagement Plan', including a calendar of communications across different mediums. • Creation and maintenance of a Health Information Workforce census website • Establishment of a strategy to overcoming organisational firewalls.
Census delivery	• Available online through the website, with a paper census available upon request. • Open to complete over a four week period. • Length: 15 minutes to complete to minimise respondent burden.
Participants	• Participation criteria: by self-identification as part of the HIW workforce; and working on Australian health information tasks (can be residing overseas). • Criteria to be set by the Health Information Workforce Working Group, part of the Health Workforce Principal Committee.
Longitudinal study	• Linked census data for an individual to be an option. • Self-nomination to participate longitudinally.
Types of data elements	• Considerations for respondent burden: whether a question should be asked for every census (minimum dataset); the first census only; as a longitudinal study question; or a question to be asked for a set number of census (additional questions). • Working principle: elements should be future proof, that is, relevant for at least the next 15 years to allow monitoring over time.
Data development and standards	• A census project Technical Specifications report to be developed, including applying ISO 11179 Metadata registries requirements. • National Minimum Dataset items to be used, where possible, to allow for comparisons with other workforces captured in the Australian Bureau of Statistics National Census. • The dataset to be developed using the *METeOR data development portal*.

Theme	Key details and recommendations
Data ownership, access and governance	• Census must be deployed and the data managed by an independent organisation. • Currently the University of Tasmania/University of Melbourne collaboration intend to deploy the census at the completion of the minimum dataset development. • Project committee to engage with the Health Workforce Principal Committee for Australian Health Ministers' Advisory Council (AHMAC) to determine if this is the best strategy for Australia. • A Privacy policy must outline: the anonymity of the census; how the data will be stored and for how long; who can access the data; and the process for data access. • Access to the data for members of the Management Group, without cost. • Process for data access: data to be available to individuals or organisations for non-commercial use (e.g. research), with cost limited to administrative purposes to provide the data. • A condition of data access to include: a report back to the census governance group to allow monitoring of the publications and other outputs. • Privacy statement at start of census to be included.
Global census	• Census to be developed with option for use in other countries to allow comparisons of different countries workforces. • To be globally relevant, with questions being worded so the census can be deployed in any country.
Dissemination of results	• Reports developed by the University of Tasmania/ University of Melbourne collaboration will be: made publicly available on the census website; and provided directly to listed organisations/ individuals in the Stakeholder Engagement Plan. • A form on the website will allow people to register to receive an electronic copy of the report. • Interactive graphs are planned for the website to enable visitors to interact with the population level data.

The scope of the census was the most difficult question to be resolved. Participants concluded it should be defined as: self-identification and working on Australian health information tasks. The location of work was not a defining factor; for example, an individual working offshore on Australian health information tasks, including off-shore coding, would be included. However, an individual who was Australian trained and working overseas on health information tasks for another country would be excluded. The census is for individual participants to complete, but the option remains open for future census to be organisational targeted.

Whilst a census by definition is a snapshot of the total population of the workforce, a longitudinal study of individuals was advocated. Census participants will have the option to register for the longitudinal study so their census responses will be linked. This feature will enable the mapping of an individual's career progression and professional development over time. The intention is that a cohort of participants will render a more detailed dataset for analysis regarding planning and training needs.

The census will be mobile compatible, comply with W3C/IETF disability standards and have the functionality to be completed in parts. A participant will be able to save their responses to return to complete at a later time.

A process for data access will be established. This will include consideration for a data access application that captures what the data will be used for, and a committee to review access requests.

The census will be developed with the option for use in other countries, and the University of Tasmania/University of Melbourne would strive to work with them to allow the capture of comparable data.

3.1. Next Steps

Over the next six months, the minimum dataset developed at the focus group will be reviewed through multiple feedback methods from the Expert Panel and the Consultation Group, using a Delphi study approach. By the end of this, the study collaboration will have established a: minimum dataset that will be the basis of future census; a list of additional data elements for the first census only; a list of data elements to be asked of longitudinal study participants; and, set of questions to be asked for a set number of census, but not thereafter. The first deployment of the national health information workforce census is scheduled for 2018.

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