

Preparing a 21st century workforce: is it time to consider clinically based, competency-based training of health practitioners?

Susan A. Nancarrow¹ BAppSc(Pod), MAppSc, PhD, Director of Research

Anna M. Moran^{1,2} BAppSc(Physio), PhD, Research Fellow

Iain Graham¹ BSc, MSc, MEd, PhD, Dean of Health, Head of School

¹School of Health and Human Sciences, Southern Cross University, PO Box 157, Lismore, NSW 2480, Australia.

Email: susan.nancarrow@scu.edu.au, iain.graham@scu.edu.au

²Corresponding author. Email: anna.moran@scu.edu.au

Abstract. Health workforce training in the 21st century is still based largely on 20th century healthcare paradigms that emphasise professionalisation at the expense of patient-focussed care. This is illustrated by the paradox of increased training times for health workers that have corresponded with workforce shortages, the limited career options and pathways for paraprofessional workers, and inefficient clinical training models that detract from, rather than add to, service capacity. We propose instead that a 21st century health workforce training model should be: situated in the clinical setting and supported by outsourced university training (not the other way around); based on the achievement of specific milestones rather than being time-defined; and incorporate para-professional career pathways that allow trainees to ‘step-off’ with a useable qualification following the achievement of specific competencies. Such a model could be facilitated by existing technology and clinical training infrastructure, with enormous potential for economies of scale in the provision of formal training. The benefits of a clinically based, competency-based model include an increase in clinical service capacity, and clinical training resources become a resource for the delivery of healthcare, not just education. Existing training models are unsustainable, and are not preparing a workforce with the flexibility the 21st century demands.

Additional keywords: assistant, Massive Open Online Courses, paraprofessional, workforce flexibility.

Received 8 August 2013, accepted 11 November 2013, published online 19 December 2013

Workforce shortages and misdistribution in Australia are well documented.^{1,2} Paradoxically, workforce shortages have coincided with an increase in the duration of much of the formal training for nurses, allied health professionals and doctors, without evidence of a corresponding increase in productivity or outcomes.³ Longer training times increase training costs while reducing the flexibility and responsiveness of the workforce due to the lag times before workers are qualified.

A substantial proportion of all clinical training takes places in healthcare settings. The growth in health practitioner training is placing unprecedented pressure on clinical placement opportunities internationally. To overcome the lack of ‘real’ clinical placement opportunities, there is a growing market in simulated clinical experiences for students.⁴ In addition, Australia currently invests in substantial clinical educator infrastructure to enable students to experience rural and remote clinical practice on the expectation that they will consider rural practice on graduation.⁵ The cost of the organisation and provision of clinical placement opportunities, infrastructure and simulation is likely to be vast, but has not been calculated at a national level. These costs are also borne by students, with one study suggesting medical, nursing

and allied health students experience financial hardship as a result of placements, which in turn impacts on their accumulation of debt and on their health and wellbeing.⁶ Additionally there is evidence that poorly constructed models of clinical placements actually detract from service capacity and productivity.^{7,8}

To help address the health workforce shortfall, there has been increasing growth in the vocationally qualified, assistant level, or paraprofessional workforce.^{9–11} However, there is currently no direct pathway from a paraprofessional to a professionally qualified health worker without paraprofessionals leaving the workplace and attending university. Several ‘step-on-step-off’ programs have been introduced internationally to provide career pathways for health practitioners along a skills continuum. However, these pathways have largely failed because of the need to ‘step-off’ of vocational clinical training to attend formal university training to achieve the status of a qualified health professional.¹² This model further reduces workforce flexibility.

So we are now faced with a conundrum. Workforce shortages and misdistribution have been addressed by increasing, not decreasing, the duration of university-based training for health professionals. This coincides with a large demand for clinical

placement training hours, which can deplete the services they are trying to support. In addition, there is a growing paraprofessional workforce that is unable to follow a professional health career pathway without leaving the workplace and attending university at further cost to the student and health workforce capacity.

We argue that in the 21st century, the current model of university-based training for clinicians, alongside an 'outsourced' model of clinical placements, needs to be reconsidered. Instead, we propose a shift to the clinic as the primary source of training, supported by an outsourced model of theoretical learning. Technology is now at the stage where all of the theoretical and some of the practical course content could be developed and delivered on a large scale, as evidenced by the rapid growth and uptake of Massive Open Online Courses (MOOC).¹³ Existing clinical education infrastructure could be mobilised and adapted to support clinical training, credentialing of trainees, and to maintain the consistency of standards. To further increase the flexibility of the approach, models of health practitioner training could be based on the achievement of specific milestones, rather than the existing time-based models.¹⁴ Career pathways could be embedded into professional training if students were credentialed to 'step-off' at specific stages of their training, rather than receiving a single qualification at the end of their formal training period.

This model has several potential benefits:

- Well designed and supported clinical training models build health workforce capacity and productivity.¹⁵
- Students would deliver healthcare while gaining incremental credentials and recognition for on-the-job training.¹¹
- It would potentially move resources and infrastructure away from training and into the community to support the direct delivery of healthcare.
- The creation of closer, more formalised links between universities and health providers would make the clinical setting a formal part of the university infrastructure, which could be resourced appropriately as a learning environment.
- By taking learning directly to the clinical interface it could enhance knowledge translation, service development and capacity development.
- More centralised models of theoretical learning may standardise 'text book' learning and reduce the need for high-cost training infrastructure, including many simulations. Instead, resources could be used to develop high-quality, remote-learning resources tailored to specific contexts.
- There would be potential to deliver health professional training directly to those areas most in need, including developing countries and rural and remote areas.
- Practitioners would develop a detailed understanding and expertise of the specific context in which they work, creating more contextually relevant practitioners.
- Clinically based learning models have the potential to provide local mechanisms for supporting, credentialing and updating practitioners who have been away from the workforce for some time, rather than having to return to university.
- Online resources could be delivered in a more centralised way, reducing the need for multiple higher education providers to deliver similar training content, and introducing efficiencies in the delivery of formal education. The downside of this for

universities would be further competition and cutbacks in an already challenging higher education market.

Clearly, this approach would require some substantial changes to the current ways of thinking about health practitioner training. The challenges of clinically based training include the large burden of supervision on existing staff, the expanded role of clinical educators and increased need for technological pedagogy. It would require the development of clearly defined competencies alongside mechanisms to enable the credentialing of students at various stages of their clinical training. Clinically based training would require the mobilisation of existing clinical supervision and educator infrastructure and potentially more outsourcing of university-based staff to provide and coordinate credentialing. The nature of student peer support would change to evolve to include local and regional networks and on-line models of support.¹⁶ On-line learning and assessment would need to clearly support and accompany the clinically based learning needed to meet course accreditation requirements. The differing requirements of each profession means that no 'one-size-fits-all' approach could be applied to all clinician training models; however, it is likely that several of the principles already used to deliver clinically based training could be adapted and extended for each professional group. Additionally, training models would still need to ensure that students are exposed to a variety of experiences, caseloads, contexts, different ways of working (e.g. interdisciplinarity) and technical skill development. The most innovative models of rural and remote clinical training already incorporate several of these principles.¹⁷

It is time to consider the real needs of the 21st century healthcare workforce, and modernise our healthcare training accordingly to focus on the needs of patients and communities.

Competing interests

The authors declare there are no competing interests.

References

- 1 Harris MF, Zwar NA, Walker CF, Knight SM. Strategic approaches to the development of Australia's future primary care workforce. *Med J Aust* 2011; 194(11): S88–91.
- 2 Mason J. Review of Australian Government health workforce programs. Canberra: Department of Health and Ageing (Australian Government); 2013.
- 3 Emanuel EJ, Fuchs VR. Shortening medical training by 30%. *JAMA* 2012; 307(11): 1143–4. doi:10.1001/jama.2012.292
- 4 Haigh J. Expansive learning in the university setting: The case for simulated clinical experience. *Nurse Educ Pract* 2007; 7(2): 95–102. doi:10.1016/j.nepr.2006.04.013
- 5 Playford D, Larson A, Wheatland B. Going country: rural student placement factors associated with future rural employment in nursing and allied health. *Aust J Rural Health* 2006; 14(1): 14–9. doi:10.1111/j.1440-1584.2006.00745.x
- 6 Wray N, McCall L.. Money matters: students' perceptions of the costs associated with placements. *Medical Education*. 2007; 41(10): 975–81.
- 7 Lekkas P, Larsen T, Kumar S, Grimmer K, Nyland L, Chipchase L, *et al.* No model of clinical education for physiotherapy students is superior to another: a systematic review. *Aust J Physiother* 2007; 53(1): 19–28. doi:10.1016/S0004-9514(07)70058-2

- 8 Health Education and Training Institute (HETI). Models of excellence: clinical training in regional, rural and remote NSW. Sydney: Health Education Training Institute; 2013. Available at www.heti.nsw.gov.au/Global/ICTN/publications%20-%20ICTN/ICTN%20-%20Models%20of%20Excellence%20-%20Final%20Report%20.pdf [verified 13 December 2013]
- 9 Saks M, Allsop J. Social policy, professional regulation and health support work in the United Kingdom. *Soc Policy Soc* 2007; 6(2): 165–77. doi:[10.1017/S1474746406003435](https://doi.org/10.1017/S1474746406003435)
- 10 Nancarrow S, Moran A, Freeman J, Enderby P, Bradburn M. Looking inside the blackbox of community rehabilitation and intermediate care teams in the United Kingdom: an audit of staff and service configuration. *Qual Prim Care* 2009; 17(5): 323–33.
- 11 Hasson F, McKenna HP, Keeney S. A qualitative study exploring the impact of student nurses working part time as a health care assistant. *Nurse Educ Today* 2013; 33(8): 873–9.
- 12 Turbin J, Wintrup J, Fuller A. Finding their way into careers: an analysis of advanced apprenticeships and progression in healthcare. Southampton: Faculty of Health Sciences: University of Southampton; 2013. Available at: http://eprints.soton.ac.uk/352591/1/__soton.ac.uk_ude_personalfiles_users_jw8_mydesktop_Finding%20their%20way%20into%20careers%20Final%20report%20-1.pdf [verified 25 November 2013]
- 13 Yuan L, Powell S. MOOCs and open education: implications for higher education. JISC CETIS. 2013. Available at <http://publications.cetis.ac.uk/2013/667> [Verified March 2013].
- 14 Gruppen L, Mangrulkar R, Kolars J. The promise of competency-based education in the health professions for improving global health. *Hum Resour Health*. 2012; 10(1): 43. doi:[10.1186/1478-4491-10-43](https://doi.org/10.1186/1478-4491-10-43)
- 15 Hudson J, Weston K, Farmer E. Medical students on long-term regional and rural placements: what is the financial cost to supervisors. *Rural Remote Health* 2012; 12: 1951.
- 16 Westberry N, Franken M. Co-construction of knowledge in tertiary online settings: an ecology of resources perspective. *Instr Sci* 2013; 41(1): 147–64. doi:[10.1007/s11251-012-9222-9](https://doi.org/10.1007/s11251-012-9222-9)
- 17 Gum L, Richards J, Walters L, Forgan J, Lopriore M, Nobes C, *et al.* Immersing undergraduates into an interprofessional longitudinal rural placement. *Rural Remote Health* 2013; 13: 2271.