

Telehealthcare: Time for Action

SSAC One-Day Forum on Telehealthcare Technologies for Assisted Living Executive Summary



EXECUTIVE SUMMARY AND KEY CHALLENGES

Telehealthcare: Time for Action

“If Telehealthcare is a ‘no-brainer,’ why is there no action?”

This one-day forum on “Telehealthcare Technologies for Assisted Living” brought together stakeholders from every sector in Scotland and beyond, and the overwhelming conclusion was that now is the time for action.

THC will play a key role in delivering health and social services in many countries throughout the world in the 21st century. It will deliver better care for all, using technology to integrate services more cost-effectively and efficiently, and gradually become part of everyday life.

The benefits of THC are clear. Mature technologies exist, though further research and development will be required for more advanced, sophisticated and usable facilities. Most participants agree it's time for Scotland to make it an integral part of our care system, setting up the infrastructure needed to deliver THC nationwide, training carers, health and care workers, and educating THC users and the general public. THC is ready for implementation right now, to complement existing health-care services – and Scotland can make it happen now.

The 5-step action plan that emerged from the forum focused on the following:

- 1 articulate a **vision** for THC in Scotland
- 2 provide the **leadership** required to implement a THC strategy for Scotland and set up the **infrastructure** needed to deliver THC
- 3 establish **technology standards** and innovative **procurement policies**
- 4 take the **initiative** in THC research and development, establishing Scotland as an **internationally-recognised centre of excellence** for technology provision and as a **testbed** for THC, especially in rural and remote areas of Scotland.
- 5 implement a **nationwide THC solution** as an integral part of NHS Scotland



THC is the logical next step in care. A number of THC projects have already been successfully demonstrated and implemented in parts of Scotland (and elsewhere), and these may be used as exemplars, but the time has come to develop a national strategy and turn the vision into reality.

THE VISION

THC should be seen as an intelligent, proactive, integrated and holistic solution for health care and social care, available to everyone.

Intelligent: THC services deliver an intelligent solution for users as well as for carers and health care professionals. THC is not science fiction or something that will happen in the future but a proven solution with clear benefits in terms of costs and quality of service. Health-care professionals and carers should also regard THC as an intelligent layer of extra support – e.g. providing easy access to a pool of specialists who monitor nationwide data – rather than a threat to their careers or an attempt to cut levels of staffing.

Proactive: THC has a key role to play in preventative and anticipatory care, not simply addressing the needs of the sick, disabled and the elderly but helping healthy people stay that way by assisting them to monitor their own health. THC activities could also play a key role in stimulating and creating business opportunities for technology companies in Scotland, with an opportunity to engage the entire supply chain through technologies and service provision. These technologies would supply not only Scottish needs, but also feed into major international markets. This area is a major economic growth sector worldwide and Scotland's companies must be well-positioned to take advantage of the opportunities, to demonstrate technology leadership, employment opportunities and economic impact.

The introduction of novel technologies can also feed into setting and creating new research directions, e.g. by providing data for innovative research projects which could for example, be linked to Scotland's excellent medical records. As part of a long-term national strategy, new housing should also be "THC-ready."

Integrated: THC addresses a very broad spectrum of needs and can be integrated into the existing infrastructure as just another "tool" in the toolkit – albeit a very intelligent tool.



Holistic: As well as being used for acute care, THC can be used to address the complete needs of all individuals and empower its users by making them much more aware of their health and their environment, and the impact of lifestyle choices. THC should also be seen as helping to integrate health and social care provision, using THC services and technologies as an enabler.

Available to everyone: THC is currently used to deliver a range of services across Scotland but has also been associated with high-tech medical devices for the elderly, sick and disabled, enabling them to stay at home longer and avoid going into institutional care. Supporting independent living is a major aspect of THC and would lead to significant savings (e.g. hospital beds), but in the future, THC will be used for preventative care as well as acute care, and become ubiquitous – as easy to use and familiar as watches or mobile phones, televisions or microwave ovens. THC could also facilitate more social interaction rather than isolate people, via user networks. It will also be important to emphasise “access for all” and make clear how people can access the services. THC also has the additional benefits of providing efficient health and care solutions to rural and remote areas which is a key consideration in terms of providing Scotland-wide coverage.

Promoting THC will require a major cultural or “mindset” change in the general public as well as the professions, but inviting all stakeholders to develop a shared vision of THC, and communicating this vision to the whole population, would help to remove many of the barriers to implementation. It would also help to change public attitudes and expectations, motivating service providers as well as researchers and solutions providers – incentivising everyone to maximise “buy-in.” One of the “barriers” is that existing technology is not interoperable, making each solution expensive and stand-alone. This inhibits SME involvement.

CHALLENGE 1: The Scottish Government should develop an agreed vision for THC in Scotland as part of a strategic drive to expand THC nationwide.



LEADERSHIP

The consensus at the Forum was that leadership is needed to ensure that THC becomes reality – and that leadership can only come from government.

In concrete terms, the Forum recommends setting up a **THC organisation** (or “working group”) to develop the strategy for THC and oversee nationwide implementation, with a management team supported by specialists in:

- science & technology
- policy
- education
- marketing
- service delivery

The first job of the THC organisation would be to articulate a **vision** for THC in Scotland, then develop a **strategy** for implementation, looking 5-10 years ahead. It was strongly felt that this strategy should also include mechanisms to provide good information and advice to implementers, professionals across the healthcare spectrum and informal carers, as well as end users.

The strategy would cover technology, infrastructure, education and marketing. A working group of all the stakeholders should develop this “roadmap,” coordinated by government and the new THC body.

One major challenge would be to ensure “**connectivity**” among the different stakeholders, recognising that THC is unique in the way that it brings together disciplines in many diverse fields – including government (at national and local levels), industry, housing, health and social care authorities, health-care professionals and academic researchers, as well as users and the large population of unpaid carers. All these key stakeholders should be able to influence strategy and implementation, while also being careful to manage potential conflicts of interest.



Another priority would be **education** and **marketing**. We would need to train and motivate carers, health-care professionals, social workers and nursing and medical students, to ensure that current and future professionals have an adequate understanding of THC. It would also be useful to promote THC among care professionals as an enabler and an effort-saver, rather than as a threat to jobs or standards of care – which may involve providing incentives and establishing norms. At the same time, we need to educate the general public and make everyone aware of the benefits of THC, via web sites, the media, roadshows, etc. Together, this will help to bring about a “cultural” change, with THC seen as a natural and highly useful service which will soon be part of everyday life.

With the vision and the strategy agreed, and the THC organisation in place, the policy makers would be able to develop the **infrastructure** needed to deliver THC nationwide – via existing organisations like NHS24, housing associations and community health (and care) partnerships or via completely new specialist channels. It would also be important to engage all key stakeholders to establish an effective network for THC which avoids duplication of effort and also enjoys wide support.

CHALLENGE 2: The Scottish Government should set up a THC Organisation which will work collaboratively with government and other key stakeholders to develop a vision and strategy for THC. The THC Organisation should then comprehensively develop the infrastructure needed to implement THC nationwide.



TECHNOLOGY & PROCUREMENT

Even though technology has been described as “only 10% of THC,” it is critical to its success. And even though there may be some disagreement on details such as which technologies or applications are better than others, there is widespread agreement on the overarching benefits of THC technology.

Delegates also widely agreed that to make progress in THC, **standards and interoperability** must be a priority. The main task would be to create a regulatory and procurement framework that ensures standardisation and interoperability of THC equipment and support procedures. For example, we need to agree standards and formulate housing policies for a THC infrastructure that enables sensors, alarms and support aids, etc., to be readily installed into buildings, so that these devices work together seamlessly – e.g. exchange information. Since a similar infrastructure will also be needed to optimise energy use, it would be best if a single infrastructure could meet both requirements. Note that this infrastructure presupposes digital inclusion, e.g., universal broadband access.

Agreement on standards would both enhance the uptake of THC technologies – by keeping costs down and making it easier for users to obtain their own equipment – and allow Scottish SMEs to provide particular devices to plug into the larger framework. It is imperative that a move is made towards an interoperable model. The promotion of open systems would be welcomed by both the SMEs working in this field along with service buyers, who would then have increased choice and access to a more competitive marketplace. Such standards need international agreement (there is already a de facto standard), but the Scottish Government could take an international lead here by ratifying and promoting this standard, for example by insisting on it as part of smart procurement.

The strategy would also predict and advise what **technologies** will be available and which will prove most useful on what time-scales, and identify the stakeholders responsible for ensuring that the roadmap is realised in a timely fashion. It will also be important to establish the effectiveness of different THC technologies, particularly with regard to cost, support, acceptance and training, evaluating systems, services and processes not just from technological but also social, scientific and economic perspectives.

CHALLENGE 3: The THC Organisation should set up a working group, involving a range of stakeholders (including those outside Scotland), to establish THC standards and procurement policies for Scotland.



SCOTLAND THE TESTBED

THC is an opportunity, not just a challenge. Scotland is a small country, with a good mix of rural and urban populations plus a good communications infrastructure, (but broadband availability in some rural areas is currently patchy, so it is essential that the ambitions of the Digital Britain⁶ initiative are realised to rectify this problem), and consolidated patient records. We also have a good track record in invention and could become the world's "laboratory" for THC – in the process stimulating home-grown industry, interoperability standards and research and development.

This would not only lead to improvements in healthcare for everyone in Scotland but also help to establish Scotland as an international leader in THC. It would mean inviting industrial and academic researchers to participate and share the results, taking advantage of Scotland's diverse geographical and demographic conditions, as well as our consolidated medical records.

Delegates also agreed that we need to review the incentive mechanisms for THC researchers to ensure their work is more effectively applied to practice and offers value for money (e.g. by avoiding duplication). Another major theme was the need to adopt a more collaborative approach to research, embracing academia and industry as well as practitioners working in the health and care environment.

Scotland has 14 universities with teaching and research related to medicine, nursing and health studies, along with informatics and engineering. Many of these organisations are working together to innovate for the emerging assisted living market sector. Scotland's success in wellness research, development and commercialisation continues to this day in collaborative ventures with SMEs and other industry partners, thus attracting interest and investment from across the globe.

Other concerns were the need to create a funding framework in which academics are rewarded for applied research in THC, and for working with companies to turn research ideas into products, the need to identify research challenges and feed these ideas into academic research, and the need to identify engineering challenges and feed these ideas into company developments.

⁶ Digital Britain: http://www.culture.gov.uk/what_we_do/broadcasting/5631.aspx/



Specific funding arrangements for researchers to develop and commercialise solutions for this market sector would enhance their focus on innovative THC technologies. This would promote collaborative working, which would be responsive to industry drivers and timescales which is not happening at the present time.

CHALLENGE 4: The THC Organisation should engage with academia and industry to establish Scotland as a THC testbed, with the emphasis on gaining mutual benefits from collaborative projects – setting the pace not just in research but in practice.

THC FOR ALL

The final step would be to implement a **nationwide THC network** as an integral part of health and social care services. Once THC is established in the public mind and among professionals as an everyday activity which makes our lives better, extending it more widely will be easier.

To support this drive, we would also promote the use of THC technologies as a solution for everyone, regardless of health, capabilities or age. At the same time, we will need to fit solutions to people rather than adopt a “one-size-fits-all” approach, recognising that the market is diverse – i.e. it ranges from elderly people in care homes to young mothers in rural environments.

CHALLENGE 5: The THC Organisation should work collaboratively with the Scottish Government, local authorities and health boards and other stakeholders to ensure that THC is available to everyone and part of everyday life.

“We need to change the whole health-care system – not just telehealthcare.”



© Crown copyright 2010

ISBN: 978-0-7559-8314-8

Produced for the Scottish Science Advisory Council by RR Donnelley B63995 05/10
Published by the Scottish Science Advisory Council, May 2010

This document is also available on the Scottish Science Advisory Council website:
www.scottishscience.org.uk

RR Donnelley B63995

