Recognition of Health Informatics in Australian Standard Classifications for Research, Occupation and Education

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Introduction

• Health Informatics (HI) is well established as a domain of knowledge, a professional occupation and a field of education internationally.

• In Australia, Health Informatics has been an active field of endeavor for decades.

• Yet work on building a strong research base, a skilled workforce and an accredited learning and development system in Australian Health Informatics is not yet anywhere near maturity.

• There may be structural factors.

• This paper examines how work towards appropriate recognition of HI in Australia – its existence as a body of knowledge and its socio-economic contribution – is supported at a fundamental level, that is, within formal systems for identifying fields of research, occupation and education at the national level.
Method

• Identification of a range of relevant **Australian standard systems** for research, education and occupation publicly available online.

• The current version of each was searched using document ‘Find’ tools for any occurrence of the following terms: ‘biomedical informatics’, ‘clinical informatics’, ‘ehealth or ‘e-health’, ‘health informatics’, ‘health information’ (including management, science, systems and technology) and ‘medical informatics’.

• Each occurrence was read and analyzed to determine its significance.

• Manual inspection using expert knowledge was also done to identify additional relevant terms, e.g. ‘health 2.0’, ‘medical Internet’, ‘telemedicine’.

• The general term ‘informatics’ and the specific term ‘bioinformatics’ were excluded.
• **Recognition of health informatics as a field of research**
  
  – **3.1.1. Australia and New Zealand Standard Research Classification**
    
    • The current version of ANZSRC was released in 2008 (ARC).
    • DIVISION 08 INFORMATION AND COMPUTING SCIENCES
      – GROUP 0807 LIBRARY AND INFORMATION STUDIES
        » 080702 Health Informatics.
    
    • Other related codes
      • DIVISION 11 MEDICAL AND HEALTH SCIENCES
        – GROUP 1117 PUBLIC HEALTH AND HEALTH SERVICES
          » 111711 Health Information Systems (incl. Surveillance)

    • DIVISION 09 ENGINEERING
      – GROUP 0903 BIOMEDICAL ENGINEERING.

  – **3.1.2. Excellence in Research for Australia**
    
    • List items are associated with 2- or 4-digit FOR codes only, making it impossible to link them to the primary FOR code for Health Informatics (the 6-digit code 080702).
    • List of Journals and Conferences
Findings – Field of Occupation

**Recognition of health informatics as a field of occupation**

- **Australian and NZ Standard Classification of Occupations**
  - The current version of ANZSRC was released in 2013 (ABS).
  - Occupation information in all visa, settlement and citizenship programs.
  - ANZSCO makes no mention of Health Informatics or related terms.

- **Australia and NZ Standard Industrial Classification**
  - The 2006 edition reflects a substantial review of all facets of the classification. ANZSIC makes no mention of Health Informatics or related terms.

- **Australian Taxation Office Salary and Wage Occupation Codes**
  - The current version of these codes was released in 2013.
  - These codes do not specify Health Informatics.
  - They specify one related occupation, that of Health Information Manager (224213).
  - More generally, within the Scientist category (including for example Biochemist, Life scientist, Physicist) there is no Information Scientist specification.
• **Recognition of health informatics as a field of education**
  
  – **Australian Standard Classification of Education**
    - It is organised into 12 broad, 71 narrow and 356 detailed fields.
    - The current version of these codes was released in 2001.
    - Health Informatics and related terms do not appear in ASCED.

  – **National Register on Vocational Education and Training (VET) in Australia**
    - The Registration and Course Accreditation Bodies (RCABs) and the Industry Skills Councils (ISCs) jointly maintain a register about recognised training products and registered training organisations
    - Its taxonomy of qualifications and occupations according to industry sectors includes both ‘health’ and ‘information and communication technology’ (ICT) high-level categories.
    - Health Informatics is not mentioned
    - There are two related nationally accredited courses:
      – Course in Sharing Health Information (15202NT), not current; and
      – Course in Telehealth Consultation (10153NAT).
    - There are nationally recognised units of competency in the related areas of clinical coding and e-health in the Health Training Package (HLT707).
Discussion (Implications and benchmarking)

• RESEARCH
  – Health Informatics has some recognition in Australia, however it is unlikely that most researchers in the field think their work is best described as a sub-group of Library and Information Studies.
  – Exemplars:
    • Bioinformatics is included in FoR Group 0601 Biochemistry and Cell Biology, and Cheminformatics in FoR Group 0304 Medicinal and Biomolecular Chemistry.
    • The Canadian Institutes of Health Research (CIHR) is explicit and distinct about informatics in its key information materials: “We promote collaboration among researchers from all disciplines, from the social sciences to biomedicine, informatics and engineering.” As well, its Health Services and Policy Research Institute nominates “Health information: e-Health Innovations” as a strategic priority.
    • UK MRC – Health and Biomedical Informatics among 8 research priorities
Discussion (Implications and benchmarking)

• OCCUPATION

  – Health Informatics is not recognised in Australia:
    • as an occupation,
    • industry labour force or
    • source of income tax revenue.

  – Exemplar:
    • The UK National Occupation Standards (NOS) database, covering competencies and performance improvement initiatives for all industry sectors in the UK, includes 22 national occupational standards for Health Informatics.
    • The custodian of these standards and of a well-developed health informatics careers framework is the NHS Informatics Service.
Discussion (Implications and benchmarking)

• Education
  – Health Informatics related activities have a tenuous foothold in the recognition of post-secondary vocational education and training.
  – Health Informatics is absent from the broader classification system applied in education nationally.
  – This has implications for the visibility, credibility and marketability of tertiary study programs offered by Australian providers.
  – Exemplars:
    • The United States Department of Education’s Institute of Education Sciences National Center for Education Statistics, in its Integrated Postsecondary Education Data System, Statistical data and Information on Postsecondary Institutions, includes ‘Medical Informatics’ (Classification of Instructional Programs Code 51.2706).
    • The Norwegian Standard Classification of Education includes the category ‘754129 Master degree, health informatics, two-year’.
Conclusion

• The **reasons** for the current status of Health Informatics recognition may vary, and some may not be specific to Health Informatics.

• By world standards Australia’s population and economic base is not large or diverse, and this **limits** the domestic economy’s capacity to sustain highly specialised activity not just in health and in ICT, but in any industry sector.

• The sustainability of entire healthcare systems is under stress in national economies around the world, and so from the perspectives of interprofessional practice or organisational systems, to give new and greater recognition to Health Informatics may seem to **threaten** the recognition now received by other communities of practice or other change agents.
Conclusion

• Whatever the reasons, we argue that our findings provide the evidence base for decisive action by a coalition of organisations which identify with the Health Informatics community, to improve national systems and structures to better recognise Health Informatics.

• Lessons can be drawn from other domains where recognition has been achieved in the past decade.

• The key elements of an action plan will be a task force within the Health Informatics community that is able to work collaboratively and communicate clearly; and an effective mode of ongoing engagement between this task force and influential figures in national research, occupation and education standards portfolios in health and in ICT.

• Clearly there will be benefits, if such concerted efforts lead to an integrated policy response to Health Informatics, for the individuals whose education, research and practice activities become better recognised.

• More importantly, there will be benefits to the wider Australian community. International evidence shows that without an identifiable specialised workforce whose skills are grounded in this established domain of knowledge and practice, Australia is unlikely ever to achieve optimal safety, quality or efficiency outcomes from its investments in technology and systems for data, information and knowledge management in healthcare and biomedicine.
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Person and provider identification in healthcare

STANDARDS AUSTRALIA
Thank you for your attention!