

Impact case study (REF3b)

<p>Institution: University of Stirling</p>
<p>Unit of Assessment: C22 Social Work and Social Policy</p>
<p>Title of case study: Implementing telehealthcare for older people and people with dementia</p>
<p>1. Summary of the impact</p> <p>Research on telehealthcare at the University of Stirling has guided the delivery of telehealthcare at home in West Lothian Scotland in the first instance, subsequently influencing decisions to adopt and implement telehealthcare in communities in Norway, Greenland, the Faroe Islands, Sweden, the Western Isles and Shetland. Research was translated into the MAST (Methodology for the Assessment of Telemedicine) manual, a practical tool which has been used across Europe by decision makers considering telehealthcare implementation. Through the DSDC (Dementia Services Development Centre) at the University, telehealthcare information and guidance has been provided to thousands of service providers and family care givers.</p> <p>2. Underpinning research</p> <p>A portfolio of research projects has contributed to the evidence base for the use of telehealthcare for older people including people with dementia. The term includes telecare and telemedicine.</p> <p>Bowes was commissioned by the Health Foundation (2002-2006) to evaluate a pioneering project to normalise the use of telecare in the homes of older people. West Lothian Council had tackled the issue of user acceptability by offering a core package of Smart equipment to everyone of retirement age (10,000 households). This meant the stigma of needing support from services was reduced and made technology more acceptable to service users. The evaluation had a formative component, informing the rollout of telecare as it occurred. Interim reports of research findings went to the senior staff involved in implementing the programme, and early findings were presented to a wider audience of staff at all levels. The evaluation was able to demonstrate, for example, that implementing telecare before people had reached crisis point was working better in terms of keeping people at home than was the previous strategy of intervening when people were ‘at risk’ of having to move to residential care. The summative research findings^{1,2,3} demonstrated the potential of large scale roll-out of telecare for older people – 2,700 households were included by the end of the evaluation. The research also demonstrated the challenges that telecare presented to staff’s customary ways of working and the peace of mind that telecare could offer family caregivers. It challenged the notion that telecare substituted for human contact, or was difficult to deploy. The West Lothian case remains one of only a few large implementations of telecare to have been systematically evaluated.</p> <p>This knowledge base provided the foundation for participation in MethoTelemed (2009-2010), an EU funded project with Norwegian and Danish partners. Based on an extensive systematic review of reviews and a series of expert workshops, the research produced academic outputs^{4,5,6} and was translated into the MAST (Model for Assessment of Telemedicine) manual, an evaluation tool for health and social care providers to use when making decisions about when, where and how to roll out telehealthcare to people with long term conditions. MAST developed EUNetHTA (European Network for Health Technology Assessment) methodology to be specifically appropriate for telehealthcare applications in consultation with decision makers from across Europe (34 experts from 12 countries and several international organisations including WHO and patients’ representatives). The systematic review established and evaluated the international state of the art in telehealthcare effectiveness and evaluation methodologies, directly informing MAST. MAST highlights the key questions that service providers need to investigate before they roll-out a ‘mature’ technology, i.e. one that has already been piloted and proven to work, but which has not yet been used on a wide scale. It highlights evidence from the scientific record and the research completed in MethoTelemed in support of the guidance it contains.</p>
<p>3. References to the research</p>

¹Bowes A M and McColgan G M (2007) 'Mainstreaming smart technology for older people in the community: consumer views and wider implications' in Sandström G and Keijer U *Smart Homes and User Values* Mersin: Urban International Press

²Bowes A and McColgan G (2009) Implementing telecare for people with dementia: Supporting ageing in place in West Lothian, Scotland, *Journal of Care Services Management*, 3(3):227-243

³Bowes A and McColgan G (2012) 'Telecare for older people: promoting independence, participation and identity' *Research in Aging* 24,3:32-49

⁴Ekeland A, Bowes A and Flottorp S (2010) Effectiveness of telemedicine: a systematic review of reviews *International Journal of Medical Informatics* 79,11:736-771

⁵Kidholm K, Bowes A et al (2012) 'A model for assessment of telemedicine – MAST' *International Journal of Technology Assessment in Healthcare* 28,1:44-51

⁶Ekeland A, Bowes A and Flottorp S (2012) 'Methodologies for assessing telemedicine: a systematic review of reviews' *International Journal of Medical Informatics* 81,1: 1-11

Details of research projects

'Pilot evaluation of "Opening Doors for Older People" in "wired" West Lothian' funded by the Nuffield Foundation (£5,854) 2001-2002

'Opening doors for older people: evaluation and dissemination of programmes for housing with care in 'wired' West Lothian' funded by the Health Foundation (formerly PPP Foundation) (£184,917) 2002-2006

Metho-Telemed: European Commission under SMART 2008/0064, 250,000 Euros, Feb 2009 to Feb 2010

4. Details of the impact

The reach of the impact has extended from the initial work in West Lothian to involve service providers, especially of health and social care services, across Europe, as described below. The significance of the impact relates to the need to deliver care and support for an ageing population in the context of constrained resources. The huge interest in the contribution that telehealthcare can make to this international challenge relates both to its economic benefit and to its ability to support people to live independently at home in the heart of their families and communities, both of which were evidenced in the original West Lothian work. A key issue with telehealthcare is that large scale rollouts are comparatively rare: West Lothian remains one of very few internationally, and barriers to large scale roll out have included uncertainty about how to make decisions. The MAST manual⁷ provides now proven support for such decision making, as we describe below.

The West Lothian evaluation⁸ has had local, national and international impact. Locally the work informed the telehealthcare programme in West Lothian – by 2012, 112,000 people had received the service, 2,500 people had been discharged from hospital earlier, 8,700 unplanned hospital admissions and 3,800 carehome admissions had been avoided (Source: West Lothian performance statistics). The formative and summative analysis provided in the research informed the development of the programme, for example establishing the need for early intervention and supporting the 'mainstreaming' approach whereby a basic package of technology was made universally available.

Internationally, the evaluation has brought prominence to telehealthcare in West Lothian, and Stirling regularly hosts international visitors wanting to review the system for potential implementation in their own countries and seeking advice on their upcoming telecare innovations; most recently Lindås (Norway - 2012) and nine Danish municipalities (2012). The visitors habitually

Impact case study (REF3b)

attend West Lothian and the University, where we have a demonstration suite for telehealthcare which is part of our Dementia Services Development Centre (see below). Lindås municipality, following their visit to Stirling and West Lothian and informed by our evaluation, are currently developing a telehealthcare system. Further evidence of the continuing importance of our work is that we are currently partners in the EU Northern Peripheries Programme funded 'Remodem'⁹ service development project, relating to the development of services for people with dementia and their families and communities in remote Northern Europe. In Remodem, providers in municipalities in Norrbotten (Sweden), Naervikid (Faroe Islands), Sermersooq (Greenland), Shetland Islands and Eilean Siar (Scotland) are developing and delivering a template of dementia care for remote areas. Our role, built on our research expertise, is to provide the evidence base to support the developments and to provide formative evaluation of the services.

Our research in West Lothian and the depth of knowledge and experience of telehealthcare that came with it engendered our participation in the Methotelemed project, which developed the MAST methodology which supports decision making about telehealthcare adoption¹⁰. MAST is now being used across Europe to inform decision making about telehealthcare rollouts. The following organisations have adopted MAST: the British Thoracic Society; Recherche Clinique Santé Publique (Paris); Basque Office for Health Technology Assessment; the Danish Regions in their Telemedicine Strategy (corroboration below)¹¹.

At EU level, a major implementation project is in progress using MAST. Renewing Health¹², (completing 18 trials), is delivering 'large scale, real-life testbeds' for telehealthcare, using MAST as the common assessment approach. The project involves service providing authorities in Italy, Denmark, Sweden, Norway, Spain, Finland, Greece, Austria and Germany. As well as her authorship of MAST, Bowes has provided expert input to the work of Renewing Health on patient perspectives (Berlin 2010) and on qualitative assessment of ethical and societal issues in relation to telehealthcare (Treviso 2012).

In Scotland, Bowes is a member of the National Telehealth and Telecare Advisory Board: this body provides advice to Scottish Government on telehealthcare strategy for NHS and local authorities. Currently, the Board is involved in delivering the TSB funded DALLAS (Delivering Assisted Living at Scale) programme of telehealthcare called 'Living it up', which is rolling out inclusionary communications and telehealthcare support across Scotland¹³.

Wider impacts of our work are demonstrated in the influencing, education and training work of the Dementia Services Development Centre (DSDC), which draws on our research findings both specifically and generally. DSDC provides a route for knowledge exchange with policy makers, service commissioners and service providers, increasing the impact of research undertaken at the University. Our technology research has enabled DSDC to develop its international reputation and expertise in the field of assistive technology, and telehealthcare. The purpose built Iris Murdoch Building houses a demonstration suite exhibiting technological devices and demonstration samples provided by technology companies. In 2011 alone over 7000 people from many different countries including Malaysia, Australia, Canada, New Zealand, Hong Kong, Japan, Germany, Netherlands, Malta and Scandinavia visited the suite and these included politicians, service commissioners, service providers, professionals and practitioners from all sectors, people with dementia and their carers. Visitors report that seeing the technology in action allows them to think about its relevance where they work or live and helps with implementation.

5. Sources to corroborate the impact

⁷The MAST manual and toolkit can be downloaded from:
<http://www.telemed.no/methotelemed.4565273-125741.html>

⁸Bowes A and McColgan G (2006) *Smart technology and community care for older people in West Lothian, Scotland*. Edinburgh. Age Concern Scotland. (research report)

⁹<http://www.remodem.eu/>

¹⁰Kidholm K, Bowes A, Dyrehauge S, Ekeland A, Flottorp S, Jensen L, Pedersen C and

Impact case study (REF3b)

Rasmussen J (2010) *The MAST Manual: Model for Assessment of Telemedicine*

<http://www.epractice.eu/en/library/315610>

¹¹MAST is recommended by the British Thoracic Society in a statement on use of telemedicine:

[http://www.brit-](http://www.brit-thoracic.org.uk/Portals/0/Delivery%20of%20RespCare/TechnologyPositionStatement%20Jan%202012.pdf)

[thoracic.org.uk/Portals/0/Delivery%20of%20RespCare/TechnologyPositionStatement%20Jan%202012.pdf](http://www.brit-thoracic.org.uk/Portals/0/Delivery%20of%20RespCare/TechnologyPositionStatement%20Jan%202012.pdf)

Recherche Clinique Santé Publique, a research institution for hospitals in Paris, is developing a French version of MAST (to be named MEETIC - Modèle pour l'Evaluation (Economique) de la Télémédecine) for use in assessment by French hospitals. The Basque Office for Health Technology Assessment (OSTEBA) is using MAST as the basis for assessments of telemedicine.

The Telemedicine Strategy of the Danish Regions also recommends the use of MAST

http://www.regioner.dk/Sundhed/Sundheds-IT/~/_media/Filer/IT%20og%20Kvalitet/Sundheds-it%20diverse/Regionernes%20telemedicinstrategi_%202011_ny.ashx

¹² <http://www.renewinghealth.eu/>

¹³ <http://livingitup.org.uk/>