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| **Institution:** University of the Highlands and Islands (UHI) | | |
| **Unit of Assessment: 3** | | |
| **Title of case study:** Improving service awareness and staff training for older people with sensory impairment | | |
| **Period when the underpinning research was undertaken:** 2013 - ongoing | | |
| **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:** |
| Annetta Smith | Professor / Head of Department | University of Stirling: 1996 to 2017, UHI August 2017 onwards |
| Leah Macaden | Senior Lecturer | University of Stirling: 2012 to 2017, UHI August 2017 onwards (for both post-merger with the University of Stirling, approval granted in line with para 321 Guidance on submissions) |
| **Period when the claimed impact occurred:** 2014 - ongoing | | |
| **Is this case study continued from a case study submitted in 2014?** N | | |

## 1. Summary of the impact

Deteriorating hearing and vision is a growing healthcare challenge among older people. Research from the University of the Highlands and Islands (UHI) identified strategies to better address the needs of people with sensory impairment in isolated rural communities, covering training, service delivery, and care. The UHI research shaped sensory awareness training for staff in seven health boards, three third-sector organisations, and four local authorities. It underpinned two nationwide strategies – the Positive Behaviour Support Framework for supporting those with disabilities and See Hear for sensory impairment– across Scotland. And it enabled two local Third Sector organisations: Sight Action and the Western Isles Sensory Centre to access increased financial support and so deliver better services with higher levels of service uptake. A 90-minute simulation workshop on sensory impairments has been delivered as a core component of the pre-registration nursing curriculum in the Highlands and Western Isles since 2014. As a result, graduating students are more knowledgeable and confident, to better care for older adults with sensory impairments.

## 2. Underpinning research

The charity, Action on Hearing Loss estimates that there are around 250,000 people in the UK living with both hearing and vision loss, most of whom are over the age of 70. The number with hearing loss is predicted to rise to 15.6 million people by 2035, or one in five people. Most developed countries have increasing numbers of community dwelling older people living with multimorbidity and sensory impairment that includes visual, hearing, or dual impairment. Community provision of services to support people with sensory impairment is vital to progress in this area, as is the understanding of how people access and use these services, and how to support health and care staff to deliver care.

The Western Isles Sensory Centre (WISC) opened in 2011 as the first dedicated island community base to provide advice, assessment, referrals, and practical interventions to support independent living for people with sensory impairments in this remote and rural part of Scotland. Working in partnership with health, social, and voluntary agencies (including Sight Action), WISC aims to provide effective, equitable, and sensitive services designed to meet the needs of visually and/or hearing-impaired people; raise mutual awareness amongst various health and social care agencies, promoting safer and more independent living options for people with sensory support needs. However, there was a gap in knowledge regarding how – and the extent to which – older people with visual and/or hearing loss living in rural locations access such support and interventions.

UHI researchers conducted an evaluation of service provision and delivery in rural Scotland to examine whether attendance at WISC affected clients' lives and the conditions they lived with. The research also examined strategies to improve access and delivery of services for people living with sensory impairment. The research showed the extent to which impairment impacted on clients' lives. The most frequent suggestion of how to enhance the service was to improve awareness on sensory impairments [3.1]. This project led to further work around access to

pharmaceutical care services by those with sensory impairment. A grant from the Chief Scientist Office (CSO), part of the Scottish Government Health Directorates, was the first of its kind to help explore both the needs and experiences of pharmaceutical care among older people living with sensory impairment(s) across Scotland. The research identified key challenges with medicines management for older people with sensory impairments who were often on polypharmacy due to their co morbidities [3.2, 3.3]. Any failure or weakness in the pharmaceutical care journey was associated with communication difficulties and safety concerns which led to sub-optimal pharmaceutical care [3.3]. Both pharmacy personnel and older people living with sensory impairment identified a lack of awareness and support as a problem [3.3 and 3.4]. In addition, pharmacy staff reported they had insufficient training and identified a need for evidence-informed education and training for the provision of safe and effective pharmaceutical care for this population. [3.3]

As a result of the insights gained across these projects into the limitations of nurses, and health and social care professionals to anticipate and meet the needs of older people with sensory impairment [3.1, 3.3], a sensory awareness training initiative was developed and tested in two different settings. The training involved 41 community healthcare professionals in the Western Isles [3.5] and is ongoing with125 nursing students at UHI each year [3.6]

The authors developed a simulation-based teaching resource [3.6] that recreated a number of sensory challenges to provide student nurses with opportunities for experiential learning on sensory impairment in older adults. The aims of the simulation were: to create opportunities for participants' experiential learning on sensory impairment in older adults; to enable new insights into sensory impairment among older adults; and, to enable participants to identify the relevance of insights gained and make appropriate links to their practice.

Six learning stations, containing clearly outlined activities involving at least two or more sensory impairments, created 'microworlds' for students to experience a combination of either visual, hearing, taste, smell, or peripheral sensory impairments. The learning stations simulated common changes in sensory perceptions associated with the ageing process that tend to be exacerbated during critical illnesses or when using certain medications; students are particularly likely to encounter these while caring for older adults in their practice learning environments. A facilitated discussion around the recorded reflections for each station concluded the session. An evaluation of this pedagogical approach highlighted that students perceived the simulation to be critical to their learning, reporting improved knowledge, understanding and insight; findings concluded that a low-fidelity simulation on sensory impairments is effective at developing cognitive and affective empathy [5.8].

For community healthcare workers, the sensory training workshop included simulation practice, information on assessment, and referral pathways. The study was conducted in a remote island community in the Western Isles of Scotland and evaluated nurses' perceptions of the sensory training on their knowledge, attitudes, and practice. Participants described increased awareness of the potential for their patients to have a sensory impairment, greater understanding and empathy with patients who experience sensory impairment, more robust patient assessment to identify impairment, and increased likelihood to inform of, and refer to, sensory services [3.5]. The research showed participation in simulation training can help to develop greater awareness of the impact of sensory impairment. Knowledge of specialist services increases the opportunities for referral to services and positively impacts the lives of older people living in rural settings. Provision of accessible education on sensory impairment for health and social care professionals can enhance care delivery [3.5].

**3. References to the research**

3.1 **Smith, A,** Shepherd, A, Jepson, R, & Mackay, S (2016). The impact of a support centre for people with sensory impairment living in rural Scotland. *Primary Health Care Research & Development,* 17(2), pp.138-148

3.2. **Smith A, Macaden L,** Kroll T, Alhusein N, Taylor A, Killick K, Stoddart K, & Watson M (2019). A qualitative exploration of the experiences of older people with sensory impairment on their pharmaceutical care journey. *Age and Ageing,* https://doi.org/10.1093/ageing/afz092
3.3. Alhusein, N, **Macaden, L, Smith, A**, Stoddart, K, Taylor, A, Killick, K, Kroll, T, & Watson, M. (2018). "Has she seen me?" A multiple methods study of the pharmaceutical care needs of older people with Sensory impairment. *BMJ Open,* doi: 10.1136/bmjopen-2018-023198
3.4. Alhusein N, Killick K, **Macaden L, Smith A**, Stoddart K, Taylor A, Kroll T, & Watson M (2018). "We're really not ready for this": A Qualitative Exploration of Community Pharmacy Personnel's Perspectives on the Pharmaceutical Care of Older People with Sensory Impairment, *Disability and Health Journal.* doi: https://doi.org/10.1016/j.dhjo.2018.10.006.
3.5. **Smith A,** Shepherd A, **Macaden L,** & Macleod K. (2018). Raising awareness of sensory impairment among community nurses: a brief intervention in a remote island setting. *Rural and Remote Health Journal.*
3.6. **Macaden L, Smith A,** & Croy S. (2017). Simulation on Sensory Impairments in Older Adults: A Pedagogical Initiative in Nursing Education. British Journal of Nursing, 26 (19), 1057 – 64. doi: 10.12968/bjon.2017.26.19.1057

Grants:

1. Tracey A, Macaden L, Smith A (2019). Does simulation of sensory and cognitive impairment in nurse education influence student nurses' clinical practice? Learning & Teaching Academy Scholarship Fund, UHI £8,178.
2. Smith A, Macaden L, T Kroll T, Watson M, Stoddart K (2015). A scoping literature review: pharmaceutical care and older people with sensory impairment/s receiving polypharmacy, Alliance for Self-Care Research, £ 2500.
3. T Kroll T, Watson M, Macaden L, Smith A, Stoddart K. (2015). Sensory impaired person's access to pharmaceutical care services, Chief Scientist Office, Scotland, £161,047
4. Smith A, Shepherd A, Gill J, Macleod K (2013). Raising awareness of sensory impairment with nurses working in the community Queens Nursing Institute (QNIS) £8634.
5. Smith A, Sheppard A (2011). Evaluation of Western Isles Sensory Centre Sight Action £ 10,000

## 4. Details of the impact

The research into service provision for older people with sensory impairment has led to improved service delivery in the Western Isles, improved access to services, and improved education for nurses and frontline care workers right across Scotland. This, in turn, has resulted in better awareness, knowledge, understanding, provision, and delivery of care to this vulnerable and growing patient community.

### 4.1 Improved service delivery

Government provision of community health services is under sustained financial pressure, but as a direct result of findings from the work with the WISC, the Western Isles local authority secured financial support for an extended contract. Sight Action is the statutory community sensory services provider in the Highlands and Islands and worked collaboratively to deliver the project with researchers. As a result of the project, there were a range of benefits to sight and hearing support services at a strategic level which has helped improve access to funding and networks. It has also resulted in the WISC becoming an 'essential service' encompassing all aspects of care for this vulnerable group [5.1]. This recognition resulted in tangible changes for service provision including audiology access, appointment of an Eye Clinic Liaison officer, and provision of training by Sight Action for Local authority staff [5.1] especially when services were largely provided only by visiting staff from the mainland until 2011. In addition, specific funding has been allocated for two peer support groups and two IT support groups. Funding has also been secured to provide assistive aids to stimulate blind babies and provide kit for training. Sight Action noted: "There was a positive shift in priority for service provision. Previous meetings had been laboured with a lack of knowledge and understanding regarding the impact sensory loss has on individuals and the wider community. This project helped to initiate strategic momentum which is still having an effect" [5.1]. In addition to support for the service, this research has improved access to support for clients through initiating a change to the Sight Action client assessment tool, enabling the organisation to capture more information about important safety issues such as self-administering medicines and safe practice [5.1].

**4.2 Enhanced training and education for health and social care staff**

Regionally, training for community healthcare workers in the Western Isles increased awareness of the potential for their patients to have a sensory impairment, greater understanding and empathy with patients who experience sensory impairment, more robust patient assessment to identify impairment, and increased likelihood to inform of and refer to sensory support services and this "focus on impacts – what the project has meant to older people, their families and staff" is noted [5.2]. Following completion of the project, the WISC recorded an increase in both telephone (up 150%) and face to face consultation (300% increase) [5.3]. Moreover, additional services such as Drop-in clinics and home visits were made available to clients accessing sensory services through WISC, due to the increased understanding of need and service provision possibilities among community nurses [5.4].

The researchers were invited by Black Isle Cares – an adult social care charity on the Black Isle peninsular in the Scottish Highlands – to deliver the training at a local secondary school for pupils who were preparing to support older people in the community to support intergenerational engagement. As a result, individual pupils' understanding of macular degeneration and its impact on older people has increased. The work has made them consider how they can better support older people, and volunteers are impressed with how the pupils did this without disempowering or patronising the older people. There are specific examples of how the young people's engagement and assistance to older people improved, such as being the eyes for older people with macular degeneration during games, not over-filling hot drinks and ensuring careful placement, and ensuring that food is appropriately served at mealtimes. Much of this sensitivity has been embedded into how the participating pupils are passing on their knowledge to subsequent cohorts [5.5].

Nationally, programmes of engagement included running the simulation for nurse educators at a conference for Scotland's nine nursing universities in November 2014. The simulation was cited as a learning experience that was transferable to practice. Attendees also advised that they planned to replicate the approach to develop staff and student nurses.

Following that event, the Project Lead for NHS Education Scotland (NES) invited the researchers to deliver 'train the trainer' training for health and social care staff supporting people with learning disabilities and challenges with sensory impairment. Training was delivered to staff from seven health boards, three third sector organisations and four local authorities and covered nurses, clinical support workers, nursing assistants, social work assistants, local authority management, social workers, health care facilitators, behaviour specialists, OT, physio assistants, and day centre staff – working across community and hospital settings in Scotland. This training focused on unmet communication and sensory needs within the learning disability population and how this is a significant factor in triggering and maintaining behaviour that is challenging to manage [5.6]. Attendees across agencies and disciplines reported that this was relevant, helpful, and a key factor in improved support for people who have a learning disability and sensory impairment and /or sensory processing difficulties. The training led to an "opportunity for the attendees to empathise with the experience of the people we support. The reflective component of the workshop was helpful in capturing changes in awareness, learning, and recognition that existing practice could be adapted to better meet the needs of people we support" [5.6].

This training was part of the project to develop *Improving Practice*: a resource for support workers who work with people who have a learning disability and behaviours perceived as challenging, based on Scotland's Positive Behaviour Support (PBS) framework: an evidence-based approach applied to support people who have learning disabilities and complex behaviour. The sensory awareness training comprised half of the overall training.12 Health Boards, 10 Health & Social Care Partnerships and nine social care provider organisations reported positively on *Improving Practice* that was inclusive of the sensory training in the PBS evaluation for the Home Coming Report undertaken by the Scottish Government.

UHI researchers were invited by the Scottish Stroke National Forum to deliver the simulation in 2019 for stroke practitioners, given the relevance of sensory impairments (sight, taste, smell, touch amongst others) in patients with stroke. The training was delivered to 100 multidisciplinary stroke specialists. 68% said that it was relevant for their practice, and individual comments confirmed that, noting "Information I can use in my daily practice", "All topics relevant to practice", and "Able to integrate information into practice" [5.7]

Internationally, there has been knowledge exchange on the simulation training with nurse educators in Brisbane, Australia in 2016, Banff, Canada in 2018, with visiting scholars from China, Thailand and Turkey at Johns Hopkins and the University of Pennsylvania in the USA by one of the researchers in 2019. The researchers were invited to present the simulation virtually as part of the World Simulation week hosted by the King Abdulaziz university in Saudi Arabia in Sept 2020 for an interdisciplinary audience including physicians. 82.5 % of the participants (n=228) reported to be highly satisfied with the quality of this training.

**4.3 Enhanced training and education for nursing students**

Insights from training community nurses [5.3] led to the development of an innovative simulation on sensory impairments in older adults delivered as a core component in semester one of the pre-registration nursing programme since 2014. The simulation was designed to create opportunities for students' experiential learning on sensory impairments in older adults [3.6, 5.8].

705 nursing students have completed this training to date with students reporting that the simulation facilitated new insights into sensory impairments, including greater patience, more diverse communications methods, and better strategies to engage with patients with sensory impairment. Students said: "I'm better able to identify what might cause difficulties and put things in place to lessen", "It helped me understand more what my patients are going through, knowing this, I hope will help me build a better therapeutic relationship", and "I designed a communication sheet for a patient using pictures of their own belongings so they could make their needs known - the patient was deaf and couldn't read." [5.8].

Thanks to this wide diversity of interventions, training, and experiential simulations, this research has had profound and widespread impact on the way that older people with sensory impairment are cared for across a range of settings. Improved service delivery is supported longer term, by enhanced training and education for health and social care staff and future nurses.

**5. Sources to corroborate the impact**

5.1. Testimonial from Gillian Mitchell, Executive Manager, Sight Action
5.2. Telling the Story: Impacts of Delivering Dignity Programmes in Scotland, Queens Nursing Institute Scotland http://www.qnis.org.uk/delivering-dignity-impact-report
5.3. Statistics from the Western Isles Sensory Centre (WISC)
5.4. Project report from the Queens Nursing Institute Scotland, https://www.qnis.org.uk/project/sensory-impairment/
5.5. Email from Black Isles Carers
5.6. Testimonial from Tracey Gilchrist, Positive Behaviour Support Lead, ENABLE Scotland
5.7. Participant's Feedback from the Scottish Stroke Nurses' Forum (SSNF)
5.8 Walters R, Macaden L, Tracey A & Smith A. (2020). Project Report LTA, UHI
Does simulation of sensory and cognitive impairment in nurse education influence student nurses' clinical practice? https://www.uhi.ac.uk/en/t4-media/one-web/university/nursing/attachments/Project-Report---Evaluation-of-the-Sensory-Training-for-Student-Nurses_LTA-Full-.pdf