A SNAPSHOT OF THE

National Digital Health Workforce and Education Roadmap

September 2020

Australian Government

Australian Digital Health Agency

OVERVIEW

The National Digital Health Workforce and Education Roadmap (ISBN:978-0-9876434-4-5) is endorsed by the Australian Government, and all Australian states and territories.

This snapshot document is a summary of the roadmap.

CONTACT

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"There is little point in investing in the latest technology if there is not a workforce with the right roles and skills to make use of its full potential to benefit patients."

NHS. (2019). THE TOPOL REVIEW: PREPARING THE HEALTHCARE WORKFORCE TO DELIVER THE DIGITAL FUTURE. THE NHS CONSTITUTION.

Contents

Why create a Workforce and Education Roadmap?

Current and emerging technologies present health leaders with an array of opportunities and challenges. These technologies are expected to profoundly change the way in which healthcare is delivered, and in doing so, change the tasks and functions performed by the health workforce[1].

The development of a roadmap acknowledges that in Australia, we need to shape how education and training enables the health workforce to realise the benefits of technology whilst recognising that people are our health sector's most valuable asset.

To do this effectively, we need to provide clarity on what we expect from the wider health workforce in this age of digital disruption, whilst acknowledging the differences in maturity across the health system.

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[1] For the purpose of the roadmap the term 'health workforce' is defined to encompass 'all individuals who deliver or assist in the delivery of health services or support the operation of healthcare facilities'. This definition includes healthcare providers, such as nurses, midwives, doctors, aboriginal health workers, and allied health professionals, and also includes all other workers in the health system such as administrative assistants, health technology professionals and wardspersons; thus it encompasses the 'workforce in health'. The education requirements of consumers, patients and carers are also considered in the roadmap.

Setting the scene

The health landscape is complex, involving many stakeholders with different perspectives, united in their commitment to a world class health system in Australia.

There are differing levels of digital health maturity across the health system in Australia, and internationally.

Digital health transformation is already changing traditional approaches to health service delivery.

Consumers and patients expect the safe and ethical use of digital health that protects their privacy.

It is right that Australia takes a collaborative approach to equipping the health workforce to maximise the benefits of digital health.

About the roadmap

The Digital Health Workforce and Education Roadmap identifies the impacts of digital health adoption on the health workforce and the enabling education programs required to build digital health capability across Australia.

As a key part of this, the roadmap considers the contexts and settings within which the health workforce operates, and the different digital roles that are required now and into the future.

The roadmap also starts the process of developing a clear workforce and education development pathway to help deliver the changes required.

The snapshot is a summary of the National Digital Health Workforce and Education Roadmap.

A roadmap for change

The roadmap is based on a key set of principles:

1 National alignment, collaboration and accountability

2 Flexibility to respond to diverse digital technologies, digital maturity variations and operational environments

3 Leverage partnerships to drive innovation

4 Equity of access to healthcare for all Australians, acknowledging the requirement for 'digital inclusion'

5 Ethical use of data and information

6 Responsiveness to government and community priorities

7 Focus on tangible actions and measurable objectives.

Digital profiles

The purpose of the Digital Profiles Framework is to articulate the expectations of the health workforce as a result of the adoption of digital health. It is designed to provide clarity for key education and health partners who will develop curricula, training and resources to assist the workforce, and to empower health workers and consumers to recognise and grow their digital capability.
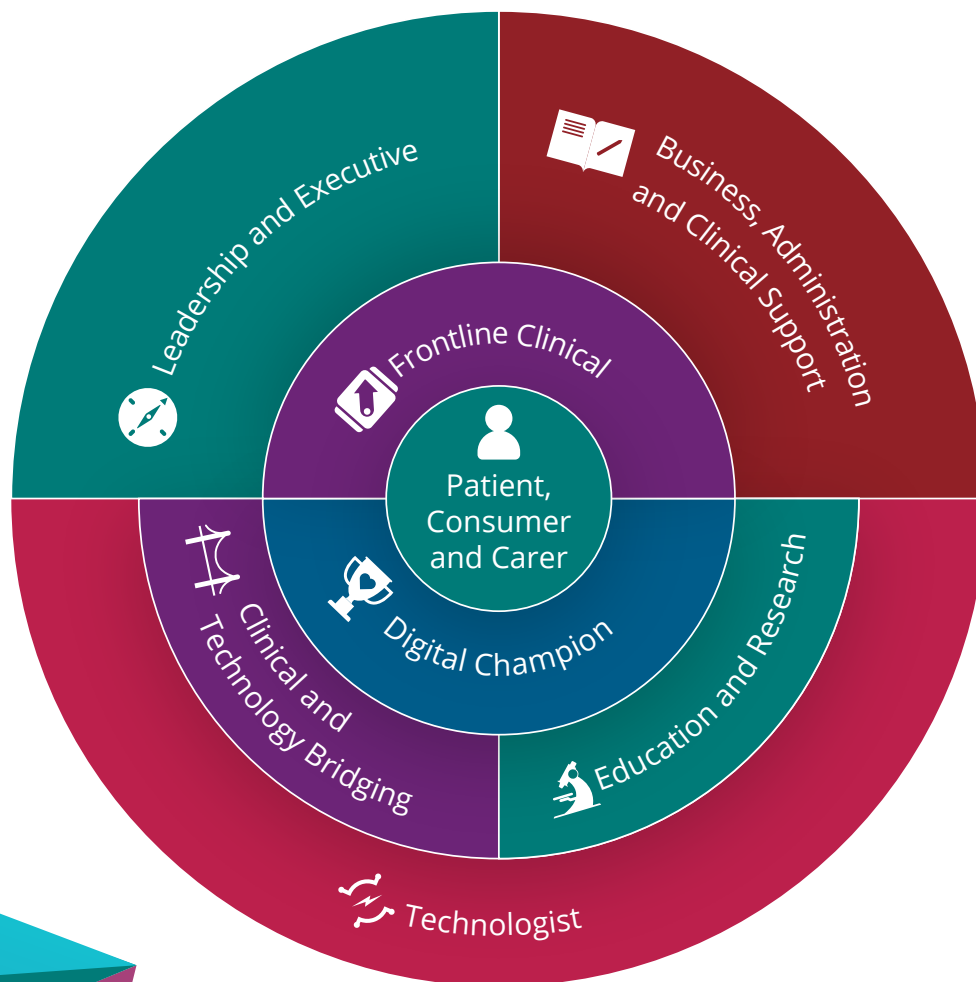
Horizon view

Three horizons explore the workforce and education changes required to support the adoption of digital health.

Horizon 1

Embedding safe, ethical and effective use of health record systems and consumer data.

NOW - 2022

Horizon 2

Integrating new technologies and ways of working

NOW - 2027

Horizon 3

Digital health transformation

NOW - beyond 2027

These horizons will be progressed in parallel, reflecting the differing stages of digital health maturity across the health system.

There are elements of each of these horizons already visible in the Australian health sector today, and these pockets of innovation need to be shared to provide momentum for positive change, helping Australia harness the digital health opportunities ahead.

This roadmap is designed to be broad in its application, covering the whole of the health workforce, including all clinical and non-clinical roles.

Horizon 1:

## Embedding safe, ethical and effective use of health record systems and consumer data

Vision for Horizon 1:

For the health workforce and Australian consumers to safely and ethically use digital health tools and to make decisions based on the health information they are able to access.

The key technologies in Horizon 1 include but are not limited to:

Electronic Medical Records
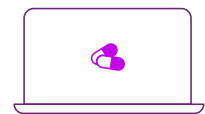
Electronic Medications Management

Workforce Goal:

To improve digital health literacy for consumers and the health workforce. Digital profiles guide organisations and individuals to understand the different requirements of the health workforce.

Digital literacy capability uplift should, where possible, be integrated into existing curricula (rather than standing alone). Change leadership will be required to support the take-up of education opportunities and to embed new ways of working into health organisations.

Patient, Consumer and Carer

The Patient, Consumer and Carer profile identifies expectations including maintaining health information, protecting the security and privacy of information, and adopting and advocating for new technologies that help manage their health.

Frontline Clinical

The Frontline Clinical profile includes expectations for lifelong learning, adoption of digital technologies, understanding security and privacy, reliable and accurate recordkeeping, ensuring clinical safety with digital technologies, and advocating for consumer use of technology to empower them.

Digital Champion

The Digital Champion profile expectations include being a digital teacher and champion locally for a particular technology or system. The Digital Champion role may change depending on the digital technology and setting. Key to this role is the early digital adoption and change champion functions they play in the workplace.

Education Goal:

Embedding digital literacy in undergraduate and vocational curricula, and a combination of professional development, post-graduate and workplace learning for the existing health workforce.
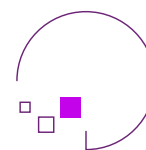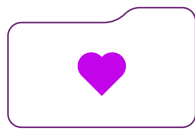
Executive and C-suite digital literacy and digital leadership programs

Workplace learning

Secure Messaging

Electronic Health Records

Telehealth

Clinical and Technology Bridging

The Clinical and Technology Bridging profile expectations include providing advice during the design and development of new digital technologies and systems, and leveraging clinical networks for user testing and adoption. This profile represents the clinical/health informatician.

Technologist

The Technologist profile includes expectations for those performing health information technology functions, including cybersecurity, programming, systems maintenance, digital design, interoperability, IT procurement, resilience and continuity planning, health information management and system testing.

Leadership and Executive

The Leadership and Executive profile expectations include leadership of digital transformation and deployment, risk and quality assurance, and understanding sophisticated data analytics to drive better business decisions.

Business, Administration & Clinical Support

The Business, Administration and Clinical Support profile expectations include learning, adoption of digital technologies, understanding security and privacy and reliable and accurate recordkeeping.
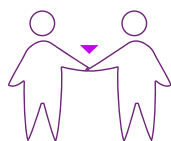
Education and Research

The Education and Research profile identifies expectations including lifelong learning, translational research, evidence based review, and health reform and innovation. It also addresses expectations relating to education.

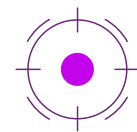Integration in undergraduate and VET curricula

Targeted programs to support vulnerable consumer groups
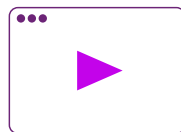
Education modules and micro-credentialing

Lifelong learning mindset and culture embedded across health workplaces

Targeted training around national digital health initiatives

Horizon 2:
## Integrating new technologies and ways of working

Vision for Horizon 2:

For health systems and organisations to be better connected through interoperability, enabling the health workforce to analyse information, plan and respond to health demands. Emerging digital technologies will reshape health functions and new roles will emerge. The focus will be on enterprise transformation.

The key technologies in Horizon 2 include but are not limited to:
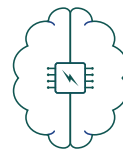
Artificial Intelligence
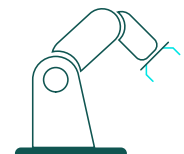
Advanced Robotics

Workforce Goal:

To support role redesign through a nuanced view of the impact of technologies on functions and tasks for health professions, specialities and other roles. This also considers the demand for new and emerging roles and capabilities for the health workforce. The requirement for change leadership will focus on enterprise transformation, with associated risk and governance frameworks.

Please note while the digital profiles may have some application in this horizon, the focus will be on a health profession, role and speciality level role redesign and change (noting the significant number of roles across the health system).

Role redesign and changes to professional practice at a health profession level based on emerging technologies

Role redesign and changes to professional practice at health specialty level based on emerging technologies

Education Goal:

Education and training for the health workforce that reflects the changes to knowledge, capabilities and ways of working due to existing and emerging technologies. Education pathways that support new and emerging roles in health. Education and training that impacts on ethical considerations, risks and governance.

Undergraduate and VET curricula that reflect changes to professional practice and roles

Bridging qualifications that allow the workforce to move into new and emerging roles
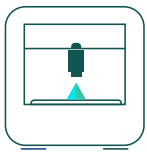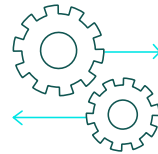
3D Printing

Next Generation Genomics

Internet of Things

Interoperability

Role redesign for non-clinical health roles based on emerging technologies

The creation of new and emerging roles for the health workforce in response to existing and emerging technologies

The creation of ethical and governance frameworks to support changes in professional practice
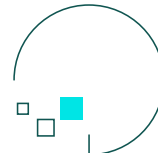
Creation of career pathways that support new and emerging digital roles

Micro-credentialing around specific technologies that allows the workforce to keep pace

Tools and methodologies that support process improvements enabled by technologies

Digital and transformational leadership at an enterprise level

Targeted training and career pathways for key digital roles

Horizon 3:
Digital health transformation

Vision for Horizon 3:

Healthcare delivery is transformed through initiatives such as value based healthcare, personalised medicine, empowered consumers, and care in the home/community, underpinned by digital technologies.

The key technologies in Horizon 3 include but are not limited to:

Personalised Medicine

Smart Wearables

Integration of Big Data and Internet of Things (IoT) Technologies

Workforce Goal:

The workforce will need to respond to system-wide transformation, leaders will need to shape and steer these transformational efforts, including through new models of care and ways of working. This will also embed into models of care the new and emerging roles created in Horizon 2. The requirement for change leadership will shift to a focus on system transformation, and managing through significant uncertainty.
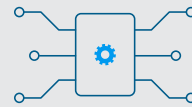
Piloting of models of care that respond to system transformational change

Role redesign based on new ways of working and the introduction of specific digital technologies

Education Goal:

Education and training will need to evolve to reflect the new models of care and ways of working. This may require changes at a profession or role-based level, or team based education and training. Boards and executives will require organisational capability to respond to change.

Contemporary education and training to support models of care and new ways of working
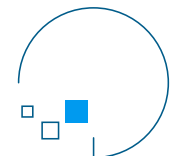
Leading transformation development programs

Key drivers of health system transformation

Value-based healthcare

This is grounded in redesigning the healthcare system to deliver value for patients, with value defined as the outcomes that matter to patients and the costs to achieve those outcomes. Value-based healthcare is becoming one of the most important topics in healthcare as public and private participants seek to drive improvements in quality and slow the growth in healthcare spending.

Personalised Medicine (precision medicine)

Personalised medicine is a move away from a 'one-size-fits-all' approach to the treatment and care of patients with a particular condition, to one that uses genomics, and environmental and lifestyle factors to better predict and manage patients' health.

Consumers as partners in health

Systems and models of care will enable shared decision-making and support a self-care orientation. Information will be available to consumers, in a form they understand when they want it, to participate in decisions about their healthcare.

Home and Community Based Care

Home and community-based models of care that support stable consumers in their homes, and reduce the hospital burden of care increase in prominence. This will include wide-scale adoption of methods that are being currently trialled such as chemotherapy in the home and home haemodialysis. Digital health will also support improved genomics and artificial intelligence, which will allow for health conditions and disease to be diagnosed at a much earlier stage.

Mastery of key digital concepts

'Hard' digital health investment and governance disciplines

New mindsets and new skills for leading people through complexity

Resilience, self-management and wellbeing

Leaders cultivating change capability in their organisations

A call to action

Creating national agreement on a roadmap for digital health is just the start of the journey.

To achieve, and effectively embrace the opportunities presented by digital health, all health and education stakeholders in Australia need to play a significant role. We need to build a shared view of the wider system changes required and be working together towards shared outcomes.

This means committing to actions that will drive the capability of our health workforce forward in line with the technological opportunities, and this will take collaborative effort and time.

All of this collective effort will be reflected in a national implementation plan which will be developed in concert with key stakeholders through 2020/2021.

Enablers of change

Several 'enablers' have emerged that will help to catalyse the workforce and education changes to support digital health benefits.

Targets and Measures for collective action
To drive beneficial adoption of digital health solutions the specific activities required of individual participants will need to be agreed and performance targets defined. This will highlight opportunities for collaboration and partnership.

Board and Executive Mobilisation
An understanding of the transformative potential of digital technologies in health is required at senior and executive levels because the changes required to deliver a workforce confidently using digital health will be complex.

Cultivating Lifelong Learning
The opportunity and challenge to embed curiosity and continuous learning as cultural norms within the system cannot be underestimated. A culture of curiosity and self-directed learning should be fostered throughout the entire health workforce.

Shared Education Resources
Having a common approach to the definitionof digital capabilities may enable those undertaking digital health initiatives to avoid duplication of effort. Providers of education emphasise the need for resources to support the delivery of curriculum change.

Ethical Frameworks
Digital technology such as Artificial Intelligence creates a set of ethical challenges that must be identified and mitigated due to risks around patient privacy and confidentiality, boundaries between the role of machine and clinician, and lack of clinician education around technology in medicine.

Partnerships and Collaboration
Collaboration and partnerships across the health sector and with education providers will be required to overcome barriers to adoption and ensure a holistic approach to digital health. The roadmap will not be the responsibility of any single entity to deliver. Instead, it will require stakeholders across all parts of the health and education system to work in collaboration and partnership.