

The outreach group — reaching high-risk patients in a remote and rural area

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This article will discuss the issues of delivery related to remote and rural services for the foot in diabetes. Access to specialist treatment can be affected by remoteness from clinics and by pressure on services as a result of the increasing prevalence of diabetes. The use of telemedicine, telehealth and telecare continues to expand within NHS Highland and Western Isles (Audit Scotland, 2011). Access to continuous professional development can be challenging for healthcare professionals and the State of the Nation (2015) document by Diabetes UK calls for urgent action.

NHS Highland and NHS Western Isles cover a large geographical area in the north of Scotland and the islands off the Northwest Coast. Together, they have a population of approximately 350,000, spread over 32,500km and 15 inhabited islands. Much of this vast area is classed as being remote and rural, based upon The Scottish Government's Urban Rural Classification System; rurality defines settlements of less than 3,000 people. Remote areas are classified based on driving times from settlements of 10,000 or more people.

Challenges

The challenges of delivering high-quality care in remote and rural communities are well recognised and include:

- Connectivity
- Transport infrastructures
- Retention of skilled and competent healthcare professionals
- Addressing national guidance.

Costs of rural services are usually higher because of the geography of rural areas and the smaller, dispersed populations within them. The greater distances covered, longer journey times and the less-intensive use of buildings and facilities, all contribute to cost pressures for the patient, local economies and the

NHS. Less obvious challenges result from the general features of rural life, such as the lack of anonymity, managing confidentiality, managing professional boundaries and the lack of alternative provision from the independent and voluntary sector.

The Healthcare Quality Strategy states: "We will also strive to ensure that the high quality health services we deliver are provided on the basis of our ongoing commitment to equality of experience and outcomes — to everyone in Scotland, no matter who they are, or where they live" (NHS Scotland, 2010).

In the action plan, Better Health, Better Care (2007), the Scottish Government directed that care should not "vary in quality because of personal characteristics, such as gender, ethnicity, geographic location or socioeconomic status" (Scottish Government, 2007). This is reinforced in the Joint Operational Recommendations (Diabetes UK, 2016).

The geographical spread of these health board areas can involve patients travelling well in excess of a 200-mile round trip on B roads, which are often single track. This can be timely and inconvenient for patients, providing difficulties for those in employment and have a negative impact on appointment times. The most immobile patients or those living with complex comorbidities are often the most seriously affected by their remote

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Article points

1. The challenges of delivering high quality health care in remote and rural areas are well recognised.
2. The RAPID project involves the use of novel technologies to remotely assess patients with diabetes presenting with new, non-healing or deteriorating foot ulcers.
3. People who live in remote and rural settings may need to be more self-reliant and contribute more to their own care.

Key words

- Multidisciplinary team
- Remote and rural
- Telecare
- Telehealth
- Telemedicine

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Figure 1 (top). Example of a photograph relayed to the podiatry team.

Figure 2 (bottom). Consultant and podiatrist review results.



geographic location. Providing fast and aggressive wound management to prevent limb loss is especially challenging.

A lack of consistent specialist input and influence of socioeconomic factors are common considerations. Healthcare professionals and providers must recognise that these groups represent those who are most vulnerable and, therefore, most likely to benefit from timely intervention. The challenge of identifying, engaging and treating these individuals is huge, especially in times when resources are scarce.

Telemedicine and telehealth

Access to specialist treatment can be affected by remoteness from clinics and by pressure on services as a result of the increasing prevalence of diabetes. A randomised controlled trial performed in Denmark (Rasmussen et al, 2015) compared telemedical and standard outpatient monitoring in the care of patients with diabetic foot ulcers. The conclusion stated: “The findings of no significant difference regarding amputation and healing between telemedical and standard outpatient monitoring seem promising;

however, for telemedical monitoring, a higher mortality throws into question the role of telemedicine in monitoring diabetic foot ulcers. Further studies are needed to investigate effects of telemedicine on mortality and other clinical outcomes and to identify patient subgroups that may have a poorer outcome through telemedical monitoring.”

Reducing Amputation In Diabetes (RAPID) is a pilot study involving the use of novel technologies to remotely assess patients with diabetes presenting with a new, non-healing or deteriorating foot ulcer. Omni-Hub™ (Tactical Wireless), the innovative technology designed for use in the project, is a portable hub capable of optimising priorities for wifi, multiple cellular networks, satellite and ADSL routes. It enables a face-to-face consultation with community podiatrists to be enhanced by virtual consultation with members of the multidisciplinary foot team, including diabetes specialist podiatrists and a diabetes consultant. This should contribute to improved care, potentially reducing amputation rates, improving quality of life, and having a health economic impact through prevention of diabetic foot complications, hospital admissions and amputations, as well as travel time for patients.

Practitioner experience will be recorded and individual patient experience will be captured through a short questionnaire or telephone survey. The intention is to evaluate what works where, for whom and when, compared with standard practice, and results will be used to inform a plan for a wider study utilising the technology in integrated practice by podiatry teams throughout the Highland region.

Tele-education

Training and education are key factors in diabetes foot management (Diabetes Foot Competency Framework, 2012; Diabetes UK, 2012; 2016).

Quarterly, video-conference facilities are utilised to deliver education to healthcare professionals across NHS Highland. A maximum of 10 sites are hosted for each session and the number of healthcare professionals at each site depends on the size of the video-conference unit; this may range from a desk-top unit with two to three people around it to a conference room or lecture theatre housing between 20 to 30 people. A range of topics are covered in the DFEN programme based on the feedback given by those who attend; topics covered have been:

- Foot screening
- Offloading
- Charcot neuroarthropathy
- Vascular assessment, referral and management
- Nutrition and diabetes foot ulceration.

Telecare and the patient with diabetic foot

People who live in remote and rural settings may need to be more self-reliant and contribute more to their own care. Diabetes UK recognises this in its paper 'Putting Feet First' and patient involvement is one of the proposals put forward to care providers. NHS Highland is to trial the use of text messaging in promoting self-care of an individual's feet (Figure 3). This project is in its infancy with discussions ongoing between podiatry services and technology-enabled healthcare services.

Multidisciplinary team

Provision of diabetes foot services should be patient centred at every step of the pathway. Service design and effective attention requires a range of professionals from primary and secondary care, from health and social integration. The Joint Specialty Recommendations (Diabetes UK, 2016) suggest equal and rapid access to services, regardless of location. Being a rural general hospital, the Western Isles Hospital (WIH) has formal arrangements with NHS Greater Glasgow and Clyde to deliver consultant diabetes care, which is known as an obligate network. This network provides formally agreed specialist clinical links, with an obligation to support local delivery of care and local decision making within the WIH, as well as providing diabetologist-led clinics. NHS Western also has a service level agreement with NHS Highlands for Vascular and Orthotic Services; podiatrists in the Western Isles can refer patients directly to a vascular surgeon and have the ability to participate in their multidisciplinary foot team meetings through video conferencing.

Conclusion

Telehealth/care/medicine has come a long way, yet still has a long way to go to become fully integrated with services and service users. Going forward, outreach/remote clinicians must be allowed to develop and maintain competency,

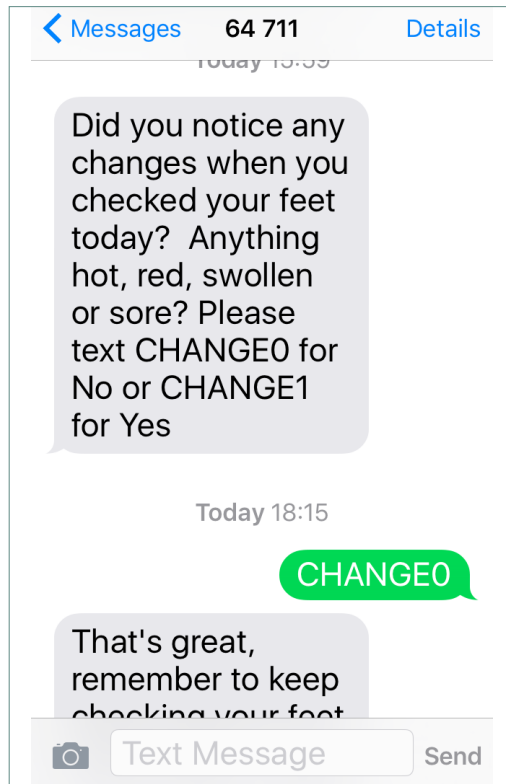


Figure 3. The photograph shows a sample text and response from a patient.

and effective and timely communication links are crucial. ■

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