

FINAL

A Review of the Australian Health Informatics Workforce

A Report by the
Health Informatics Society of Australia



in association with
Michael Legg & Associates
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to the
Australian Department of Health and Ageing

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Health Informatics Society of Australia Ltd
413 Lygon Street Brunswick East
Victoria 3057, Australia
Phone +61 3 9388 0555

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1 EXECUTIVE SUMMARY

The Health Informatics Society of Australia (HISA) made a proposal to the E-Health Branch of the Australian Department of Health and Ageing (DoHA) that a review of the health informatics workforce be undertaken and were subsequently contracted to *'prepare a background discussion paper which sets out the scope and structure of the health informatics workforce and draw together a summary of the key issues, gaps and opportunities for further work to be undertaken on this issue'*. This then is a scoping study.

The most respected leaders in health, here and internationally, have made strong statements around the contribution of information to healthcare and the role of health informatics. From the safety and quality arena, Donald Berwick has gone so far as to say 'information is care' while Sir Muir Gray advocates that 'knowledge is the enemy of disease'. The NHHRC in their report, here in Australia, and US President, Barack Obama, in his speech supporting a large expenditure in health informatics, have both argued that significant health reform will not be possible without the application of health informatics.

Health informatics is the science and practice around information in health that leads to informed and assisted healthcare. Information is used across the whole spectrum of healthcare: in prevention; diagnosis; treatment; management; learning; and in research and development. For the purposes of the paper 'health informatics workforce' has been taken to mean 'those who work on information-related activities in healthcare'.

All those consulted believe there is a significant and immediate problem around the size and structure of the Australian health informatics workforce. The main issues are:

1. There are too few health informaticians for the current workload and unless addressed these workforce and skills shortages will be a major barrier to implementing the National E-Health Strategy and likely to health reform more generally
2. Too little is known about the health informatics workforce – we know neither how many we have now, nor how many we need, and there is no indication that it is yet part of any national health workforce strategy or the remit of the National Health Workforce Agency
3. There is a fundamental breakdown in the market between employers, education providers and potential workforce entrants – while there is a strong demand by employers for workers, there has been a failure to attract students leading to the closure of well-regarded university courses
4. Because it is an emerging field, health informatics does not have wide recognition as a discipline in its own right; there is a poor general understanding of the knowledge domain in Australia; and many of the workers in clearly related jobs do not yet self-identify
5. There is no career structure for health informaticians in Australia; there is no standardisation of job names or job descriptions and there is no widely adopted set of competencies
6. There will be a long lag time to produce new health informaticians because of the multi-disciplinary nature of the education and the complexity of the discipline – the workforce we do have must be used optimally
7. A contributing factor to the lack of needed recognition and action on health informatics workforce issues is the fragmented representation of those in the discipline



Direct structured consultations and a survey were undertaken to characterise the health informatics workforce and to identify issues and opportunities. The survey was the first undertaken in Australia aimed at understanding what is done in information-related jobs and what the job titles are. More than a thousand completed the survey. While we do not know the number of health informaticians in Australia, a reasoned estimate is made that there are around 12,000.

From the survey we know most health informaticians¹:

- Are female
- Work in large organisations that provide healthcare
- Are aged 45 or more and expect to work for more than 10 years
- Work broadly across 12 areas of work but are more likely to work full-time in systems, records or improvement related activities
- Have post-graduate qualifications
- Have education and training in two or more distinct domains of knowledge with their first training most likely to be in a health discipline

The categories of information work developed during consultation were divided into two kinds: those that might be considered as working 'in the system'; and those that might be considered working 'on the system'. The categories of information-related work analysed in the survey were:

- In the system
 - Records - Capturing information about a consumer and their interactions with the healthcare system and managing that information.
 - Analysis - Information analysis for care, retrieving and analysing information for direct patient care or population health
 - Direct - Direct care using information science and technology for the direct provision of healthcare for example the reconstruction of images, the delivery of psychiatric therapy or the use electronic games for rehabilitation
 - Decision - Decision support gaining access to knowledge, helping with workflow and automating processes such as provision of clinical alerts and warnings
 - Communications - Meaningful exchange of health information between clinicians and clinical systems within a practice or facility and with others outside the facility including consumers and other health services.
 - Training - Direct vocational training for purposes such as changing work practices
- On the system
 - Systems - The development, implementation and management of information and organisational systems
 - Infostructure - Policy development, terminology, structured information, architecture and standards development
 - Improvement - Retrieving and analysing information to improve processes at every level; from care of the individual consumer through to public health and health policy
 - Education - eLearning from knowledge presentation and assessment, through to simulation training for both consumers and workers
 - Research - Including biomedical, informatics and management research
 - Administration - Of the business of healthcare including logistics, human resources, planning and finance

The characteristics of those undertaking each category of work were analysed and the job titles from consultation and the survey listed.

¹ Assuming the survey to be representative



Mitigation of the first of the identified issues, the workforce shortage, is considered in the paper using the following framework:

- Increase the supply of workers by
 - Improving recruitment
 - Increasing the opportunities for education and training
 - Retaining the workforce longer
 - Attracting re-entry of those who have exited
 - Outsource internationally
- Redistribute the workforce from areas of lower to higher priority
- Improve the productivity of the workforce by
 - Standardisation
 - The introduction of new technology including software and knowledge tooling
 - Improved work environment
 - Consolidation
- Reduce the demand by
 - Design

It is clear that it will take more than a single response to address the issues identified in this paper.

It is recommended that a workforce management plan be developed under the stewardship of the Commonwealth and the most representative of the organisations. This plan would prioritise the issues, tease out the opportunities against each issue, draw on international work that is underway and determine the resources required for its implementation so that a business case for funding can be developed if that is necessary.

Given the lag times involved this cannot be delayed or be a prolonged process. It should not prevent aligned initiatives from proceeding if resources are already available, such as those around education which would clearly be a component of any workforce plan.

Developing and implementing Government policy in this area is seen to be of national significance. HISA would be pleased to help further.