Health Informatics and its Workers

Michael Legg
Defining Health Informatics

HISA has approached the definition of health informatics in three ways

• By formal definition

• By describing a health system that has best-practice health informatics in place; and

• By what the people in health informatics know and do
A new definition

Health informatics is the science and practice around information in health that leads to informed and assisted healthcare.
Vision


– Engaging Consumers
– Transforming Care Delivery at the Point of Care
– Improving Population Health (Data sharing capabilities and initiatives)
– Aligning Financial and Other Incentives
– Managing Privacy Security & Confidentiality
– Policy and Implementation
A map of the health informatics knowledge domain
A map of the health informatics knowledge domain
What’s in a name?

Health informatics is the science and practice around information in health that leads to informed and assisted healthcare

• The definition is broad enough to embrace the body of knowledge described and to be inclusive of all those who work on information-related activities in healthcare.

• This is not a universally held view

• It is an issue that the lack of agreement on the words that should be used leads to confusion and misunderstanding
How many are there?

- **We don’t know!**
  - our best estimate is there are 12,000

- Apply the ‘health information manager’ proportion of responses from the survey to the census data:
  \[
  \frac{3,434}{372} \times 1,279 = 11,806
  \]
  health informaticians in Australia

- Apply the ‘IT, engineering or science professional’ proportion of responses from the survey to the ACS data:
  \[
  \frac{3,198 \times 0.63}{236} \times 1,279 = 10,919
  \]
  health informaticians in Australia

- Assume a ratio in Australia of 1:50 (slightly less than UK but a bit more than Gartner in the US) and apply the workforce numbers.
  - whole health workforce as the comparator
    \[
    \frac{753,800}{50} = 15,076
    \]
    health informaticians in Australia
  - health workers as the comparator
    \[
    \frac{447,800}{50} = 8,956
    \]
    health informaticians in Australia
What education and training do they have?

Figure 30 – The number of respondents with 1, 2, 3, and 4 or more qualifications

- Science and Engineering, 200
- Humanities, 127
- Informatics, 414
- Management, 509
- Health informatics, 512
- Health, 622
- Other, 511
Most health informaticians

- Are women
- 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 are divided into two kinds:

- In the system
- On the system
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** – 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** - 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
Survey – Full-timers

- Systems
- Records
- Improvement
- Research
- Decision
- Comms
- Analysis
- Training
- Infostructure
- Admin
- Education
- Direct

0 50 100 150 200
Job titles - Records

Records
This work category includes tasks like capturing information about a consumer and their interactions with the healthcare system and managing that information.

Job titles for this work category from consultation:
- Cheque
- Clinical data manager
- Data and information co-ordinator
- Data manager
- Health information manager
- Health records officer
- Practice managers
- Registrar

Job titles for this work category from the survey:
- Administration Manager
- Administration Officer
- Assistant Health Information Manager
- Auditor
- Cancer Information Manager
- Claims Coder
- Chief Health Information Manager
- Clinical Coder
- Clinical Coder and Client Services Administrator
- Clinical Coder/Health Information Manager
- Clinical Coding Manager
- Clinical Coding Manager
- Clinical Data Services Officer
- Clinical Nurse Specialist/Health Advisor
- Clinical Transcriptionist
- Coding Manager
- Coordinator Clinical Coding
- Data Manager
- Doctor
- Gynaecologist
- Health Information Manager

The characteristics of respondents working full-time in this work category are presented graphically below.

FINAL DRAFT Health Informatics Workforce Review

Health Information Manager - HSCIS & medicolegal
Health Information Release Manager
Health Systems Business Analyst
Information Manager
Lecturer
Manager - Medical Record Services
Manager Health Information Services
Patient Health Information Services Coordinator
Project Manager
Psychiatric Nurse
Research Manager
Senior Business Analyst Clinical Systems
Senior Clinical Systems Analyst
Senior Health Information Officer
Senior Laboratory Information Technology Officer
Software Engineer
Unique Patient Identifier (UPI) Systems Manager

Health Information Officer
Health Information Services Training Coordinator
HIE Data Manager
Joint Records Centre Deputy Manager
Manager - Clinical Information
Manager Coding Services
Medical Laboratory Scientist
Professional Officer
Project Officer
Reconciliation Officer
Senior Analyst
Senior Clinical Coder
Senior Health Information Manager
Senior Health Records Officer
Senior Medical Receptionist
Supervisor, Pathology IT

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## Health Informatics Professional Career Matrix®

<table>
<thead>
<tr>
<th>Level</th>
<th>Clinical &amp; Health Sciences</th>
<th>Canadian Health System</th>
<th>Project Management</th>
<th>Organizational &amp; Behavioural Management</th>
<th>Analysis &amp; Evaluation</th>
<th>Information Management</th>
<th>Information Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Master</td>
<td>Chief Medical Informatics Officer</td>
<td>Chief Information Officer</td>
<td>Practice Director</td>
<td>Research &amp; Analysis Vice President</td>
<td>Chief Privacy Officer</td>
<td>Chief Technology Officer</td>
<td></td>
</tr>
<tr>
<td>4 Expert</td>
<td>Clinical Informatics Director</td>
<td>Senior Policy Analyst</td>
<td>Program Manager Office Director</td>
<td>Change &amp; Evaluation Services Director</td>
<td>Senior Methodologist</td>
<td>Chief Quality Officer</td>
<td>Information Technology Director</td>
</tr>
<tr>
<td>3 Proficient</td>
<td>Clinical Informatics Manager, Outcomes Specialist</td>
<td>Business Development Analyst, Risk Manager</td>
<td>Project Director, Program Management Office Manager</td>
<td>Engagement Manager, Program Manager, Service Manager</td>
<td>Senior Researcher</td>
<td>Privacy Specialist, Registry Manager, Standards Manager</td>
<td>Data Architect, Security Specialist, Solution Architecture Lead</td>
</tr>
<tr>
<td>1 Emerging Professional</td>
<td>Clinical Coordinator</td>
<td>Junior Business Analyst</td>
<td>Project Coordinator</td>
<td>Product Support Analyst, Training Coordinator</td>
<td>Research Analyst</td>
<td>Operations Assistant</td>
<td>Help Desk Coordinator, Testing Analyst</td>
</tr>
</tbody>
</table>
Survey results

Do you consider yourself a health informatician.

- Yes: 733 (59%)
- No: 500 (41%)

Additional Comment
What are the issues?

• There are too few health informaticians for the current workload and this will be a major barrier to implementing the National E-Health Strategy in particular and to health reform more generally.

• Too little is known about the health informatics workforce - we know neither how many we have nor how many we need and there is no indication that it is yet part of national workforce strategies and the remit of the National Health Workforce Agency.
What are the issues?

- There is a fundamental breakdown between the market, education providers and potential workforce entrants with a strong demand by employers for workers on the one hand, and yet a failure to attract students leading to the closure of well-regarded university courses on the other.

- Because it is emerging, health informatics does not have wide recognition as a discipline in its own right; there is a poor understanding of the knowledge domain in Australia; and many of the workers do not yet self-identify despite them working in clearly related jobs.
What are the issues?

• There is no career structure for health informaticians in Australia and competencies and job names and their descriptions are not standardised.

• 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.

• A contributing factor to the lack of needed recognition and action is the fragmented representation of those in the discipline.
What can be done?

• 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
A Review of the Australian Health Informatics Workforce

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HISA Board - Retired

- Vince McCauley
- Melanie Ford
- Gary Morgan
- Stuart Hope
- Marcus Wise
HISA Board - Elected

- Marie Cameron
- Joan Edgcumbe
- Anthony Maeder
- David Rowlands
• Office bearers 09-10
  – President – Michael Legg
  – Vice President – Peter Croll
  – Secretary – Joan Edgecumbe
  – Treasurer – David Rowlands

• Special thanks to
  – Marie Cameron (retiring from VP)
  – Jon Hilton (retiring from secretary)
CEO Resignation

• Brendan Lovelock
Awards

• Don Walker Awards
  – Grahame Grieve (Kestral Computing) for his contribution to standards development in particular the harmonisation of CEN, ISO and HL7 data-types
  – Pen Computing for their clinical audit tool for primary care

• Inaugural HISA Media Award
  – Karen Dearne (The Australian)
Next Conference

• Managing the Business of Healthcare
  – Melbourne (late August)
  – David Rowlands (Chair of OC)
  – David Hansen (Chair of SPC)
Thank you

• Vitali Sintchenko – SPC Chair
• Peter Croll – Conference and OC Chair
  – HISA response to consultation on identifiers