Australasian College of Health Informatics

Submission to 2019 review of the Australian and New Zealand Standard Research Classification (ANZSRC) 20190507

Preamble

This submission responds to the public consultation on the review of the Australian and New Zealand Standard Research Classification open until 7 June 2019. https://www.arc.gov.au/anzsrc-review. Pages 11-12 of the discussion paper list 19 questions to guide discussion and feedback. This submission specifically addresses question 8 "Where should the classifications change?"

Summary

The Australasian College of Health Informatics considers that, in Australia and New Zealand in coming years, the potential to produce high-impact research based on rigorous health informatics research methods critically depends on changes to the Field of Research classification of health informatics. The Australasian College of Health Informatics recommends that revisions to the ANZSRC FoR:

1. remove health informatics from its present category, 080702, and consider options to reassign that category in consultation with the Australian Library and Information Association ALIA

2. rename the present category 111711 from "Health Information Systems (incl. Surveillance)" to "Health Informatics and Information Management, Systems and Technology"

3. add inclusion notes to the renamed 111711 category, as follows: "represents the sub-fields of translational bioinformatics, clinical informatics, clinical research informatics, consumer health informatics and public health informatics; includes digital health and digital medicine, electronic health, mobile health, telehealth and telemedicine, health data science and health data analytics; includes other applications of engineering, information systems and computer science where the expressed primary aim of research is to improve health outcomes, health services or other dimensions of health system performance"

4. add exclusion notes to the re-named 111711 category, as follows: "excludes bioinformatics and biotechnology except where the expressed aim of research is concerned specifically with human health (as it is for example in translational bioinformatics)"; "excludes applications of information and computing sciences where the expressed primary aim of research is to contribute to information and computing sciences"

5. retain a FoR code for "applications in health" for use where the expressed primary aim of research is to contribute to information and computing sciences; to be co-located with other application areas of computing, within a subcategory of 08 Information and Computing Sciences, as recommended by the Computing Research and Education Association of Australasia CORE

Background

At present, health informatics is categorised under: 08 Information and Computing Sciences > 0807 Library and Information Studies > 080702 Health Informatics. That is, it is positioned as a third order field in information science.

Other fields of health research are located in a completely different place from health informatics, namely “11 Medical and Health Sciences”. Notably, under ”1117 Public Health and Health Services”, there is a category “111711 Health Information Systems (incl. Surveillance)”. However the page where that appears also lists exclusions, the first of which says “Health informatics is included in Group 0807 Library and Information Studies.“

Health informatics as a field of research

Health informatics is an established field that advances the effective use of data, information and knowledge in scientific inquiry, problem solving, behaviour change, decision making and service design so as to improve human health. Across the spectrum from molecular medicine to population health, health informatics provides the scientific and scholarly foundations for managing raw health data, organising it into meaningful health information and systematising it as health knowledge.

Health informatics traces its origins as a distinct discipline from the Deutsche Gesellschaft fur Medizinische Dokumentation, Informatik und Statistik in 1949, and the formation of the UNESCO International Federation for Information Processing, Technical Committee 4 on Health Care and Biomedical Research in 1967. Well-established international associations uphold this discipline around the world in the 21st Century, for example the International Medical Informatics Association (https://imia-medinfo.org), the European Federation for Medical Informatics (https://www.efmi.org), the American Medical Informatics Association (https://www.amia.org), the Asia-Pacific Association for Medical Informatics (http://www.apami.org). The history of the discipline is documented in works such as: Collen, M.F. & Ball, M.J., Eds. (2015). The History of Medical Informatics in the United States. 2nd ed. Springer; and Haux, R. (2010). Medical Informatics: Past, Present and Future. International Journal of Medical Informatics, 79(9):599-61.

Health informatics research work on networked computers began in the late 1960s, decades before the term ‘digital health’ entered the research literature in the 1990s to broadly characterise the impact on health care of Internet-connected information and communication technologies. Neologisms come and go to refer to this field (for example health IT, health innovation, health social media, health or bio- or med- tech, health 2.0 or 3.0, connected health, ehealth, future medicine, mhealth or mobile health, online health, P4 medicine, smart health, telehealth or telemedicine, wearable health). Nevertheless, the scientific and scholarly research methods and evidence in this field are best described as health informatics.

Health informatics includes an array of technological methods and tools, particularly when they are implemented at scale and integrated to work within or across health service provider organisations (for example, electronic health records, mobile telehealth, electronic referral and prescribing systems, automated clinical decision support, registry databases, direct-to-consumer online health services, smart biomedical devices; and also health-information-related aspects of apps and social technologies, analytics, ontologies, artificial intelligence, machine learning, sensors and robotics).

Thus, health informatics is a longstanding interdisciplinary field of scholarly research and professional practice internationally, with its own peer-reviewed journals, scientific conferences and learned societies. Its principles, methods and tools should be used to add rigor and relevance to any health research project that involves planning, development, implementation, operationalisation or evaluation of information and communication services, systems or technologies.

Some examples of where the discipline of health informatics makes distinctive contributions to the overall quality of health research are: guidelines and standards for health apps and health data-sharing; systematic reviews in related areas, including search strategies and sources; health system performance indicators to contextualise health ICT research findings; validated instruments to measure technical performance and health outcomes of health innovations; consumer and community input models for public-facing ehealth systems; health social media practices to recruit participants, source data, share findings, crowd-source support; online survey methods and tools; research protocols for clinical studies of ICT interventions; data integration frames for clinical, personal and population health data; specifications for health ICT tool development within a research project.

The Australasian College of Health Informatics (ACHI)

The Australasian College of Health Informatics is the professional organisation for Digital Health and e-Health in the Asia-Pacific Region. The credentialed Fellows and Members of the College are national, regional and international thought leaders, experts and trusted advisers in Digital Health. ACHI sets standards for professional practice and education in Health Informatics, provides evidence-based guidance to jurisdictions, supports initiatives, facilitates inter-disciplinary collaboration and mentors the community. www.achi.org.au

ACHI's concerns about the FoR classification of health informatics

The time is right for Australia and New Zealand, and the rest of the world, to strengthen health informatics research. "To improve measurement, monitoring, research and practice on digital health" is one of the four strategic objectives in the World Health Organization Global Strategy on Digital Health 2020-2024.

However, the current positioning of health informatics in the ANZSRC classification is not helpful to increase recognition and resourcing for health informatics research. Successful researchers know this, and may choose to associate their grant applications, publications, etc. with other, more influential, codes. So health informatics research finds itself in a vicious circle. It is hard to find and aggregate existing health informatics research effort and expenditure at an ANZ level, hard to put together expert panels to review health informatics research grant applications, hard to achieve grant success in this field of research.

Each time a health research proposal succeeds in being funded to build a new research database, or a new mobile app, or a new online information resource, that is a stand-alone resource, specific to that project, the consequence is that a part of the ANZ research budget goes to pay for a new health data silo. This is a lost opportunity to draw upon and add to the health informatics evidence base, and it is the antithesis of aspirations for a connected, digital, learning health system.

The net result is to dilute and dissipate ANZ research expenditure that could and should be invested in substantial, significant advancement of health informatics research, including developing good practice guidelines for IT in health care, building platforms for health research data, research translation and public knowledge, and supporting emerging and innovative researchers.

ACHI consultations regarding change to FoR classifications

In preparing this submission, ACHI sought feedback from individual ACHI Members and Fellows, and our international health informatics colleagues. Principal contributors are listed at the end of this submission. ACHI also consulted with two other organisations that are affected by ACHI's submission, CORE and ALIA.

The Computing Research and Education Association of Australasia CORE (http://www.core.edu.au/) has chosen to focus its input to this review on four, four-digit, FoR categories within 08 Information and Computing Sciences namely: 0804, 0808, 0809, 0810. CORE has given in principle support for the ACHI's proposal to reposition health informatics to the Medical and Health Sciences domain, and to allow for an "applications in health" in the Information and Computing Sciences domain.

The Australian Library and Information Association ALIA (https://www.alia.org.au) has engaged in conversation with its membership about FoR code 0807 generally, and research in health librarianship specifically, but reaching no conclusive position at the time of writing.

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This submission was endorsed by ACHI Council on 6 May 2019.