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Are universities preparing us for digital health?

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DIGITAL HEALTH EDUCATION WORKFORCE

By
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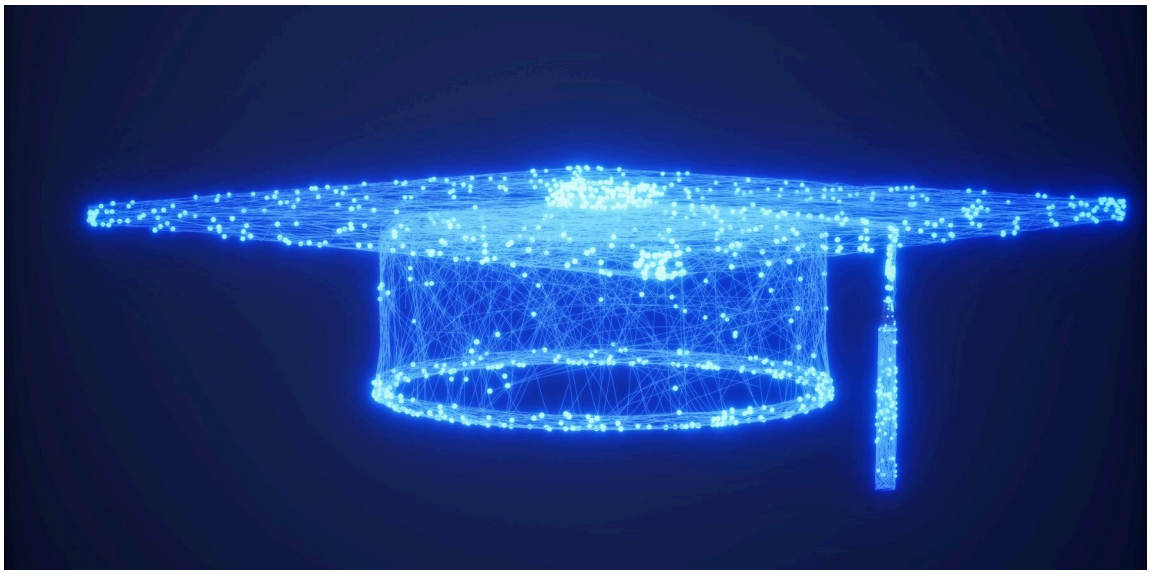

Yes, and no. (Spoiler – you're unlikely to learn about interoperability or virtual care).

You can't turn around on LinkedIn without being offered a university course of study in digital health (or perhaps that's just HSD's algorithm).

Digital health competencies are certainly a must-have in Australia's current health landscape, let alone in the future. Those competencies include using digital healthcare platforms, protecting patient data, and integrating digital health into clinical practice, all towards the end of delivering better care.

But are our universities delivering?

According to a group of La Trobe University researchers, the answer is "sort of".

"Although skills improvement and workforce readiness are a priority, universities have not kept pace, with barriers such as resource limitations, crowded curricula, and institutional resistance to change limiting the development of comprehensive competencies in digital health educational courses," they wrote in the *International Journal of Medical Informatics*.

"With only 33% of Australian universities offering dedicated digital health courses, there is a clear indication of under-representation in this critical area of education."

What there is offers a wide diversity of subjects and is multidisciplinary. But while data-driven competencies are a strong focus of courses, digital health strategy, implementation and leadership are only moderately represented in the course offerings. Of concern, virtual health and ethics, law and regulation remain "noticeably absent".

One problem is that digital health education has tended to focus on clinical application, to the exclusion of data security, system implementation and technology policy, the researchers said.

And information was primarily gathered from people working in clinical settings, making it hard to know exactly what was happening in all the

There is no unified accreditation for digital health specialist education, unlike in other fields, so curriculums are inconsistent, the authors said.

"The development of a unified accreditation framework would be a valuable step toward standardising educational quality, ensuring competency assurance, and supporting the long-term professionalisation of the digital health workforce," they said.

As part of the National Digital Health Capability Action Plan (CAP), the Australasian Institute of Digital Health, in collaboration with the Australian Council of Senior Academic Leaders in Digital Health, **is working on "a national approach** to embed digital health education into university degrees is part of a groundbreaking project to deliver greater capability to Australia's healthcare workforce".

This was "a promising step in the right direction", the La Trobe researchers said.

In a document released in March this year, the AIDH and academic councils flagged that they would:

- establish a cross sector, education and health industry working group, review current national digital health education competency frameworks and education course content;
- develop standardised core topics that should be embedded within undergraduate health degrees and position these within existing curriculum; and
- develop and pilot a "train the trainer" kit for educators currently teaching digital health in Australian universities.

So, what university level digital health education is available to Australian students currently, other than getting a Masters or a PhD?

The La Trobe researchers analysed university course information available from June to December last year. There were 18 specifically digital health

courses comprised of 79 unique subjects, across 14 universities (out of 42) – 11 at graduate certificate level, six at Masters level and only one at Bachelor level.

Eight were of a general nature, offering a broad range of subjects, five focused on data science and analytics in health, two focused on health informatics (particularly integrating information systems into healthcare. There was one Digital Health Leadership and Management graduate certificate course and there were two graduate certificate courses in Digital Transformation in Health.

The least covered digital health area was ethical and regulatory aspects of digital health, which was included in only one subject at Bachelor level and one at graduate certificate level. Telehealth and virtual care were only covered by three subjects, and cybersecurity only in four.

As for the health information exchange and interoperability there was only one university subject dedicating any coverage to this linchpin of digital health success.

The good news is that 16 out of the 18 courses were available online (it would otherwise be ironic).

In addition, 22 universities offered what the researchers termed "associated degrees or courses related to digital health, reflecting a significant focus on integrating digital health topics into broader academic courses".

These were mainly courses in public health administration, management and policy, but also in health and clinical sciences, and information systems and management. There were 54 subjects across these courses, with the greatest number in healthcare data science and analytics (16), then general digital health (13), and health informatics and management (10), which focussed on the importance of electronic health records and clinical data management. Some subjects covered strategy and leadership (six) and AI was covered in six subjects.

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“However, significant gaps are evident in Ethics, Law, and Regulatory Aspects of Digital Health (2 subjects, 4 %), which is underrepresented, raising concerns about whether students are adequately prepared to navigate digital health regulations, compliance, and data privacy. Even more notably, Virtual Health (1 subject, 2 %) is the least covered area, despite the increasing global adoption of telehealth and remote healthcare services,” the authors pointed out.

We need more courses that teach “design thinking” which “fosters user-centred, creative problem-solving and prototyping”, more courses that equip students to work within compliance, regulatory and governance frameworks, and more courses that cover virtual health, they said.

Furthermore, “[e]merging areas such as healthcare cybersecurity and medical AI remain largely unaddressed in digital health curricula, despite their critical role in modern healthcare”.

“The lack of structured AI and cybersecurity education highlights a significant gap in preparing graduates for secure and responsible digital transformation in healthcare. Expanding these competencies in digital health courses is crucial to enhancing workforce readiness and aligning education with evolving industry demands.”

Catching up to what’s needed –integrating digital health competencies into higher education – is going to take multilevel action, the researchers said. This includes:

- developing national-level curriculum guidance or accreditation standards and incorporating core digital health competencies to support consistent delivery across institutions;
- targeted funding and incentives from government and industry, which could drive course development in underrepresented areas such as cybersecurity and AI; and
- universities investment in academic capacity-building to ensure educators are prepared to teach emerging digital health topics.

Finally, the authors noted that most of what's on offer is not for undergraduate students, and that's a missed opportunity for embedding digital health competencies at a foundational stage. If only your weathered *Health Services Daily* scribblers, and those of you already sailing the health system high seas, could redirect those educational opportunities to those still starting out.

Meanwhile, at the time of the La Trobe study publication, four of the 18 dedicated digital health courses were slated to be discontinued by 2025.

Read the **full paper here**.

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