Short Report

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NURSE LEARNERS' EDUCATIONAL INTERACTION WITH COMMUNITIES AS 'LIVING LABS' HAS PROVEN TO IMPACT POSITIVELY ON THE SUSTAINABILITY OF RURAL COMMUNITY HEALTH-CARE OUTCOMES

Laurie Mahoney and Jean Ross

INTRODUCTION

Nurses are responsible for sustaining and improving a community's health. For this to occur it is vital that nurses' practice according to the principles of partnership with the community. As nurse educators, it is our responsibility to ensure that nurse learners have the opportunity to practice in the community. A solution-focused approach by the authors evolved during 2015–2017 through the development of the Community Health Assessment Sustainable Education (CHASE) (Ross, Crawley, & Mahoney, 2017) model – designed to provide clinical access and prepare learners to work with a "community as their client," rather than the traditional model, where the individual is their client. The CHASE model comprises six phases and is based on the concept of the "living lab." This model encourages nurse learners to develop a partnership with communities to identify their health needs with the aim of improving the health status of the relevant population group(s).

In this paper, we provide examples of interventions and resources developed by nurse learners and their impact on health outcomes with respect to identified population groups. The authors are lecturers in the Otago Polytechnic School of Nursing who supervise, guide and support their learners with these community projects. This paper reviews the impact of the community projects on both the students and the communities involved.

BACKGROUND

The School of Nursing at Otago Polytechnic, Dunedin, New Zealand, is the institution where the authors facilitate nurse learners to partner with a rural community as their client. Community health assessments were introduced into the curriculum for the Bachelor of Nursing (BN) degree in 2009. In the first year of the BN, one aspect of the primary health-care experience is visiting older people and families in their homes. The purpose of this is to gain an understanding of "well health," whereby learners gain an appreciation of how people maintain personal wellness. The learners interview these 'clients' about their health experiences and how they engage with their community and primary care agencies (both health and social agencies) to stay well, thereby gaining an understanding of how unmet health needs might be prevented as well as unnecessary admissions to secondary health services – for example, the hospital.

Alongside this experience, the learners gain an initial understanding of the concept of community-as-partner (Anderson & McFarlane, 2008). At this level, the students learn community assessment skills and processes by undertaking a 'windshield and foot survey' of the neighbourhood where their 'client' lives. This exposes learners to different communities, both geographical communities and communities of aggregate populations – for example, the

elderly, people with disabilities and families with pre-schoolers. Using these methods (windshield and foot surveys), learners work in teams (groups) to undertake a profile of a defined geographical location. They discover more about the community by collecting secondary data – for example, using the internet and identifying population statistics from sources such as Statistics New Zealand.

In the second year of the BN degree, learners experience clinical placements in the primary health-care setting with Registered Nurses. Since 2016, the BN Year 3 learners have been completing community projects for their primary health-care clinical placements. This group uses the skills they have already learnt about community profiling to assess community needs in their previous years of study. At this level, learners are using both primary and secondary data collection to describe the community and to identify health needs in the community. They extend their learning even further by incorporating health promotion models – for example, the Ottawa Charter – to develop strategies to reduce the health needs of the community (Ross et al., 2017). The process of developing the community profile, health needs assessment and health promotion resources has been described by the authors as the CHASE model (Ross et.al., 2017). Because they are commonly referred to as "the Community Projects" by learners, they are referred to as community projects below.

COMMUNITY PROJECTS

The academic year for Otago Polytechnic Bachelor of Nursing third-year learners extends from February to August. Approximately 110 learners are enrolled at third-year level each year and experience three clinical placements of 120 hours each (over a four-week period). One of these placements includes completing a team community project.

The 110 learners are split into four groups of around 30. Because the community projects are considered as clinical, learner nurses are supervised by a Registered Nurse (RN), with lecturers taking this role. Each group of 30 learners is divided into smaller groups and allocated to a lecturer.

Nurse learners advocate for the expressed health needs of their clients (community) by engaging with community resources (or the lack of resources) while being prepared to apply the principles of the Primary Health Care Strategy (Ministry of Health, 2001). For nurses to be effective in sustaining and improving the health of the identified aggregates (population groups) in their project, they need to practice according to the principles of partnership with the community and identify its health needs with the aim of improving the health status of the community.

When an entire community is the client, nurse learners require a model and tools with which to achieve change to improve health in ways that are meaningful and sustainable. The tools and models utilised must be flexible enough to enable them to explore individual community contexts, and sufficiently structured so that learners have a clear framework to follow and remain embedded within the Primary Health Care Strategy (Ministry of Health, 2001). Meaningful Primary Health Care practice designed to assess a rural community as a client, and to identify and respond to its health needs, requires a platform that prepares learners to integrate practical, ethical and research requirements, performed within an isolated professional landscape. Experiential learning provides learners with the opportunity to participate (to become immersed in the community, in the manner of a "living lab") while transforming this experience into knowledge (Kolb, 1984).

Once on site, learners appreciate the reality of the rural context and experience the physicality of the community and its location, mapping resources with the aim of uncovering inequalities and listening to stories of resilience that are unique to each rural community. They are active in their own learning, intentionally strengthening their professional competence through reflection on their practice, applying theory and scaffolding frameworks that shape and extend their clinical experience. They are exposed to examples of solution-focused interventions, highlighting their positive impact on community health. In implementing such solutions, nurses work within a landscape of collaboration and partnership while conducting their own practice aimed at enhancing change and reducing health disparities. In this sense, collaboration fits well with the concept of the "living lab."

LIVING LABS

Living labs are spaces where educational institutions and health-care organisations collaborate at the macro level to enable innovation. Researchers participate at the meso level with communities where living lab activities take place in order to foster innovation. It is at the micro level that activities are undertaken to highlight the communities' assets, deficits and capabilities, with a view to harnessing innovation. According to Bergvall-Kåreborn et al., "[a] Living Lab is a user-centric innovation milieu built on every-day practice and research, with an approach that facilitates user influence in open and distributed innovation processes engaging all relevant partners in real-life contexts, aiming to create sustainable values" (Bergvall-Kåreborn, Eriksson, Ståhlbröst, & Svensson, n.d.).

Living labs combine and individualise different user-centred, co-created methodologies to best fit their purpose. The authors' work engages with this concept of living labs, together with the Community Health Assessment Sustainable Educational (CHASE) model (Ross, et al., 2017) to conduct community-facilitated research projects.

Living lab projects include assessment, planning and implementation and evaluate impacts on a community's health in ways that fit well with the CHASE model.

THE CHASE MODEL

The CHASE model was introduced as a way to incorporate the living lab concept in planning each project and setting realistic goals; it consists of a pre-orientation session, an orientation session and six phases (Ross, et al., 2017). The authors emphasise the importance of access to clinical practice opportunities where nurse learners build trust, respect, integrity and partnership with rural community members, with the intention of creating opportunities for improved health. Nurse learners come to appreciate the reality of rural isolation and experience by physically visiting rural locations, mapping resources, uncovering inequities and listening to stories of resilience that are unique to each community.

Learners meet the requirements of the School of Nursing Ethics Committee (Category B) and work must gain research approval relating to ethical issues, safety of students and supervision by research lecturers. In addition, Kaitohutohu consultation is undertaken between local iwi and the supervising lecturers and is progressed throughout the duration of the project. Processes put in place to manage these ethical considerations need to take account the short time frame involved (four weeks) and the underlying nature of the partnership process, with all its unknown factors. Community needs are identified by the learners together with the community itself, and sustainable responses evolve through ongoing consultation.

DISCUSSION

For the last three years (2017–2019), third-year primary care nursing students in the Bachelor of Nursing programme at Otago Polytechnic have been creating community profiles and needs assessments and delivering relevant health messages to (mainly) rural communities in the Otago, Southland and South Canterbury regions. (The first two regions fall within the Southern District Health Board, while the latter comes under the South Canterbury District Health Board.)

In undertaking these community projects, learners have applied the CHASE model (Ross, et al., 2017) which incorporates the Community-as-Partner model (Anderson & McFarlane, 2008). Both models guide learners in collecting primary and secondary data. From this data, they identify vulnerable population aggregates in the community and complete the associated needs analysis. The needs analysis then further guides the learners to identify more specific health needs. A literature review is completed about the specific health need identified by the learners in consultation with members of the community and Kaitohutohu. The learners then apply health promotion frameworks to develop a health message(s) designed for the specific needs of that community. In

preparing this paper, the authors have identified common themes relating to vulnerable groups and their health needs from the learners' clinical practice over the course of these three years, and highlight the approaches taken by some of the learners to the health promotion messages and resources developed.

In 2018, 18 teams completed projects; these were all rurally based, with the exception of one team which covered an urban area close to Dunedin. In 2019, 19 teams completed projects, with 12 being in rural areas of Southland and Otago and five in urban areas of Dunedin and Timaru.

Learners were placed into teams of between 3 and 12. The size of each team was dependent on the time allocated to the supervising lecturer and the geographical area that the learners were exploring. The larger teams completed profiles of areas with a larger population base. For teams larger than five learners, each team was split into smaller groups once the community profile and needs analysis were completed.

Health need	Population group(s)	Number of projects identifying health need
Physical health; Chronic Obstructive Pulmonary Disease, Diabetes	Rural population, Maori	2 1
Mental health	Men	2
Mental health	Children	5
Mental health	Farming/rural communities	3
Mental health	Youth	4
Mental health	General	1
Social isolation	Rural well elderly	4
Difficulty in accessing emergency treatment	Rural population	1
Family violence	Rural population	1
Tourism	Tourists	2
Access to oral health services	General rural population	2
Access to oral health services	Rural youth	1
Lack of access to mental health services	Rural communities	1
Access to health-care for older people	Rural elderly	1
Access to or knowledge of health-care – general	Rural population/men	6
Lack of sexual health services	Rural youth	1
Environmental health	Rural communities	1
Dementia care	Rural elderly	1
High alcohol intake	Rural youth	1
Sexual assaults	Women	1
Access to health-care	Rural children and mothers	1
Lack of access to midwifery care	Rural pregnant women	1
Access to after-hours care	Rural population	1
Road safety	Cyclists	1

Table 1. Health needs and vulnerable groups identified by nurse learners. Source: Authors.

Table 1 lists the health needs identified and the population groups considered as vulnerable. The vulnerable groups most commonly identified were men, youth, children and the elderly. Whole populations were also identified as being vulnerable, generally in regard to access to health services or a lack of knowledge of services available in their communities.

One of the major themes that came through the projects was mental health (in Table 1). More specifically, the learners identified rural men, youth, children and the elderly as being at risk of mental health issues. Mental health resources developed by learners included a variety of pamphlets and posters targeted at the general population and also to the identified at-risk groups. A range of other responses were produced including submissions to the Minister of Health and the Gore District Council, as well as 'novelty' resources including key rings, cold drink holders and others as identified in Table 2. A specific health promotion message and resource directed at improving the mental health of young male farmers is discussed below.

Mental health resource – format	Identified target audience or issue	Number of mental health resources developed
Pamphlet/brochure	General population	3
Pamphlet	Youth – HEADDS for professionals youth parents	1 1 1
Pamphlet	Men	1
Pamphlet on mindfulness	Teachers of children	1
Pamphlet	Social isolation	
Poster	Social isolation	2
Poster	Youth	3 (1 with 4 different designs/ messages)
Poster	Teachers of children	1
Book	Children 6-8 years of age	1
Submission	Social isolation – Minister of Health	1
Submission	Gore District Council re youth	
Letters to media (local newspapers)	Community members aged 15–64 years/advertisement	1 1
Stress ball + handout on mindfulness	Children – primary school	1
Magnet	Men	1
Parents		1
Bookmark	Children/youth	1 1
Drink cooler	Men	1

Table 2. Types of resources created by nurse learners and target audience(s) identified. Source: Authors.

Improving the mental health of young male farmers

Table 2 highlights the variety of mental health resources developed by the nurse learners to improve the mental health of the target population(s). All of the resources developed, except for the two written submissions, were intended to be self-help or (non-pharmaceutical) information resources appropriate to the identified population group(s). The following excerpt – from the article by Ferris et al., published in full in the following paper in this issue of Scope, Rural highlights the successful contribution that nurse learners can make to the health of rural communities and identified populations within them.

Health promotion resource: The drink cooler

The literature suggests the need for male farmers to open up and engage in healthy conversations about how they feel and what is happening in their lives. Creating a health promotion resource which encourages rural Kiwi men, such as those in Gore, to be more open to conversation may begin to relieve stress, build camaraderie and reduce the impact of the talking stigma on farmers' mental health (World Health Organization, 1986).

A drink cooler with health promotion messages targeted at male farmers was therefore developed as part of this community health project (Figures 1 and 2). The phrase "crack open a cold one and crack on with the conversation" is printed on the side of the cooler to suggest that sharing a drink with mates is an opportunity to have a healthy conversation, thus challenging the stigma around opening up. The aim is to make having a drink a social lubricant for male farmers in order to reduce stigmatisation and improve their mental health. This small keepsake is not only practical, but can also be the icebreaker they need to "crack on" with their conversation. Phone numbers of existing help lines are printed on the drink cooler to refer users to available support services.

Figure 1. Drink cooler (front).
Source: Danielle Martin

Figure 2. Drink cooler (back).
Source: Danielle Martin

Impact assessment

After producing 12 prototypes, which were placed in stores in the Gore community, contact was made by the founder of *'Will to Live'*, a mental health campaign for young farmers, who requested 200 additional coolers for the Balclutha section of the nationwide mental health forum. Three members of the project group travelled to this forum, where the project was acknowledged, and the drink coolers were very well received by attendees. A further order of 1000 was made to be distributed in future events across the nation.

The social impact of this resource is ongoing and is reaching more and more communities. This is evidence of its potential to raise awareness and encourage healthy conversations with the aim of improving the health and wellbeing of individuals and communities.

FEEDBACK FROM LEARNERS

Routine course evaluation is sought from all learners at Otago Polytechnic, and although the response rate is low across the board for third year learners (approximately 40 percent of learners' complete course evaluations), the feedback related to this clinical placement has been improving over the last 2-3 years. Some learners struggle to relate the content of this clinical placement as direct nursing practice, reporting that they would prefer traditional hands on clinical experience. However, this response has lessened in 2019 with many learners responding that they appreciate the different set of skills gained. Below are some of the comments from learners:

Outcomes for learners:

- Developing a greater understanding of rural community health and health needs
- Developing a better understanding of the disparities between rural and urban health needs and access to health services
- Developing an understanding of the available services in small communities and learning to think broadly about who provides services and what services look like
- Learning to understand the use and benefits of health promotion and to consider how to meet the specific needs of specific population groups – e.g., learning to apply knowledge about how people learn and the appropriate media for learning including written, visual and electronic forms
- Learning where to access resources that are already available – e.g., through the internet
- Enabling learners to work in teams and be responsible for their own and their team-mates' learning
- Giving learners opportunities to develop and show their leadership, IT skills and creative abilities in a supportive environment, and to work collaboratively
- Allowing learners to develop confidence with interviewing skills
- Helping learners to develop research skills
- Giving learners an opportunity to gain confidence with their skills in presenting to large groups
- Broadening learners' thinking about primary health-care.

FEEDBACK FROM COMMUNITIES

Impact analyses from community members/partners is ongoing, at the time of publication we can report on the following outcomes.

Outcomes for communities:

- Introducing Polytechnic nursing students to rural communities, who appreciate the interest the learners show in their community
- Providing communities with an opportunity to talk about the issues faced by the community
- Providing communities with resources that are specifically designed to meet the community's needs.
- Impact analyses will now take place as a component of the learners' clinical practice, and completed within a 2-3-month timeframe, as opposed to the original completion by the lecturers' 6-12 months post clinical placement.

CONCLUSION

Through engaging with the 'living lab' concept and the use of the CHASE model, Otago Polytechnic's third-year nursing students have shown that they are proficient at identifying the health needs of groups in the population and creating appropriate resources that contain a health promotion message. The CHASE model has allowed nurse learners to partner with rural communities, 'the living lab,' in a meaningful way, addressing their health needs and incorporating different strategies and ways of thinking to achieve better outcomes for vulnerable population groups.

Laurie Mahoney, RN, BA, MN is a Senior Lecturer in the School of Nursing where she coordinates the third year primary health care paper. She also works in the community as a public health nurse for the Southern District Health Board. The majority of her working career has been in the primary health sector where she actively advocates for prevention of unnecessary admissions to hospital through the use of assessment, needs analysis and health promotion which are all key components of the CHASE model.

Associate Professor Jean Ross (0000-0003-2467-9233) RN, BN, MA (Nursing), PhD, FCNA (NZ) is Associate Professor in Nursing at Otago Polytechnic, Dunedin, New Zealand. She has more than 25 years' experience of working with the rural nursing workforce. The accumulation of her work associated with rural nursing, includes research and education. Jean's initial work with rural nurses commenced in 1994 with the establishment of the setting up of the National Centre for Rural Health in New Zealand of which she was co-director. Jean has published 2 books and numerous journal publications. She is passionate about community development and is the co-editor of *Stories of Nursing in Rural Aotearoa: A Landscape of Care*.

Correspondence to: Laurie Mahoney School of Nursing, Otago Polytechnic, Dunedin, New Zealand.
Email Laurie.Mahoney@op.ac.nz

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