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Is Australia's current public health education fit-for-purpose? A reflection on past, present and future

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ABSTRACT

In Australia, consistent with the global picture, the development of a multidisciplinary public health workforce and its education have evolved, mainly because of government reforms driven by comprehensive social initiatives. Recent polycrises – natural and man-made disasters and crises – shed light on the strengths and weaknesses of the Australian public health effort and its workforce education. Internationally accepted and recently redeveloped multidisciplinary competencies are available, however Australian public health education is not routinely accredited, and much of the public health workforce lacks appropriate education and training. Public health qualifications are not routinely required for the public health workforce so, for graduates, appropriate work is hard to find. Academic public health staff are driven by metrics, that do not measure education quality or appropriateness of the content. In the current era of polycrises as well as rapidly evolving scientific knowledge, public health education providers must work in tandem with governments to prepare a workforce ready to deliver essential public health functions with the flexibility to adapt to emerging health challenges, pointing to how education must be developed to ensure an appropriately educated, trained, future-proofed workforce in both the art and science of public health.

Keywords: accreditation, Australia, competencies, multidisciplinary, public health education, public health training, public health qualifications, public health workforce, workforce education, workforce training.

KEY POINTS

- Australia has been slow to invest in broad-based multidisciplinary public health education.
- Australian governments, rather than the education sector, have driven advances in public health education and training.
- Recent emergencies highlight shortfalls in qualified public health staff.
- Polycrises have fast-tracked some aspects of public health training and service provision.
- Public health courses must be accredited to include appropriate competency-based theory and practice to prepare a future-proofed, internationally relevant workforce.

Public health is about 'protecting health, saving lives – millions at a time', delivered through organised services designed to prevent disease and protect and promote the health of all peoples and the broad environments in which they live.[1] The history of public health tells us that public health innovators emerged from many areas – not just medicine – including haberdashers, sailors, lawyers, sanitary engineers, priests and politicians; it has always been and always will be, multidisciplinary. Public health is a specific health discipline with its own competencies for the delivery of 12 essential public health functions (EPHFs) as defined by the World Health Organization (WHO).[2]

Today's public health workforce is conceptualised as three groups of people: (1) those whose core work is about the delivery of EPHFs, (2) those whose work includes some public health work (who are the main clinicians) and (3) those who do not think of

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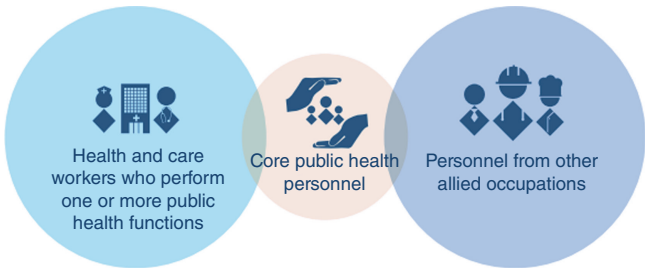

Fig. 1. Composition of the public health workforce. Source: National workforce capacity to implement the essential public health functions including a focus on emergency preparedness and response: roadmap for aligning WHO and partner contributions. Geneva: World Health Organization; 2022 (https://apps.who.int/iris/handle/10665/354384, accessed 17 July 2024). Used with permission, Creative Commons license.

themselves as working in public health at all but whose work affects the health of the public (for example, engineers) (Fig. 1).[2]

The evolution of Australian public health workforce education and training

Legislative reforms recognised the need for resources such as access to safe housing, sanitation, uncontaminated food, and safe air and water, demonstrating the interconnectedness of social and physical health and wellbeing, driven by the universally unpopular idea that healthy people work more productively and therefore need less economic subsidy.[3] Although some Australian states had already developed legislation, the *Australian Health Act 1915* (Cth)[4] included many national public health provisions, especially in the areas of environmental health and communicable infections, and embedded medical offers to oversee the delivery of these services.

Internationally, the first public health training programs evolved in the early 20th century (almost entirely for doctors).[5,6] In 1930, the University of Sydney Faculty of Medicine School of Public Health founded a public health degree, remaining the only dedicated Australian program for almost 50 years. Until the late 1980s, enrolling students were all medical graduates, and academic public health focussed on communicable disease, tropical medicine and major causes of disease, such as cancers, plus the emerging sub-discipline of epidemiology.

In the late 1980s, a Federal Government review of public health training[7] identified the need for a more diverse public health workforce, still however based in medical faculties. In 1987, the Australian Government established the Public Health Education and Research Program (PHERP), securing funding for several general and specialist areas. A 1992 review[8] resulted in the program being expanded in the 1990s, an era of Australian public health renaissance. The number of public education health programs expanded, typically financed through Commonwealth–State cost-sharing. However, a mid-1990s review showed that there were still many people working in public health with insufficient training.[9]

Since 2000, the number of institutions offering public health education at all levels, including the Vocational Education and Training sector, has expanded, with concomitant concerns about the training of the educators leading them, enrolment eligibility criteria, completion numbers and employment opportunities. A 2005 review specifically called for sustained funding for public health education[10] but, ironically, PHERP funding was discontinued. A recent analysis showed that between 2008 and 2015 there were about 1250 Australian public health graduates annually with low levels of employment relative to education.[11] About 20% of the public health workforce is formally trained, but many graduates cannot find work in the field.[12] Adding insult to injury, public health qualifications are not routinely requested in public health employment advertisements.[11]

Although a general public health education does not guarantee public health employment,[11] professional and state-based specialist training programs do develop a well-trained and stable workforce. Public health physicians complete accredited programs, which include registration and regulatory processes. Public health sub-specialities, including epidemiology, biostatistics, health promotion and environmental health, also have accreditation schemes run through their (often international) specialist organisations, with registration needed for professional practice. Since 1990, a 3-year placement-based graduate program at New South Wales (NSW) Health admits about eight applicants annually, with small parallel programs in biostatistics and Aboriginal Population Health. Almost all graduates find public health work after completion, about three quarters within NSW Health.[13]

From 1997 to 2012, a Victorian Public Health Training Scheme included five to six trainees annually, but it has not been revived, despite interest. A fledgling training scheme commenced in Western Australia during the pandemic.[14] Program reviews showed that participants understood the value of their training and most intended to remain in the public health workforce, again indicating a return on investment.[15]

Does education serve current public health workforce needs?

Professional education program content is based on service needs and the competencies needed to deliver them. Accreditation based on relevant competencies secures the content, quality and transportability of academic qualifications and skills.[16] About half of the United States public health teaching programs are currently accredited through the Council on Education for Public Health, which sets out

undergraduate and postgraduate learning competency and teaching requirements.[17,18] A similar program exists in Europe, through the Agency for Public Health Education Accreditation.[19] However, as public health degree accreditation is not mandatory in Australia, only two are currently voluntarily accredited (Master of Public Health at The University of Queensland and The University of Western Australia).

Over the last 25 years, sets of professional public health competencies have been developed around the world; and local iterations of learning outcomes, and public health competencies have been promoted through the Council for Academic Public Health Institutions in Australasia;[20,21] however, there is no explicit commitment to benchmarking the structure and content of degrees. WHO has recently produced a comprehensive analysis of 124 sets of general, flexible and transportable competencies (including Australian), merged into an internationally applicable set for practice, for the whole public health workforce, for delivering the 12 EPHFs.[2]

With the long-term decline in government funding for higher education, particularly at postgraduate levels, Australian universities compete for domestic and international students using 'quality' measures[22] as the basis for global university rankings. Increasingly, governments and education bureaucracies use these to measure 'success'.[23] Arguably, as academic performance metrics focus largely on grants and publications, academic research has been driven towards the science of government-preferred discovery[24] rather than the science of service delivery. Academic specialisation has produced strong public health research in some clinical areas (such as immunisation) but little related to the generalist public health workforce needs. Teaching staff are now driven by various metrics, such as peer-reviewed journal impact factors, learning outcomes and student evaluation scores; but, arguably, these measure neither teaching quality nor appropriateness of content.

Future public health workforce education needs

To be fit-for-future-purpose, the workforce must be appropriately trained, respected for its expertise and its expertise consulted. To ensure this, consideration of appropriate service delivery needs against the EPHFs must occur, with parallel consultation and renewal of teaching programs. With the challenges of disruptive geopolitics threatening global health, public health education must use an adaptive syndromic management approach, bringing together competencies and skills in multiple traditional and new areas, including One Health,[25] climate change, non-communicable diseases, emerging infectious diseases and emergency management.[26]

Between 1996 and 2014, several discussions about a national approach to aspects of public health have come and gone, including The National Partnership Agreement on Public Health, the National Preventive Health Taskforce and the Australian National Preventive Health Agency, focused on non-communicable diseases risk factors.[27] An Australian Centre for Disease Control became an election promise in 2022 and should provide the backbone for public health service delivery into the future; however, its structure and development remain a work in progress (see Box 1),[28,29] and mechanisms for working with the education sectors remain unknown.

Box 1 Summary of 2022 election commitment to establish an Australian Centre for Disease Control

- House surveillance experts and systems to monitor current and emerging threats
- Work with state and territory governments and service providers to improve preparedness in the health and aged care sectors
- Manage the National Medical Stockpile, including analysing needs, procuring and managing stock, and distributing supplies as needed
- Run regular preparedness drills on the scale of Exercise Sustain in 2008
- Work with other countries on regional and global preparedness

Source – adapted from the Royal Melbourne Institute of Technology University (RMIT) and the Australian Broadcasting Corporation (ABC)[28]

The current fourth industrial revolution, with artificial intelligence, big data analytics and digital health, is transforming the way we live and work. To be credible, the public health workforce must be skilled in technical applications in both understanding health and designing interventions for improving public health as well as in the ethical, regulatory and community engagement dimensions of these evolving technologies.[2] Public health education must be designed to ensure the workforce can anticipate trends, work in integrated multidisciplinary teams, partner with intersectoral communities, and be able to incorporate new technologies (such as communication sciences) as they change our ways of living and working.

While the world has become more polarised socially, politically, and economically, there are also emerging discourses about the 'wellbeing' economy, eco-civilisation and moving away from Gross Domestic Product as the measurement of development.[30]

To appropriately engage in building a wellbeing society the public health workforce will need education in systems thinking, stakeholder consultation, media and communication, advocacy, negotiations and wicked-problem-solving.[2] This will require both technical and intellectual capacities to engage with social processes and policy systems with a good grasp of political processes, and the leadership skills required to navigate the political process alongside traditional areas, including epidemiology, biostatistics and so on.

Funding for public health teaching needs reconsideration. With the removal of subsidised funding, the cost of education has become overburdensome for many potential students. International student fee income is viewed as a revenue stream while international students should be the foundation for future collaboration. Our students are future colleagues and collaborators in global public health security; learning and working together is politically both good neighbourliness and common sense.

To future-proof the public health workforce we suggest the following:

1. Harmonise the content of public health education and training in line with international competency standards,[2] but with individual institutional specialities, so that employers can be sure of the content of education and training of their employees.
2. Require degrees to be accredited to provide practitioners with transportable qualifications for secure employment and a recognised career pathway, and as an investment in training as both a national good and an international asset.
3. Register practitioners, as registration requires continuing professional development to keep knowledge and skills current (not available to much of the current workforce). There is no current regulation of the whole public health workforce.
4. Undertake a comprehensive examination of the patterns of broader public health employment, based on WHO definitions, to identify local education and training needs.
5. Develop joint appointments similar to other health services areas for optimal translation of local policy to practice.
6. Maintain lists of graduates to provide jurisdictions with a trained, flexible and transportable workforce who, despite needing to orient to new situations, are deployable during emergencies.

Conclusion

Recent polycrises highlight the need for an efficient, coordinated public health response provided by an adequately educated and trained workforce, with training based on both traditional and emerging competency requirements.[2]

Responses to the epidemics of emerging diseases and non-communicable diseases along with natural and man-made disasters and the impact of climate change are hampered by global geopolitical tensions and short-term national politics. To be prepared for future health crises we must not repeat the mistakes of the past; there is no point in making only minor changes to current structures and expecting completely different outcomes. Fundamentally, reviewing local public health practice processes, implementing recommendations, reviewing the workforce that delivers it, and building appropriate education using international standards and training programs is essential.

Practitioners in both specialist areas and generalist public health staff are needed for optimal delivery of the EPHFs. Good public health involves intersectoral collaboration, is multidisciplinary, and is not just specifically about medicine nor social health. Sir Donald Acheson, British Chief Medical Officer and author of the Acheson Report,[31] defined public health as: 'The science and art of preventing disease, prolonging life and promoting health through organised efforts of society'.

At the end of the day, public health is a national and international public good. Therefore, the production of a public health workforce is also a public good. We need to ensure that our governments support integrated intersectoral approaches to secure the art and science of public health education and training.

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