

Short Communication

Using unfolding case studies to better prepare the public health nutrition workforce to address the social determinants of health

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Abstract

Objective: The public health nutrition workforce has been reported to be underprepared for practice. The present study aimed to test the ability of an unfolding case study approach to support the public health nutrition workforce for the workplace, with a focus on improved access to nutritious food.

Design: Two unfolding case studies were trialled with undergraduate students in two-hour workshops to enhance their capability to address access to nutritious food as a social determinant of health. The approach provided information about the case using a staged approach that supported learners to review and reply to information and then continue this process as the case became increasingly complex.

Setting: Melbourne, Australia.

Participants: Thirty-eight undergraduate nutrition and dietetics students.

Results: The analysis revealed that the unfolding case study approach provided a place to challenge and deepen knowledge and think about the application of theory. As the cases developed and became more challenging, students were supported to consider appropriate approaches and recognised the constant evolution and dynamic nature of practice.

Conclusions: This learning activity challenged students and supported deep learning about possible solutions. It may also be useful at a graduate level and for continuous education of nutritionists and/or dietitians to empower the workforce to address the social determinants of health, rather than just acknowledging them as a set of barriers that prevent people and communities from achieving optimal health. Further work is required to investigate how unfolding case studies in curricula shape preparedness for practice of public health nutrition.

Keywords
Nutrition workforce development
Access to nutritious foods
Competence

The public health nutrition workforce is a key part of improving population health^(1–3). For the public health nutrition workforce, preparation usually involves university-based education coupled with practical work placement experiences. Recent work internationally has focused on ensuring that dietitians are prepared for practice in public health with changes to competency standards^(4,5) and nomenclature to include the term ‘nutritionist’^(5,6). Despite this effort, this workforce has been found to be underprepared for work to address food and nutrition problems with multiple interrelated socio-ecological determinants whose solutions involve a range

of sectors^(3,7,8). This is not unique to nutrition, with criticism that most health professions’ education curricula do not prepare graduates to work in prevention to address the social determinants of health, focusing on ‘facts to be known rather than as conditions to be challenged and changed’^(9,10). There is a need to support public health nutritionists to operate in such complex environments by addressing barriers identified by this workforce as impeding its effectiveness.

Workforce development requires different methods that include workforce preparation towards the competency standards identified for practice⁽¹¹⁾. While there is some

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evidence to suggest that mentoring and other peer learning networks support the workforce in practice^(12,13), there is limited literature on the effectiveness of workforce development interventions that focus on competence development prior to entry to the workforce. 'Real-life' or practice-based learning is popular with learners due to its ability to contextualise learning and support the development of critical thinking. While there is no denying the role of work-based learning in the development of professional competence, there is a need for evidence on other approaches which support the development of skills in addressing the social determinants of health⁽⁹⁾. The present study aimed to test the likely effectiveness of an innovative teaching approach to develop the capabilities of pre-entry public health nutritionists in being able to address access to nutritious food.

Methods

Access to nutritious food is a key social determinant of health⁽¹⁴⁾. Two international contexts for interventions aimed at improving access to nutritious food include indigenous community stores in remote locations and emergency food relief services. In remote community stores, changing the store environment to support healthy food choices can play a significant role in improving the population's nutritional intake^(15,16). Reorienting emergency food relief agencies to help tackle underlying inequities can reduce barriers to accessing nutritious food^(17,18). Public health nutritionists are at the forefront of addressing access to nutritious food. This workforce plays a critical role in translating evidence to key decision makers in both settings and requires the capability to work across cultural and sectoral boundaries. Public health nutritionists play a key role in leading changes to remote indigenous community store retail foods and drinks and in advocating for changes to inequities' impact on access to healthy food.

Case studies and problem- or case-based learning centre on learning interactions and critical thinking to support learners understand the complexity of issues and multiple possible solutions. Unfolding case studies are a version of these approaches whereby learners are provided with information about the case 'using a staged approach that allows them to analyse and respond to information before moving forward to access additional information related to the case'⁽¹⁹⁾. They are also useful for bridging the gap between theory and practice. With a view to prepare learners for 'real-life' situations and develop skills in working to improve access to nutritious food, we sought to test the role of unfolding case studies in situations where access to nutritious food was a determinant of health.

Unfolding cases were designed by three authors (M.F., S.K. and C.P.) based on real-life experiences working in

remote community stores and in reorienting food relief services. These authors have extensive experience in working to improve access to nutritious food and in the education of the public health nutrition workforce. Scenarios describing a typical situation of the work of a health professional in addressing access to nutritious food were developed: one case in a remote indigenous community store (five parts) and the other in a metropolitan community health setting (three parts). As the cases progressed so did the increasing complexity (case content available from the authors on request). The time required to prepare the unfolding cases equated to the same time or less taken to prepare a traditional interactive lecture.

The session was developed for final-year dietetics students (in 2017) from a university located in Melbourne, Australia, who were at the mid-point of completing a 320 h supervised work-based practical placement in public health nutrition. The sessions aimed to extend learning rather than replace existing teaching of interventions that aim to improve access to nutritious food. All thirty-eight students in the cohort were invited to attend; the session was not compulsory yet all thirty-eight attended. Learners were not required to prepare prior to attending a face-to-face workshop to discuss the cases but were informed that the cases would build on foundational teaching and assessment related to the social determinants of health being applied to public health nutrition practice that had occurred in previous years (available from authors on request). Over the two by two-hour workshops, the authors (M.F. and C.P. or S.K.) provided each part of each case in a written format (approximately 100 words), concluding with a question that invited learner responses about the possible approaches and why the approach was chosen. This unfolding case discussion format allowed multiple approaches to be heard by the whole group after having some prior discussion in smaller groups to develop ideas. The session was audio-recorded for later data analysis.

Two authors (S.K. and C.P.) reviewed the recorded transcripts and transcribed student responses. This involved the authors analysing the students' responses against the authors' previous experience about what was likely to work in practice as well as for depth and complexity based on their perspectives. The authors undertook this process together through discussion, with the aim of reaching consensus on key concepts related to the learners' capability to work in complex environments to address access to nutritious food. Key findings were verified with a third author (M.F.).

Results

The analysis revealed that the unfolding case studies provided a method to challenge and deepen knowledge

and to think about the application of theory. For example, students were able to apply theory on community development and translate this to what it may look like in practice:

‘It is important for the public health nutritionist to spend some time at the community store, to stay behind after the cooking classes and generally get to know her community better and build relationships.’

In addition, they demonstrated the ability to apply evidence and past practice to inform their own practice:

‘Have others implemented any interventions in the past? If they did, how did it go? Could we possibly gauge some ideas from them?’

The cases also provided the opportunity for students to demonstrate cross-cultural capabilities:

‘Be respectful of ... culture, respectful of their system, do not change anything but try to understand how that community works first.’

Students also demonstrated their ability to develop strategies to address the social determinants of health and their role in this work:

‘Improving the price of healthy foods and the food supply will have a bigger effect on the community compared to individual consults.’

‘This case study has stressed the importance of the [nutritionist’s] facilitation role rather than being the doer ... Know the community’s agenda and priorities and make this a focus.’

While students generally recognised the importance of relationship building and adopting a community development approach to improve access to nutritious food, many were challenged when asked to explain what steps they might take to go about this in practice. The unfolding case study format allowed facilitators to share their practice experience with students and articulate their suggested approach as the cases increased in complexity:

‘Spending time talking to people who are experienced, such as working with leaders in communities and understanding the processes of work, is important.’

As the cases developed and became more challenging, students were supported to consider appropriate approaches and recognised the constant evolution of and dynamic nature of practice:

‘The challenges never stop coming, the navigation path you need to follow to achieve health outcomes continues to challenge you throughout your work.’

However, as the complexity of the cases developed, their ideas for ways forward lessened.

Discussion

Findings from our study suggest that this classroom-based learning environment supported students to propose a range of ideas or approaches to solve the cases, even when they became complex and were challenged by each other to think more deeply about the situation and possible underlying factors. Our work aimed to build on theory of the social determinants of health taught in early parts of the student-learning journey. The case studies focused on showing students how they may go about addressing these determinants in future work, rather than just acknowledging these as ‘facts to be known’; that is, the realisation of the concept of the right to adequate food and that access to nutritious food is a factor influencing what people eat. Focusing on the latter may result in students feeling powerless to respond to this complex issue. Students demonstrated their ability to ‘not give up’ when the cases became more complex and continued to focus on their learnt theory and its importance in shaping practice. The case studies complemented work-based practice in supporting the development of public health nutrition competence.

This small innovation, requiring similar investment of time to other teaching approaches, demonstrated that it was possible to create classroom experiences that empower students with ‘know-how’ to change the conditions and structures to address a social determinant of health. The skill required by educators to design relevant case studies is a key requirement to its success. The limitation of this work is that the impacts were based only on qualitative analysis of student responses. More objective measures of change in learner capabilities to address social determinants may provide further insight. In addition, it is not known what role the students’ later supervised practice had on their ability to navigate these cases.

Further work is warranted to investigate how this experience shapes perceived preparedness for those students who find themselves in similar work situations upon graduation. While these case studies were tested within nutrition and dietetics training, this innovative approach may be utilised to teach the social determinants of health within other health disciplines. This learning approach may also be useful at a graduate level and for continuous education of nutritionists and/or dietitians to empower those in the workforce to address the social determinants of health, rather than just acknowledging them as a set of barriers that prevent people and communities from achieving optimal health.

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References

1. Yngve A, Tseng M, Haapala I *et al.* (2012) A robust and knowledgeable workforce is essential for public health nutrition policy implementation. *Public Health Nutr* **15**, 1979–1980.
2. Delisle H, Shrimpton R, Blaney S *et al.* (2017) Capacity-building for a strong public health nutrition workforce in low-resource countries. *Bull World Health Organ* **95**, 385–388.
3. Shrimpton R, du Plessis L, Delisle H *et al.* (2016) Public health nutrition capacity: assuring the quality of workforce preparation for scaling up nutrition programmes. *Public Health Nutr* **19**, 2090–2100.
4. Dietitians Association of Australia (2015) *National Competency Standards for Dietitians in Australia*. Canberra, ACT: Dietitians Association of Australia.
5. Wentzel-Viljoen E (2017) *The Scope and Competencies of the New Dietitian-Nutritionist in the Well-Being of the South African Population with Associated Assessment Criteria for Entry-Level Dietitian-Nutritionist*. Pretoria: Health Professions Council of South Africa.
6. Academy Quality Management Committee (2018) Academy of Nutrition and Dietetics: Revised 2017 Standards of Practice in Nutrition Care and Standards of Professional Performance for Registered Dietitian Nutritionists. *J Acad Nutr Diet* **118**, 132–140.
7. Hughes R (2003) Competency development needs of the Australian public health nutrition workforce. *Public Health Nutr* **6**, 839–847.
8. Haughton B & George A (2008) The Public Health Nutrition workforce and its future challenges: the US experience. *Public Health Nutr* **11**, 782–791.
9. Sharma M, Pinto A & Kumagai A (2017) Teaching the social determinants of health: a path to equity or a road to nowhere? *Acad Med* **93**, 25–30.
10. Sklar D (2018) Disparities, health inequities, and vulnerable populations: will academic medicine meet the challenge? *Acad Med* **93**, 1–3.
11. Jonsdottir S, Thorsdottir I, Kugelberg S *et al.* (2012) Core functions for the public health nutrition workforce in Europe: a consensus study. *Public Health Nutr* **15**, 1999–2004.
12. Holden S, Ferguson M, Brimblecombe J *et al.* (2015) Can a community of practice equip public health nutritionists to work with remote retail to improve the food supply? *Rural Remote Health* **15**, 3464.
13. Palermo C, Hughes R & McCall L (2011) A qualitative evaluation of an Australian public health nutrition workforce development intervention involving mentoring circles. *Public Health Nutr* **14**, 1458–1465.
14. Wilkinson R & Marmot M (2003) *The Social Determinants of Health. The Solid Facts*. Copenhagen: WHO Regional Office for Europe.
15. Butler R, Tapsell L & Lyons-Wall P (2011) Trends in purchasing patterns of sugar-sweetened water-based beverages in a remote Aboriginal community store following the implementation of a community-developed store nutrition policy. *Nutr Diet* **68**, 115–119.
16. Mead E, Gittelsohn J, Roache C *et al.* (2013) A community-based, environmental chronic disease prevention intervention to improve healthy eating psychosocial factors and behaviors in indigenous populations in the Canadian Arctic. *Health Educ Behav* **40**, 592–602.
17. Gallegos D, Booth S, Kleve S *et al.* (2017) Food insecurity in Australian households; from charity to entitlement. In *A Sociology of Food and Nutrition: The Social Appetite*, pp. 55–74 [J Germov and L Williams, editors]. South Melbourne, VIC: Oxford University Press.
18. Loopstra R (2018) Interventions to address household food insecurity in high-income countries. *Proc Nutr Soc* **77**, 270–281.
19. West C, Usher K & Delaney L (2012) Unfolding case studies in pre-registration nursing education: lessons learned. *Nurse Educ Today* **32**, 576–580.