Institution: University of the Highlands and Islands

Unit of Assessment: 3

Title of case study: Sustaining remote and rural healthcare services

Period when the underpinning research was undertaken: 2011 - 2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Dr. Sarah-Anne Munoz	Reader in Rural Health and Wellbeing	2009 – present
Dr. Sara Bradley	Research Fellow in Rural Health and Wellbeing	2009 – present
Dr. Amy Nimegeer	Research Fellow in Rural Health	2007 – 2012
Prof. Jane Farmer	Professor of Rural Health	2006 - 2011

Period when the claimed impact occurred: 2014 – Dec 2020

Is this case study continued from a case study submitted in 2014? N

1. Summary of the impact

Scotland's remote and rural areas face challenges in the recruitment and retention of healthcare staff. Few newly qualified doctors want to take on traditional single-handed General Practice roles and the use of locums to fill gaps is not only expensive to the public purse but often does not meet public expectations of health service provision because of the lack of continuity in care. A programme of research has been run at the University of the Highlands and Islands (UHI) to design, develop, and test new ways of planning and delivering sustainable, locally-appropriate primary care services in remote and rural areas. Participatory action research developed tools and knowledge which has enabled policy makers and service managers to engage staff and citizens successfully in the design and delivery of rural healthcare systems. This has led to increased community engagement in services planning and to the development and delivery of new models of rural primary care. These new delivery mechanisms are more financially sustainable and locally acceptable. They have now been implemented across the NHS Highland Board area and influenced community engagement and services planning in both Scotland and Australia.

2. Underpinning research

UHI's participatory action research with rural communities and healthcare providers has resulted in the design, development, testing, and application of new methods of services planning and delivery. These service changes have benefited rural communities and public sector providers.

Serious Planning Game Research

The research has developed a new way of engaging rural communities, healthcare professionals, and service providers through a serious game methodology called Remote Services Futures (RSF) [3.1, 3.2]. The game allows healthcare service managers, healthcare professionals, and community members to come together and (re)design primary care services as appropriate to their local context. The RSF Planning Game forms part of a larger process of best practice in engagement laid out in the RSF Toolkit [3.3]. The game itself uses an anonymised community budget and information on healthcare practitioner roles and skills to bring about collaborative planning. The idea is to find out which service configurations the community thinks might work in conjunction with service providers and other partner agencies. It is run in plenty of time to create and implement the configuration in the future. This game is the starting point of a conversation or negotiation that could ultimately result in a robust, feasible health and social care design for future implementation [3.4].

The approach was tested with three remote and rural communities during the research, one of which used this RSF process to (re)design primary care, including the use of community first responders. The research showed that it is possible to design a serious game that facilitates a non-confrontational process of primary care services design for involving rural community members [3.3]. This was developed through a Knowledge Transfer Partnership project with NHS Highland (led by Farmer) in which UHI researchers trialled the serious game with three communities in the Highlands and Islands and produced a toolkit for use by others. In 2011, UHI was awarded Best Scottish Partnership Project at the Knowledge Transfer Partnership Scotland Awards for its work with NHS Highland.

Barriers and facilitators of 'successful' engagement

The research also identified the key barriers and facilitators to engaging rural communities in healthcare services design and delivery [3.4, 3.5]. A key finding was that the context in which an engagement occurs is as important as the method of engagement itself, in terms of facilitating a successful engagement. Through both desk-based [3.5] and action research [3.4], UHI researchers developed a framework for healthcare services engagement in rural communities which demonstrates that citizen empowerment is at the heart of successful engagement and service change. This message is part of work commissioned by the Scottish Health Council [3.5] and was presented at rural health conferences in Wales and the Scottish Council for Voluntary Organisations Gathering in Glasgow.

Developing indicators to measure perceptions of engagement over time

The research has been used to develop indicators for monitoring perceptions of rural service changes over time [3.6] and these indicators, through a process of action research, have fed into the development of new models of primary care in Scotland. The researchers used these findings to design and test a set of indicators for the monitoring of rural primary care services change [3.6]. These indicators were used to monitor the changes implemented by the Scottish Government's Being Here Programme – an initiative designed to increase the sustainability of remote and rural primary care. It was necessary to develop two sets of indicators – one to capture community perceptions of change and the other to capture the perceptions of health and care professionals. In total, 23 indicators were developed covering the breadth of perceptions of change, from fear of change to the degree of reciprocity between patient and healthcare professionals and the perception of impacts on community resilience [3.6].

Developing and testing new models of primary care

UHI was commissioned to use these indicators in a formative, longitudinal, qualitative evaluation of the Being Here programme for its entire duration. The findings from this research have therefore fed into the development and implementation of new models of rural primary care in the Highlands that were implemented and tested through the programme. Researchers undertook 364 interviews with more than 200 individuals, including residents, third sector workers, and healthcare professionals to gauge the effectiveness of service changes, as well as perceptions of barriers, facilitators, and impacts. The use of UHI indicators in the Being Here Programme showed that rural communities are most accepting of service change when one of two models are implemented: 1) fly-in, fly-out GP coverage supported by video conferencing, or 2) a Rural Support Team provided by nurses and paramedics. Communities are least accepting of services change when it involves GP practice mergers, with associated closures of physical surgery buildings. This work showed that more dispersed models of care can be implemented in rural areas in ways that communities find safe, acceptable, and sustainable [3.7]. This research has produced an understanding of the implications for rural primary care in other parts of Scotland, the UK, and also internationally. It has, for example, identified the key areas that still concern communities, such as persistent fears of GP surgery closure, that current healthcare staff may chose to leave, and that NHS budgets may be reduced in the future. The researchers have also shown the steps that could be taken to improve community engagement processes and provided some tools for doing so

3. References to the research

3.1. Farmer, J., Nimegeer, A., (2014), 'Community participation to design rural primary healthcare services', *BMC Health Services Research,* 14, doi: 10.1186/1472-6963-14-130

3.2. Nimegeer, A., Farmer, J., Munoz, S., Currie, M., (2016) 'Community participation for rural healthcare design: description and critique of a method', *Health and Social Care in the Community,* 24 (2), pp. 175 – 183

3.3 Centre for Rural Health (2010), *Service Design With Communities, Toolkit: A Guide for Engaging Remote and Rural Communities for Anticipatory Health Services Design*

3.4. Farmer, J., Currie, M., Kenny, A., Munoz, S., (2015), 'An exploration of the longer-term impacts of participation in rural health services design', *Social Science and Medicine,* 141, pp. 64 – 71

3.5. Munoz, S., (2013), 'Co-producing care services in rural areas', *Journal of Integrated Care,* 21 (5), pp. 276 – 287

3.6. Munoz, S., (2014), *Involving Rural Communities in Health and Care Services Co-Production,* (Edinburgh: Scottish Health Council). Report commissioned by the Scottish Health Council and peer reviewed by SHC Senior Researchers.

3.7. Munoz, S., Bradley, S., Hines, F., (2018), *Stakeholder Experiences of Changes to Remote and Rural Healthcare Services,* (Inverness: UHI). Final report of research and evaluation commissioned by NHS Highland and peer reviewed by NHS Highland R,D&I staff, and approved by the Programme Steering Group

4. Details of the impact

4.1 Development and deployment of new, locally-appropriate rural primary healthcare services in Scotland

In Scotland, UHI action research has fed directly into the development of new models of rural service provision through the Being Here Programme which began in 2014 [5.1, 5.2, 5.3]. This work, informed by previous projects on community engagement and collaborative services design, was carried out alongside the implementation of the Being Here Programme. In this way it contributed to the development of new forms of service provision created through the Programme. UHI service change perception indicators, together with the evidence that was collected on each of these, were used to reflect community and healthcare professional perceptions and ideas to Programme managers throughout service design, implementation, and evaluation. Thus, the research helped to shape four new service delivery models implemented to sustain healthcare to remote and rural areas of low population density. These models were: 1) GP practice mergers, with all physical surgeries kept open; 2) New ways of filling vacant GP posts; 3) Fly-in, Fly-Out GP service with VC support; and, 4) Rural Support Team of advanced nurses and paramedics.

In each area, the primary care services change brought new ways of working to areas where appropriate primary care service delivery was previously either non-existent or under strain. The use of these indicators of change enabled the UHI team to monitor perceptions of change over time. This generated feedback that health services managers could use to shape ongoing programme change within the communities. The four new services were implemented from 2016 onwards in three areas, comprising the Small Isles (serving all Small Isles residents, n = 153), Acharacle (serving all residents in West Ardnamurchan, n = 320) and, mid-Argyll and Kintyre (which, together serve around 20% of the Argyll and Bute population, n = 22,907). In mid-Argyll and Kintyre, activities focused on new ways to recruit GPs. In total, 12 GPs were recruited to the test sites – filling vacant posts that were previously difficult to recruit to. In the Small Isles, a new model of GP coverage was co-designed by NHS Highland with local communities. Implementation created three new rural community health and social care support worker roles in the Small Isles – in fact existing residents, on Eigg and Muck – who were trained and then employed by the Area Integrated Team Lead in Mallaig [5.1, 5.4]. These posts have been

sustained by the local health board. Immediately prior to the action research taking place, the Small Isles had no dedicated GP coverage. Through the project, a new model of service delivery was developed, delivered, and is still in place, providing GP coverage to all 153 island residents. The impact of these posts, together with the wider process of community-engaged rural primary care redesign, is described by the postholders and other local stakeholders in a short film [5.1]: *"It's working really well on the island and everybody on Muck would, I think, say we've got the best health care provision now that we've ever had. We never used to have a regular doctors' service and we never used to have anything like this role [health and social care support worker]. So I think that people feel now they are very well looked after on the island."*

The UHI-led action research provided an essential and robustfeedback mechanism in order to gauge acceptance of the new primary care model, test service sustainability and enable patients to contribute to/co-design development of their local/primary care services. This mechanism was key in generating the impact of the community-engaged work which could not have been achieved without it. In Acharacle, a Rural Support Team of advanced nurses and paramedics was created during the UHI-led action research. This reduced reliance on the use of expensive locums. While quantitative data on this saving is not available from NHS Highland, the impact is recognised by NHS Highland staff [5.1, 5.2]. NHS Highland staff also recognise that the Being Here research highlighted the paucity of data within the Board and contributed to them having a "more focused approach" now [5.2]. The Rural Support Team model continues in Acharacle and has been rolled out in other areas of the North and West of Highland [5.6] which has extended locally appropriate primary care coverage to these populations of approximately 12,500 people. An NHS Highland interviewee commented: "Managers looked at what happened in the Small Isles and then transferred the positives to areas like North West Sutherland" [5.2].

4.2 Influencing Scottish rural primary care policy and implementation: towards a community-engaged approach

Findings from this UHI research are acknowledged as shaping development subsequent to the Being Here Programme, within Scottish rural primary care. The importance of approaches that are cognisant of rural context and actively engage rural communities are, for example, acknowledged through specific reference to the Being Here work in the Scottish Government's *A National Clinical Strategy for Scotland*, 2016 [5.7]; and by Shona Robertson, Cabinet Secretary for Health and Sport, in the Scottish Parliament on 3 September 2015 [5.8]. The Rural Support Team model has additionally been rolled out to other areas of Highland [5.6]. The community-based action research has also been cited as important in laying the foundations within Highland communities for further engagement and the successful implementation of the Near Me video conferencing service: "The evaluation contributed to a shift in thinking amongst a larger patient group and a recognition that NHS Highland could not continue to do things in the same way" [NHS Highland Interviewee, 5.2].

These findings were used by the Scottish Rural Medical Collaborative (SRMC) Programme, funded by the Scottish Government to develop ways to improve the recruitment and retention of GPs in rural Scotland. SRMC's 'Joy' project has assessed rural primary care in a community-engaged way and has successfully recruited 36 GPs to the north of Scotland in 2019 and is due to be rolled out to ten Scottish Health Boards and has been done so in NHS Tayside and NHS Ayrshire and Aran [5.5]. According to the SRMC project manager [5.3]: "A lot of learning came out of the Being Here work and it played a big part in informing the work we are now doing with the Scottish Rural Medical Collaborative and its recommendations. Some of the lessons learnt came out of the evaluation e.g. how to engage with communities, the way we approached recruitment and retention of rural GPs and more recently other MDT (multi-disciplinary team) professionals" [5.3]. SRMC staff recognise the important influence of this body of work on their own approach to engagement: "I engage with a mixture of healthcare professionals … GPs, through multi-disciplinary teams and they engage with their communities. It has a cascading effect. The [UHI Being Here] evaluation is … an example of how to engage with communities. The current project covers ten of the current boards – a large proportion of Scotland" [5.3].

4.3 Engagement of community members and healthcare professionals in collaborative planning and decision-making

UHI researchers have worked closely with rural communities, healthcare professionals, and services providers in action research. This study has led to the inclusion of a new community engagement method within the Scottish Health Council's (SHC) Participation Toolkit [5.9]. SHC has a Scotland-wide remit to support healthcare providers to engage meaningfully with people and communities in the design and delivery of services. The Participation Toolkit is now in its third edition and is also available electronically via the SHC website. This means that the learning from UHI research is listed as one of the go-to methods for community engagement among healthcare professionals in Scotland [5.9]. In Scotland, the use of these methods through the Being Here Programme has generated collaborative planning and decision-making. According to an NHS Highland Manager: "The research had a definite impact for the community. They felt more engaged because of it and it far outstripped the normal consultation structure that NHS Highland often had or has with communities. It was useful and it had a legacy, so that if we go back to the communities, they will be more comfortable with the idea of engaging with an evaluation" [5.2]

Further afield, the UHI research also led to its pioneering engagement method being used in six communities in Australia to promote engagement in oral health [5.10]. It was successfully used to engage these communities in prioritisation of need and development of a costed plan for sustainable service delivery [5.11]. Also in Australia, this research has influenced Health Workforce Australia's participatory approach to healthcare workforce planning [5.12]. Through this work in Australia, it was demonstrated in this context that health workforce planning can be achieved successfully through participatory processes with stakeholders. This led to the development of a chronic disease inter-professional teaching clinic in a rural town, and renal dialysis being delivery locally to an Aboriginal community [5.12]. Public Health Australia also adapted this UHI approach for their own use [5.13].

5. Sources to corroborate the impact

5.1. NHS Highland (2017), *Being Here: the Small Isles,* https://www.youtube.com/watch?v=SSmbI-kuItg&t=45s
5.2. Testimonial NHS Highland A
5.3. Testimonial SRMC A
5.4 Testimonial NHS Highland B
5.5 Testimonial SRMC B
5.6 Being Here NHS Highland Interactive Booklet, March 2017: https://www.nhshighland.scot.nhs.uk/Publications/Documents/Being%20Here%20final%20interactive%20booklet.pdf
5.7 A National Clinical Strategy for Scotland, 17 Feb 2016, p. 37 https://www.gov.scot/publications/national-clinical-strategy-scotland/
5.8 http://www.parliament.scot/parliamentarybusiness/report.aspx?r=10061&mode=pdf p. 8
5.9. Scottish Health Council toolkit
5.10. Taylor, J., Carlisle, K., Farmer, J., Larkins, S., Dickson-Swift, V., A., Kenny, A., J., (2018), Implementation of Oral Health Initiatives by Australian Rural Communities: Factors for Success, *Health and Social Care in the Community,* DOI: 10.1111/hsc.12483
5.11 Kenny, A., Dikson-Sweift, V., Farmer, J., Larkins, S., Carlisle, K., Hickson, H., *Sustainable Community Participation in Australia*
5.12 Larkins, S., et. al., (2014), *Regional Health Workforce Planning in North Queensland: Starting with the End in Mind*
5.13 Panzera, A., et. al., (2017) 'Regional Workforce Planning Through Action Research: Lessons for commissioning health services from a case study in far north Queensland', *Australian Journal of Primary Care,* 22(1), pp. 63 – 68