

Re-profiling today's health care curricula for tomorrow's workforce: establishing an interprofessional degree in Germany

Cornelia Mahler¹, Sarah Jane Berger¹, Sven Karstens¹, Stephen Campbell², Marco Roos³, and Joachim Szecsenyi¹

¹Department of General Practice and Health Services Research, University Hospital Heidelberg, Heidelberg, Germany, ²Centre for Primary Care, Institute of Population Health, University of Manchester, Manchester, UK, and ³Institute of General Practice, University of Erlangen-Nuremberg, Erlangen, Germany

Abstract

Laws regulating education of most health professional groups in Germany today mean that curricula re-profiling in response to changing priorities in the practice environment is a significant challenge. Legally dictated theoretical and clinical requirements for the vocational training of health professionals leaves little room for re-profiling in response to movements such as interprofessional education. An educational innovation was needed that worked within existing structures in Germany. The result was a formal collaboration between the Academy for Health Professionals and the University of Heidelberg allowing students undertaking vocational training to also complete a university degree in parallel. The aim of this article is to describe the curriculum development for the Bachelor of Science – Interprofessional Health Care. This article outlines an evidence-based approach to the process to curriculum development that resulted in a competency-based degree offering comprehensive interprofessional education at undergraduate level for healthcare students based in Germany.

Introduction

A major barrier limiting curricula re-profiling for education of health professions in Germany is the existing laws governing vocational training (Luzio, 2009). In Germany, although medicine and dentistry have university-based education, the initial qualification of most healthcare professions is through vocational training, normally hospital-based programmes. The curricula of existing vocational training programmes are regulated by the law, where for example, theoretical hours and clinical hours to be met during training are detailed (Mahler, Karstens, Roos, & Szecsenyi, 2012). Since the early 1990s, the range of degree programs offered by German polytechnics and universities for healthcare students has increased steadily. Early degree courses were primarily targeted at students who already had completed their initial vocational qualification. However, reforms introduced to the German higher education qualifications framework, as a result of the European Union Bologna Process (European Union, 1999), have opened the way for new educational initiatives particularly at undergraduate level.

In addition, rapid changes to traditional roles and task divisions in health care are calling for new workforce competencies in the practice environment (Frenk et al., 2010). In response to these factors, new education models for the health professions are emerging in Germany. In July 2009, the Heidelberg Medical Faculty began conceptual work towards an

educational innovation resulting in a formal collaboration between the Heidelberg Academy for Health Professions, the major vocational training provider and the University of Heidelberg offering academic degrees. A parallel qualification was envisioned as an innovative solution arising from the need to design an option to work within existing legal frameworks governing vocational qualification. This article describes the process of developing the curriculum for an interprofessional undergraduate degree offered since 2011.

Design and development activities

The intention from the outset was to design an interprofessional competency-based curriculum offering undergraduate education at bachelor level for healthcare students in Heidelberg. Two recognised models were drawn upon to develop a competency-based curriculum for the degree, Kern et al. (1998) competency-based model and the CanMEDS framework (Frank, 2005). Developed in Canada, the CanMEDS competency framework for medical practice has achieved widespread international recognition and is now adopted by various other health professions (e.g. Sottas, 2011). To steer curriculum development, an expert working party of 15 people was formed. This was co-led by the authors – an interprofessional team made up of nursing (C. M.), medicine (M. R.) and physiotherapy (S. K.). Members were senior practitioners (many but not all were in teaching and education roles) representing the nine health professional groups trained at the Academy for Health Professionals (geriatric, general and paediatric nursing, physiotherapy, speech and language therapy, midwifery, orthoptics, medical technical laboratory assistants and medical technical radiography assistants). In

Table I. Matrix of the developed competencies of the B.Sc. Interprofessional Health Care competencies according to the CanMED-Roles and WHO-Competencies (2005).

Bachelor programme competencies/CanMED roles	WHO competencies				
	Patient-centred care	Partnering	Quality improvement	Information and communication technology	Public health perspective
Expert					
<input type="radio"/> Patient centred care	×				×
<input type="radio"/> Decision making	×				
<input type="radio"/> Research methods competence	×		×	×	
Collaborator					
<input type="radio"/> Communication and collaboration with other professions		×		×	
<input type="radio"/> Collaboration with other institutions		×		×	
<input type="radio"/> Strategies for an interprofessional and interdisciplinary collaboration		×			
Communicator					
<input type="radio"/> Use and application of IT		×		×	
<input type="radio"/> Mutual understanding among health professionals		×			
Professional					
<input type="radio"/> Life-long learning	×		×	×	
<input type="radio"/> Self care					×
Manager					
<input type="radio"/> Quality assurance			×	×	
<input type="radio"/> Patient safety			×	×	
<input type="radio"/> Ressource management			×		×
Scholar					
<input type="radio"/> Guiding and instructing patients, clients, society	×	×			×
<input type="radio"/> Guiding and instructing colleagues	×	×			
Advocate					
<input type="radio"/> Ethical decision making	×				×

addition, two professional body representatives (*Verband medizinischer Fachberufe*) were included representing healthcare assistants (*Medizinische Fachangestellte*) and dental assistants (*Zahnmedizinische Fachangestellte*).

The expert working party put together a summary of competencies related to existing qualifications. This formed the basis of a subsequent needs analysis, which was conducted to evaluate whether the identified problems and needs were actually aligned to (1) the needs of the targeted learners and (2) perceived needs according to qualified health professionals working in the field. Key stakeholders were surveyed including: potential students (target group), qualified staff from a range of key clinical expert (health professions – new and experienced practitioners able to identify key needs in the practice environment) and teaching staff (experts in the area of curriculum). In particular, feedback was sought on the relevance of the anticipated future tasks and activities within current professional practice (as identified by the expert working party) as well as subjective evaluation of potential curriculum instructional content in the degree. In addition, interviews were conducted with willing senior clinical leaders. The value of this broad consultation and feedback process was the quality of information gained from those with appropriate knowledge and experience.

The results of the survey and interviews were discussed and analysed by the expert working party. Identified competencies were then recorded and alignment with the CanMEDS framework and the World Health Organization (WHO, 2005) core competencies for interprofessional collaboration was sought. This alignment was achieved in an iterative process over a number of review rounds, which led to rewording, discussion and debate of the identified knowledge, skills and abilities (KSAs) until mutual agreement on competencies and allocation to a “CanMED role” and a WHO core competency was achieved. Although this was an intensive process, a competence-based curriculum for the

Bachelor of Science – Interprofessional Health Care was systematically achieved.

On the basis of the comprehensive problem and needs analysis process, the development of the competence profile and the module-based curriculum structure were created. Finally, a matrix was developed illustrating how the new curriculum reflected internationally recognised competence frameworks (Table I).

Discussion

Changes in healthcare service delivery in Germany, impacting on traditional roles and task divisions, have created the necessity to re-profile educational curricula to ensure healthcare students are appropriately prepared with required competencies for future practice, which reflects a major international trend (e.g. Abu-Rish et al., 2012; Frenk et al., 2010). By enabling Bachelor of Science – Interprofessional Health Care students to complete in parallel a relevant university qualification and qualify to practice in their chosen health profession *via* a hospital-based vocational training, we are ensuring our graduates emerge “work ready” with additional KSAs and competencies needed to provide quality patient care in future practice environments (World Health Organization, 2010). This Bachelor degree adheres to the Bologna process with its modularised program and takes the German national competency qualification framework (*Deutscher Qualifikationsrahmen*) into account (Arbeitskreis Deutscher Qualifikationsrahmen, 2011).

Through the consultation process with interest groups, stakeholders and experts, as well as the systematic relationship management efforts made by interprofessional expert working party, barriers at the institutional level were addressed and collaboration between the cooperating organisations was effectively facilitated (Lawlis, Anson, & Greenfield, 2014). In the short-term, this has gone a long way locally towards beginning to

breakdown mono-professional silos among the participating health care professional groups. Furthermore, because the interprofessional expert working party sought to bring about an innovative change while working within contextual limitations in Germany – that is, sought to complement existing vocational training options rather than replace vocational training altogether – acceptance of this change was more readily gained and a solution orientated focus maintained (Lawlis et al., 2014).

In summary, an evidence-based approach was taken to develop a curriculum for the Bachelor of Science – Interprofessional Health Care at the University of Heidelberg. Students complete a vocational training in parallel to their university studies. The curriculum has more flexibility to respond to new educational and health system priorities than existing vocational training options and adheres to the Bologna Process and the European qualification framework.

Acknowledgements

We would like to thank the following members of the expert working party for their contributions to the development of the competence profile: Stephanie Biedenstein, Cordula Fischer, Rosi Flörchinger, Ilonka Kahl, Dr. Barbara Klemp-Selb, Gabriele Leybold, Brigitte März, Reinold Schmidt-Richter, Frank Stawinski, Barbara Stoll, Barbara Suppé and Jan Vogel.

Declaration of interest

The authors report no declaration of interest. The authors are responsible for the writing and content of this article.

References

- Abu-Rish, E., Kim, S., Choe, L., Varpio, L., Malik, E., White, A. A. . . . Zierler, B. (2012). Current trends in interprofessional education of health sciences students: A literature review. *Journal of Interprofessional Care*, 26, 444–451.
- Arbeitskreis Deutscher Qualifikationsrahmen. (2011). Deutscher Qualifikationsrahmen für Lebenslanges Lernen. Retrieved from: http://www.akkreditierungsrat.de/fileadmin/Seiteninhalte/Sonstige/BMBF_DQR_aktuell.pdf.
- European Union. (1999). The Bologna process: Setting up the European Higher Education Area. Retrieved from: http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11088_en.htm.
- Frank, J. (Ed.). (2005). *The CanMEDS Physician Competency Framework. Better Standards. Better physicians. Better care.* Ottawa: The Royal College of Physicians and Surgeons of Canada.
- Frenk, J., Chen, L., Bhutta, Z.A., Cohen, J., Crisp, N., Evans, T. . . . Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *Lancet*, 376, 1923–1958.
- Kern, D. E., Thomas, P. A., Howard, D. M., & Bass, E. B. (Eds.). (1998). *Curriculum development for medical education: A six-step approach.* Baltimore, MD: Johns Hopkins Univ. Press.
- Lawlis, T.R., Anson, J., & Greenfield, D. (2014). Barriers and enablers that influence sustainable interprofessional education: A literature review. *Journal of Interprofessional Care*, 28, 305–310.
- Luzio, G. (2009). Explaining the continuation of technical college nursing training in Germany. *International Journal of Sociology and Social Policy*, 29, 252–263.
- Mahler, C., Karstens, S., Roos, M., & Szecsenyi, J. (2012). [Interprofessional education for patient-centred practice: Development of outcome-focused competencies for a Bachelor Programme Interprofessional Health Care]. *Zeitschrift für Evidenz, Fortbildung und Qualität im Gesundheitswesen*, 106, 523–532.
- Sottas, B. (2011). Learning outcomes for health professions: The concept of the Swiss competencies framework. *GMS Zeitschrift fuer Medizinische Ausbildung*, 28, Doc11. doi: 10.3205/zma000723.
- World Health Organization. (2005). *Preparing a health care workforce for the 21st century: The challenge of chronic conditions.* Geneva: World Health Organization.
- World Health Organization. (2010). *Framework for action on interprofessional education & collaborative practice.* Geneva: World Health Organization.