FEED OUR FUTURE

A pragmatist mixed-methods exploration of Individual Case Management (ICM) placements for dietetic students outside the hospital setting

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Abstract

Background

Our aging population and the increase in chronic disease is driving a move towards a consumer-led integrated health care system, with an increased need for interdisciplinary primary health care services. Expanding the settings used for Individual Case Management (ICM) placements from hospitals to primary health care settings could increase placement capacity and may better align with the national health reform and health workforce development agendas. This research aims to (1) explores the experiences of key stakeholders with ICM placements for dietetic students outside the hospital setting; (2) identify Australian tertiary ICM placement practices; (3) explore student dietitians’ development of ICM competencies outside the hospital setting; and (4) support supervisors in their competency-based assessment practices.

Methods

Within a pragmatist framework, this research uses mixed-methods, and is conducted over three phases. Phase I presents an evaluative case study of an innovative non-hospital ICM setting; Phase 2 includes: (1) a national online survey with placement coordinators at Australian Universities offering accredited Dietetics programs, and (2) a modified-three round Delphi study with eight experienced clinical supervisors; Phase 3 uses a Design-Based research approach to develop an online program for ICM clinical supervisors in competency-based assessment.

Results
Phase 1 demonstrated the potential for a non-hospital ICM placement setting to meet the needs of consumers and exceed expectations, while providing a quality learning experience for student dietitians. In Phase 2 the experienced supervisors agreed that, although most universities are using hospitals for their ICM placements, students could develop and demonstrate entry-level ICM competence in non-hospital settings, with adjustments made for nuanced practice differences. This research highlighted the subjectivity of current assessment practices while also demonstrating how through the sharing of assessments and dialogue supervisors can gain a shared understanding of entry-level performance. Phase 3 described the development of a video-based constructivist online program in competency-based assessment showcasing the potential for online learning to support clinical supervisors to achieve more credible and defensible assessment practices.

**Conclusion**

Non-hospital clinical placement settings can provide appropriate experiences for student dietitians to develop individual case management competence, prepare for the future workforce and support the delivery of healthcare in underserviced settings. This research recommends: (1) universities revisit clinical education curricula and consider the inclusion of non-hospital sites in the ICM placement mix; (2) a mix-methods approach to assessment is adopted with the aim of achieving a more comprehensive and in-depth understanding of the student’s development and demonstration of ICM competence, (2) a constructivist video-based online program is used to support clinical supervisors in their assessment of student-dietitians during ICM placements.
Publications and Presentations

Published manuscripts


Presentations with peer reviewed abstracts


5 Bacon, R, Williams, L, Grealish, L 2013, ‘Clinical Education – From Beds to Buses Reflections for the Challenges of Tomorrow (Plenary Presentation)’, Dietitians Association of Australian National Conference Canberra, 24 May.

University-based presentations

1 Bacon, R, Williams, L, Grealish, L, Jamieson, M 2014, ‘Progress Presentation’, Faculty of Health University of Canberra, 4 July.

2 Bacon, R, Williams, L, Grealish, L 2013, ‘PhD Candidate Confirmation Seminar’, Faculty of Health University of Canberra, 25 July.


Awards


2 Dietitians Association of Australia 2015, ‘Emerging Researcher Award’ for the best research article from a first time author in Nutrition & Dietetics, Perth, 15 May.

3 University of Canberra Faculty of Health 2015 ‘Learning and Teaching Award’, Canberra, 11 February.

4 University of Canberra 2014, ‘Vice-Chancellor's Excellence Award - Citation for Outstanding Contribution to Student Learning (Scholarly Activities and Innovations)’, Canberra, 24 October.


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### Abbreviations

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<th>Description</th>
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<tbody>
<tr>
<td>AHPRA</td>
<td>Australian Health Practitioners Regulation Agency</td>
</tr>
<tr>
<td>ALHW</td>
<td>Australian Institute of Health and Welfare</td>
</tr>
<tr>
<td>APD</td>
<td>Accredited Practising Dietitian</td>
</tr>
<tr>
<td>CETQ</td>
<td>Clinical Education and Training Queensland</td>
</tr>
<tr>
<td>DAA</td>
<td>Dietitians Association of Australia</td>
</tr>
<tr>
<td>DINER</td>
<td>Dietetic Information and Nutrition Education Resources: a database provided by for members of the Dietitians Association of Australia</td>
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<td>HWA</td>
<td>Health Workforce Australia</td>
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<tr>
<td>ICM</td>
<td>Individual Case Management</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
</tr>
<tr>
<td>OSCE</td>
<td>Objective Structured Clinical Examinations</td>
</tr>
<tr>
<td>SAS</td>
<td>Student-Assisted Services</td>
</tr>
<tr>
<td>SOLO</td>
<td>Structure of the Observed Learning Outcome: Taxonomy developed by Biggs and Collins (1982)</td>
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Preface

The qualitative research included in this thesis considers the lived experiences of the participants. To ensure a robust research design, the influence of the researcher on the data collection and interpretation must be considered. Reflexivity requires self-awareness by the researchers of their own experience and perspectives (Yin 2011).

I have worked as an academic teaching in the Masters of Nutrition and Dietetics program since 2010. In this role, I am responsible for the clinical placement program, including the establishment of the Student Assisted Services. Prior to my appointment, I worked as a dietitian for 15 years predominantly in the clinical field and for the last seven of those years specifically in clinical education. I know all the students and many of the dietitians who participated in this research. Health Workforce Australia (HWA), which has an interest in facilitating placements in underserviced areas, provided Fellowship funding for the establishment of the web-based assessment tool and both Phases 2 and 3 of my research.

There is therefore a risk of potential subjectivity in data collection and interpretation. By understanding this risk, I have taken care to ensure that other researchers have independently verified the results of the research. It is only by accurately understanding the experiences of the participants that I can gain sufficient insight to make modifications to the Student Assisted Services, assist supervisors to achieve more credible and defensible assessments and improve the delivery of programs such as Feed Our Future. This depth of understanding and insight has allowed me to genuinely make a difference to clinical placement outcomes, benefiting not only the students but also the dietetics profession as a whole.
Table 1.1 provides an overview of the research phases, research aims, related thesis chapters and publications.

<table>
<thead>
<tr>
<th>Research Phase</th>
<th>Thesis Chapter</th>
<th>Publication</th>
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<tr>
<td>Phase 2</td>
<td>5</td>
<td>Bacon, R, Williams, L, Grealish, L 2015, ‘Nursing Homes and Primary Health Care Clinics Provide Appropriate Settings for Student to Demonstrate Individual Case Management Clinical Competence’ <em>Nutrition and Dietetics</em>, vol.72, no.1, pp. 54-62.</td>
</tr>
<tr>
<td>Phase 3</td>
<td>6</td>
<td>Bacon, R, Williams, L, Grealish, L, Jamieson, M 2015 ‘Credible and Defensible Assessments of Entry-Level Clinical Competence: Insights from a Modified Delphi Study’, <em>Focus on Health Professional Education</em>. Accepted for publication 12th January 2015.</td>
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Figure 1 provides a conceptual diagram for this thesis. University dietetics programs are required to conform to the clinical placement requirements set out by the relevant professional accrediting body (Dietitians Association of Australia (DAA) 2011). In the profession of dietetics, universities must seek to provide students with clinical education experiences that enable them to develop competence (Daelman et al. 2004; Maher et al. 2014) as described by the competency standards of the DAA (2009). Based on the Dreyfus and Dreyfus Model of Skills Acquisition (1980) (applied to the health setting by Benner 1984), competence is not a line that must be crossed - rather it is part of a journey of learning, represented in the diagram in Figure 1 by the paved road.

This thesis posits that placement programs should be informed by government healthcare and workforce agendas (Department of Health (DoH) 2014; HWA 2011), as represented by the orange and yellow borders that frame this image. Providing students with Individual Case Management (ICM) placements in a range of settings, presented in this diagram by the buildings, is likely to produce graduates who are flexible and who possess a good understanding of the continuum of care (Phase 2 Study 4; presented in Publication 2; consistent with Merritt and Boogaerts 2014) and may assist in redistributing the workforce to areas that are currently underserviced (Dalton 2008; Jones et al. 2014; Kondalsamy-Chennakesavan et al. 2015).

ICM placements outside the hospital setting can provide appropriate experiences for students to develop and demonstrate competence (Phase 2 Study 5; presented in Publication 2, consistent with Lordly & Taper 2008; Owen et al. 2013; Sheepway et al. 2014; Worley et al. 2006). Such placements, for example in outpatient clinics and residential aged care facilities,
Figure I - A Conceptual Diagram Developed for this Thesis

FEED OUR FUTURE: A pragmatist mixed-methods exploration of Individual Case Management (ICM) placements outside the hospital setting.
can provide opportunities for student dietitians to develop and demonstrate the ICM competencies (Phase 2 Study 5; presented in Publication 2; consistent with DAA 2010; Lordly & Taper 2008) represented by the rectangles on the front of each building. To perform successfully, students also need to ‘bring into play’ the dietetics skills and foundational competencies (Ash & Phillips 2000; DAA 2009), represented by the ICM building framework.

Innovative models of clinical education, such as the ‘Student-Assisted Services’, provide students with opportunities to work in emerging areas of practice, potentially extending professional boundaries, while at the same time contributing to healthcare delivery (Phase 1 Study 1-3 presented in Publication 1, consistent with Clinical Education and Training Queensland (CETQ) 2011; Dancza et al. 2013; Grealish et al. 2013; Gat & Ratzon 2014; Kassam et al. 2013).

The development of competence is context dependent (Johnnson & Hager 2014). Different settings inevitably value different competencies to differing degrees (Phase 2 Study 5; Publication 2, consistent with Ash & Phillips 2000; Merritt & Boogaerts 2014). For example, the outpatient setting favours the element of competency 5.4 (Client-centred counselling), while the aged care setting favours the element of competency 4.1 (Malnutrition screening and assessment). This is represented on Figure 1 by the varying sizes of the rectangles on the ICM buildings. Clinical experiences provided outside the hospital setting support the development of competencies that are highly valued by the future workforce such as behavioural change techniques and flexibility (Rhen & Bettles 2012).
The learning journey of a student is not always linear or systematic, but rather is influenced by his/her placement experiences (Lave & Wenger 1991), as represented by the coloured pavers in the figure. Even a proficient practitioner may regress to a competent level of performance when commencing in a new practice setting (Ash & Phillips 2000). When a student begins a placement at a type of site that is different to a preceding placement, she/he may not immediately be able to recognise the similarities between the two settings and apply her/his prior learning (Merritt & Boogaerts 2014). Through reflection (Schön 1995) and scaffolding (Vygotsky 1962, applied to clinical education by Webb et al. 2009), students can transform their learning, create new knowledge and develop their competence in the new context (Larsen-Freeman 2013). Clinical supervisors (represented by the orange [competent], red [proficient] and white [expert] figures) ideally play a role in scaffolding student learning during placements (Phase 2 Study 5; presented in Publication 2).

This thesis makes a case that competency-based assessment during ICM placement is inherently subjective and that notions of credibility and defensibility, rather than validity and reliability, should be used to describe such assessment (Phase 2 study 5; presented in Publication 3; supported Schuwirth & van der Vleuten 2003). Clinical supervisors currently play key roles in assessing student competence (Phase 2 Study 4; presented in Publication 2). Assessors need to be supported to make quality judgements. Multiple sources of evidence need to be collected over the duration of a placement in a variety of cases and in a range of settings and considered in making the assessment (Ash & Phillips 2000; Schuwirth & van der Vleuten 2003). A global, rather than a checklist approach, should be used (Govaerts et al. 2002), and the learning context considered in the assessment (McAllister et al. 2011).
Web-based professional development programs, such as *Feed Our Future*, can support clinical supervisors to develop more credible and defensible approaches to competency-based assessment (Phase 3 Study 6; presented in Publication 4). Visual representations of authentic consultations using audio-visual recordings considered by an ‘*interpretive community*’ [represented in the figure by the supervisors figures arranged in a ‘community’] can support a shared understanding of entry-level performance and ‘*consensus*’ in assessments (Phase 2 Study 5; presented in Publication 3, consistent with Govaerts & van der Vleuten 2013).

This research has implications for both ICM placement programs and assessment practices. It supports the expansion of ICM placements to settings outside the hospital and the use of innovative models of clinical education in underserviced areas. This thesis challenges current assessment practices and encourages a move towards a mixed-method approach to assessment, where competence is determined by a panel of trained assesses from a ‘*saturation*’ of evidence.

**Thesis Outline**

This thesis is submitted as a series of chapters and journal publications that are drawn together into a coherent body of work. Chapter 1 considers the current healthcare context, articulating the rationale for the research. Chapter 2 provides a scholarly review of the literature on the use of placements for the development of clinical competence and competency-based assessment with specific application to the dietetics profession.
Chapter 3 presents the methodological background to the thesis. This includes the pragmatist framework, where rather than a philosophical perspective, the research questions determine the methods selected for the studies. This research values multiple perspectives and therefore adopts a mixed-methods approach. This includes a case study (Phase 1); a national online survey (Phase 2), a three-round modified-Delphi study (Phase 3); and a design-based research study that supports the concurrent advancement of design, research and practice in the development of a web-based program for clinical supervisors (Phase 4). Focus groups and personal interviews are used in Phases 1, 3 and 4 supporting a more in-depth exploration of the issues.

Chapters 4 to 7 present the findings of each research study in the form of a journal article. Published works are presented as portable document formats in the form in which they were published. As each manuscript is designed to stand-alone, there is an inevitable degree of overlap in the manuscripts. Each manuscript is briefly introduced and discussed within the chapter. Chapter 8 includes a commentary paper that brings these works together as an integrated whole.

In the final chapter (9) the conclusions and recommendations of all the published works are summarised, clearly articulating the new contribution made by this research to knowledge and practice in the area of dietetics clinical education. This section addresses the strengths and weaknesses of the studies and areas for further research. A complete reference list (including all references cited in the manuscripts) is provided at the end of the thesis, before the Appendices. Operational definitions for all terms used in this research are presented in Appendix 1.