

Assistive Technology, Telecare, and Dementia: Some Implications of Current Policies and Guidance

John Woolham, Northamptonshire Community Services, Grant Gibson, Pam Clarke, Department of Primary Care, University of Liverpool.

Abstract

Electronic assistive and telecare technologies in England and Wales have moved in less than a decade from being a fringe interest of a few enthusiasts – principally from within the dementia care community - to mainstream provision in some areas. This paper traces the emergence and development of this technology and government policy, and offers some thoughts on the impact these changes may have on its use in dementia care settings.

Keywords

Dementia, assistive technology, government and social policy, planning, literature review.

Introduction

This paper evaluates current health and social care policy relating to assistive technology and telecare provision. First, the historical context of the development of telecare and electronic assistive technology is discussed. This is followed by an analysis of government policy initiatives relating to the ‘roll out’ of these technologies, and the reaction to such policies at local level amongst health and social care agencies. The paper concludes with a discussion of the implications of telecare and assistive technology on the delivery of health and social care services within England and Wales.

History

In England and Wales the use of electronic assistive technology (AT) emerged at least in part from social alarm technologies first used within local authority sheltered housing in the 1960s and 70s (Fisk, 2003). A distinguishing characteristic of this technology - still widely used - is that it is user activated. This has had serious

consequences for people with dementia, many of whom are unable to use technology designed in this way. As a result, most health and social services professionals seemed to believe that technology per se was inappropriate for people with dementia as it could not be reliably used by them (Woolham & Frisby, 2002b). The locus of the ‘problem’ was seen to be the person with dementia rather than in inherent limitations of the design of the technology.

Whether due to the ‘state of the art’ at the time, or poor and non-inclusive design, most people with dementia have therefore been, until comparatively recently, effectively denied access to assistive and telecare technology. Some have argued that this was a de facto form of discrimination (Marshall, 2002).

Why has interest in AT and telecare grown?

There are three key developments that have contributed to a rapid growth in interest in AT and telecare since the late 1990s.

- New technology & technological progress.

A crucial predisposing factor has been the advent of new technologies that made different applications possible. The development of technologies that could work 'passively' around the user has been a major step forward. Innovative work to exploit new technological possibilities at this time came not from large electronic corporations but small R&D companies who developed a range of new products that worked in this way, and were able to interest larger manufacturers in these prototypes (See, for example, Doughty, 1999; Doughty et al., 1996; Doughty & Williams, 1998).

- Demography & service pressures

The UK has an ageing population (Department of Health, 2001b) and the prevalence of dementia is known to increase with age (Medical Research Council Cognitive Function and Ageing Study (MRC CFAS) and Resource Implications Study (RIS MRC CFAS), 1999). Therefore, rises are forecast in the number of people with dementia (Audit Commission, 2000a; Gray & Fenn, 1993; Knapp *et al.*, 2007). The costs of meeting the social and health needs of people with dementia are high, and increased geographical mobility and changes to social mores means that the ability and willingness of offspring to care for ageing relatives may be impaired. 'Traditional' ways of meeting the needs of people with dementia continue to be institutionalisation. However, residential care is expensive and there is much evidence that older people see residential care not as a 'positive choice' (Wagner, 1988) but as a last resort. Given a choice, older people would prefer to remain living in their own homes

(Commission for Social Care Inspection, 2004). There is no evidence that people with dementia will feel any differently about this than older people in general.

- Person centred approaches to technology in dementia care

New thinking, in the form of person-centred approaches to the use of technology for people with dementia emerged over the same period. Two publications are noteworthy. Both were European Union funded and exposed UK academics and local government professionals to ideas from elsewhere in Europe. The first of these, *Technology Ethics and Dementia* (Bjørneby et al., 1998) discussed how assistive technology could be deployed based on an understanding of the needs and capacities of the person with dementia, compensating for disabilities that can occur as a result of the condition. The second, the *ASTRID Guide* (Marshall, 2000) developed these ideas, exploring what practical steps might be needed for technology to be used in care settings and how ethical issues should be considered where informed consent to the use of technology is problematic. In different ways, both studies addressed concerns about the potential of technology to erode privacy and concerns about 'big brother' (Tweed & Quigley, Undated) and robustly challenged a prevalent view that AT could not be appropriately used to support people living with dementia.

Early projects and services to use electronic AT and telecare in the UK all appeared to support the independence of older people with dementia. The first was the Falkirk Mobile Emergency Care project which was established in the mid 1990's (Mitchell, 1996). Some time

later, two projects were established in England and Wales respectively to support the independence of people living with dementia: Adre n' Saff in Anglesey, and the Safe at Home project in Northampton (Woolham *et al.*, 2002).

At around the same time West Lothian Council started a housing re-provision programme in which it was planned to install a basic range of AT in very large numbers of homes for older and vulnerable people. Over the same period, a plethora of 'smart houses' were established to demonstrate the potential of assistive and telecare technology.

Policy development

AT and telecare were, to re-use a phrase first coined by the late Sir Roy Griffiths, for some time 'nobody's baby but everybody's distant relative' (Griffiths, 1988, iv). However, as awareness of the potential of AT and telecare applications grew, a number of government departments have tried to promote its wider use. Several policy strands exist, variously referring to the use of AT and telecare within housing, social care, community equipment and health settings. Broadly speaking, the Government's interest in this area is consistent with a view that effective use can help it achieve key NHS and housing priorities and provide solutions to challenges facing public services resulting from demographic changes.

Awareness of potential and early encouragement for developing local services

Although the first practical demonstrations of the value of assistive and telecare technologies have been in the field of dementia, policy has been shaped by a view that there is a much wider group of potential beneficiaries.

An early expression of the view that AT and telecare might transform the landscape of service provision in the NHS and social care was offered in 1998, with the publication of the DH Information Strategy for the NHS. Although the report was principally concerned with the development of information technology systems to improve the collection and flow of information throughout the NHS, the report noted that:

Telecare technology will be used to provide a reliable but unobtrusive supervision of vulnerable people who want to sustain an independent life in their own home.

(NHS Executive, 1998, p15)

A year later, the Royal Commission on Long Term Care drew attention to the potential contribution of electronic AT:

We have seen the future in pilot schemes...and the application of new technologies and alarm systems that control any number of household appliances and functions. Nevertheless, for the majority of people such changes will take many years to work through and at the moment such initiatives tend to be confined to social housing providers and the top end of the housing market.

(Royal Commission on Long Term Care, 1999, para 8.23 a)

The same report also called for more money to be made available for community aids and adaptations and for funding routes for these aids and appliances to be simplified.

A central role for community equipment services

The Royal Commission report associated the future development of AT within the housing rather than social care domain. This was perhaps unsurprising given the historical development of electronic AT in England. However, for its use to become more widespread, it was clearly

necessary to extend it to social care and health domains, and to find additional ways of embedding it within local provision.

An important milestone for the development of AT and telecare in the UK was the publication of the NHS Plan in 2000 (Secretary of State for Health, 2000). This raised the profile of equipment services and defined it as having a key role in future modernisation. Community Equipment services were defined as key 'deliverers' of AT and telecare.

In 2000, the Audit Commission published the first of two reviews of the state of Community Equipment Services in England and Wales. Though it did not refer directly to emerging assistive and telecare technologies, it did identify serious deficiencies in the quality of community equipment services, calling for major improvements in their efficiency and effectiveness through improved integration of services by local NHS and social services organisations (Audit Commission, 2000b).

The importance of community equipment services was further endorsed in the National Service Framework for Older People, published in the same year. The Framework also called for a wider role for new and emerging technologies:

Agencies should work to deliver...the wider application of 'new technologies to support the safety and security of older and disabled people, such as falls alarms and sensors.

(Department of Health, 2001b, para 2.49)

About a fortnight after the publication of the NSF, the DH published a Health Services Circular on Community Equipment Services under the auspices of the NHS Plan. The circular required local and health authorities to develop integrated community equipment

services by 2004 and called for a 50% increase in the number of people benefiting from community equipment by the same date. The circular offered a definition of community equipment that for the first time included:

Telecare equipment such as fall alarms, gas escape alarms, and health state monitoring for people who are vulnerable.

(Department of Health, 2001a, p3)

It also referred to substantial levels of funding to improve community equipment services locally over three years. Unfortunately, this was not ring-fenced and most local authorities and primary care trusts (PCTs) failed to invest in them out of their annual central government funding allocation, leading to a widespread conclusion that there was, actually, no 'new' funding.

However, although robust local community equipment services were likely to be a precondition for the successful use of technology locally, they form a constituent part of the bigger infrastructure needed to establish and develop AT and telecare.

From community equipment to electronic AT and telecare

In the same year (2001), the Department of Health created an Implementing Community Equipment Services (ICES) team, initially to support local and health authorities in the task of integrating community equipment services, but also to provide support to efforts to develop the range of equipment provided – to include electronic AT and telecare.

If invisible funding for community equipment services and ambitious targets for the development of community equipment were intended to be an incentive for local action, this fell short of expectation. The following year, the Department of Health Select

Committee on Health was encouraging the Government to do more:

...Telecare solutions have a major contribution to make as part of the strategy for developing alternatives to hospitalisation...health, social services, and other local authority services all have an interest...the Department should establish a national strategy to promote the systematic development of telecare solutions as part of a spectrum of care at home...our visit to North America persuaded us that health care providers there were engaging much more fully with the potential for telecare, whereas UK telecare companies appeared frustrated with the lack of progress.

(House of Commons Select Committee on Health, 2002, para 101)

The theme of slow ‘take up’ was to be echoed in a later report published by the House of Lords Science and Technology Committee, though with different conclusions. In surveying the extent of use of AT up to the beginning of 2005, it was to complain:

Plainly, this is an area with immense potential for development. Sadly, our overall impression is that this potential is far from being realised...There is nothing remarkable about the science involved, since these are overwhelmingly the applications of existing technologies to new uses. We are driven to the conclusion that this is yet another manifestation of the...reluctance of industry to address a market which is ready to embrace any offer of good products at reasonable prices.

(House of Lords Science and Technology Committee, 2005, p63)

One report blames health and care providers being dilatory, the other castigates manufacturers for a lack of entrepreneurial zeal. Both perspectives were probably correct. However, the important point here is that the two reports demonstrate not only keen interest but also frustration at slow rate of adoption. It is true that few attempts were made at a local level by social services departments or PCTs at this

time to explore what new and emerging assistive and telecare technologies had to offer or properly consider the nature of the local infrastructure that would be needed to deliver new technology based services.

How hard is it to develop local electronic AT and telecare services?

There have been, and continue to be a number of barriers to the successful use of electronic assistive technology. The ASTRID project team carried out a ‘supply chain’ analysis of a limited range of assistive technologies that could be used by or for people with dementia (Bjørneby *et al.*, 1999). This considered the extent to which electronic AT or telecare was being used within member countries, and obstacles to more widespread use. The UK study completed for that report provided a useful base line against which the current status and prospects of electronic AT could be compared. It found that:

- AT was considered very infrequently as a form of practical support for someone with dementia or those who cared for him or her.
- Access to assistive technologies appropriate for people with dementia was virtually non-existent.
- There were a series of formidable practical obstacles to be overcome if it was to be deployed. These included:
 - the absence of information about the range of products available and ways by which manufacturers claims could be verified due to an absence of agreed standards;
 - limited numbers of suppliers and manufacturers; and

- an absence of people with the skills to install technology, whether prescribed by a social care or health professional, or purchased privately.

The study concluded that a number of things needed to happen before AT and telecare could be widely used in dementia care. These included:

- awareness raising of the potential of technology amongst social care and health professionals, people with dementia and their carers;
- better understanding by manufacturers of the specific needs of people with dementia and the design implications for product development;
- the need for greater integration of existing products (sensors, switches, relays and so on) into systems capable of providing specific, tailored solutions to identified needs;
- closer links between Social Services and Housing Departments to enable social alarm technologies to be harnessed to emerging technologies.
- the need for person-centred approaches to establishing a role for technology in supporting the person with dementia to ensure that would be used both safely and appropriately.

These issues have subsequently been explored and discussed in a number of different papers (Barlow et al., 2003a; 2003b; 2003c; Woolham & Frisby, 2002a).

Apart from the lack of integrated community equipment services, perhaps most frequently identified as an impediment to the increased use of

electronic AT and telecare, a range of other obstacles have also been identified, including:

- A lack of clarity about which organisational and professional groups should have lead responsibility for assessing and providing AT and telecare (Foundation for Assistive Technology (Assistive Technology Forum), 2005).
- The use of assessment tools by local community health and social care professionals that do not facilitate assessment for technology: a particular issue in dementia care (Wey, 2005).
- The lack of objective sources of information about available technologies and what they do and don't do.
- Difficulties in developing relationships with suppliers of technology and in getting devices and systems installed quickly and safely (Taylor, 2005)
- Difficulties in identifying partner agencies able and willing to provide an initial call response service.
- Difficulties in developing services to respond to activated technology.
- A very 'busy' policy environment within health and social care in which the AT and telecare agenda is but one example.
- The lack of demand in the form of consumer pressure for AT and telecare products and systems (Barlow *et al.*, 2003c).

The lack of an evidence base to support claims made for the effectiveness of technology has also been cited as an obstacle, although this is perhaps more

likely to be problematic within the NHS where the standards for and use of evidence are generally higher than within local authority settings (Care Services Improvement Partnership/Health and Social Care Change Agent Team, 2006).

The effective use of new technology is therefore likely to require significant levels of organisational change and changes to the nature of professional roles. These issues were defined and addressed in reports on AT by the Audit Commission (Audit Commission, 2004a; 2004c):

The evidence to prove its success is strong, but the take up is slower than the weight of evidence would suggest:

- *The organisation expected to invest in AT (typically local authorities) is usually not the beneficiary, making some reluctant to invest*
- *Assistive technology often requires significant changes to the way that people work – implementation often needs well planned programmes of organisational development*
- *There is a crowded change management agenda which can marginalise assistive technology service developments*
- *Suppliers could ease the implementation of assistive technology by offering whole packages of care – not just the technology.*

(Audit Commission, 2004b, p2)

In 2005, the Green Paper on the future vision and direction for adult Social Care was published (Secretary of State for Health, 2005). This echoed earlier guidance and recommendations by referring to the potential of technology:

Telecare has huge potential to support individuals to live at home, and to complement traditional care. It can give carers more personal freedom, and more time to concentrate on the human aspects of care and support and will make a contribution to meeting potential

shortfalls in the workforce.

Telecare is not only there to support frail older people. Technology has the capacity to transform the way we offer services and the support that is available to help people with dementia stay in their own homes. Technology provides a range of options to meet individual needs that can be adapted as those needs change. Early evidence from West Lothian and Northamptonshire indicates that investment in telecare services can have a significant impact on reducing the need for residential care, unlocking resources to be directed elsewhere in the system.

(Secretary of State for Health, 2005, pp55-56)

However, whilst the Department of Health was visioning the future, it was still not yet willing the means. The continuing slow progress in the utilisation of AT and telecare by local authorities and the NHS was picked up by Select Committee report on Health in 2005, which reported that:

New medical technologies have the potential to transform the way in which health and social services are provided. According to the NHS improvement plan, “evidence indicates that telecare can bring substantial benefits in providing people with greater choice over their care, assisting people to remain in their own homes, reducing inappropriate admissions, facilitating discharge from hospital and providing advance warning of deterioration in a patient’s condition.

The UK is a world leader and centre of excellence for the development of new medical technologies, but it lags behind many countries in the implementation of these innovative products.

(House of Commons Health Committee, 2005, p6)

An attempt to properly ‘launch’ AT and telecare came in July 2005 with the announcement of the Preventive Technology Grant. This grant, of £80 million ‘new’ funding over two years, made available to all English local authorities - though not ring fenced - was timed to coincide with the first

'official' guidance from the DH about telecare (Department of Health, 2005). In the Foreword to the guidance, the then Secretary of State for Care Services, Liam Byrne, stated:

The Preventive Technology Grant injects much needed resources to assist commissioners to mainstream the further application of technology within social care and support services. Through this funding, we have the opportunity to pump-prime the market and stimulate an industry of huge benefit – and create new opportunities to strengthen the front-line partnership between health, local government, and others. We need to work with industry to co-ordinate demand for telecare, ensuring industry grows as fast as possible and as we move forward, we need to work closely with industry to inform the development of design for future technologies for the benefit of our communities. Our approach is therefore three-fold:

- *To provide initial investment*
- *To co-ordinate demand to ensure industry grows strong as fast as possible*
- *To educate and build knowledge and awareness amongst those who will be commissioning telecare services and those who will benefit from them.*

(Department of Health, 2005, p5)

Although there seems to be little evidence to support the claim that industry needs support, arguably, the needs of end users appear to be given less prominence than those of industry.

In a section of the guidance devoted to implementation issues, reference was also made to ethics:

The construction, delivery and removal of a telecare package is subject to the same ethical processes as any other care package....

...The individual, or their advocate or carer where informed consent is not possible, should understand the implications of the information that may be generated from a telecare package.

They will have access to that information and what conclusions may be drawn from the data generated.

(Department of Health, 2005, p16)

November 2005 saw the publication of *Everybody's Business: Integrated Mental Health Services for Older Adults* (Care Services Improvement Partnership, 2005). Part of this guide is devoted to AT and telecare. The report calls for individual assessments of need for AT and telecare for people with mental health needs, and counsels the need for technology to support, not replace, specialist mental health services. The report also acknowledges issue of consent and suggests that ethical considerations surrounding the use of telecare for older people with mental health problems should always be considered.

Just over two months later, a further reference to the role of new technology in supporting the independence of older people was included in a report on the social exclusion of older people (Office of the Deputy Prime Minister, 2006, p76).

That same month also saw the publication of the White Paper (Her Majesty's Government/Department of Health, 2006). While referring in less detail to AT and telecare than did the Green Paper (Secretary of State for Health, 2005), it did return to the familiar theme of its potential, arguing that:

Many local authorities in this country have already shown that assistive technology can help people retain their independence and quality of life...

(Her Majesty's Government/Department of Health, 2006, para 5.38)

As expected, three performance indicators for the use of telecare devices followed the Department of Health

Guidance of 2005. The indicators for 2006-07 are:

- 2155: *The number of users aged 65 and over who already have one or more items of telecare equipment in their own homes (or equivalent such as extra-care/warden housing).*
- 2156: *'The number of projected new users aged 65 and over provided with one or more items of telecare equipment in their own homes (or equivalent such as extra-care/ warden housing).*
- 2157: *The number of projected users aged 65 and over provided with one or more items of telecare equipment in their own homes (or equivalent such as extra-care/warden housing).*

These were based on a national target of 160,000 new telecare users in England over the two-year funding period.

The combination of funding and indicators may at last be sufficient a 'carrot and stick' to ensure that most local authorities respond to the 'telecare agenda'. However, the indicators themselves seem intended to encourage the widest possible use of telecare rather than to supporting the matching of technology to need.

At the time of writing, the latest publication of significance in this field is the Wanless Review of Social Care (Wanless, 2006). A background paper published alongside the review focussed on the role of telecare for older people (Poole, 2006). It examines claims made about the efficacy of AT and telecare and the kinds of models likely to produce the most effective and cost effective use of technology. The report suggests that:

Research already indicates that it is those with relatively low care needs for whom the provision of telecare is likely to produce the greatest cost benefits in the long term. Evidence suggests that telecare development should be focussed on those in the lower and middle, rather than high, frailty groups, in order to have the

greatest impact on subsequent moves into care homes. However, these are the very people whose needs fall into eligibility bands that are less likely to qualify for any state funded social care under the individual policies of autonomous local authorities. The potential of telecare does not sit well with the current reality that most social care resources are focused on the most dependent older people.

(Poole, 2006, p16)

It also suggested that any return in the form of a saving on any local investment in telecare services is, based on current evidence, likely to take several years but that this is likely to conflict with local short term imperatives (and, as we have seen above, the pressure to deliver performance indicator targets). It also acknowledges a point made earlier by the Audit Commission of the importance of re-apportionment of savings within a wider local health care economy:

Telecare's role in postponing and diverting older people from moving into residential care and possibly hospital will re-distribute costs and benefits around the system. The costs of introducing telecare therefore need to be apportioned in line with the likely financial benefit for the various organisations, including the NHS.

(Poole, 2006, pp17-18)

Implications for the use of assistive technology and telecare for people with dementia

The final part of this paper will consider some of the implications of this national policy direction.

Mainstreaming: moving the focus away from dementia

Despite electronic AT and telecare's first use in projects to support people with dementia in the UK, as interest in the potential of technology has grown, this paper has shown that the focus has widened and moved away from people with dementia.

Although the importance of tailoring technology to meet the specific needs of people with dementia was recommended by the Care Services Improvement Partnership (CSIP) (Care Services Improvement Partnership, 2005; Care Services Improvement Partnership/Health and Social Care Change Agent Team, 2006) and ethical use is referred to – in passing – in a handful of documents, including the Department of Health guidance on telecare (2005) the main objective of policy makers and others has been to encourage the widest possible adoption and use of technology in the shortest possible time. This is to support the independence of some of the 160,000 new people the Preventive Technology Grant is intended to help with technology. In important respects, however, the mechanisms now intended to promote the mainstreaming of assistive technology and telecare may not support its proper use within dementia care settings.

What does 'prevention' mean?

The Department of Health has expressed a view that technology should have a preventive role, and indicated in broad terms where it would most like to see progress. However, it is less clear about how this progress can best be achieved. For example, whilst there is limited evidence that technology can support the independence of people vulnerable to hospital admission and permanent residential care, financial modelling data (Poole, 2006), has suggested that it may be more cost effective to invest in developing the use of technology for a less dependent population, though the return will take longer to be realised. However, there is, to date, little empirical evidence to support this claim. Clearly, if technology is targeted upon to a less dependent group, people with dementia may be less likely to receive, in full, the potential benefits that

technology could bestow. This is because the 'service model' required to deploy AT is likely to be very different. This will impact on the nature and quality of the assessment process, range of technologies that might be suitable and made available, and the degree of linkage with other forms of support.

Long term funding

The Department of Health intends that that Preventive Technology Grant will lead to a fundamental transformation in the way that health and care services are delivered, with cost savings leading to both savings and strategic reinvestment. However, there is currently limited evidence to support the cost effectiveness of assistive technology and telecare. 'Savings' are, unless structural changes follow, efficiency savings rather than real cash savings, and the apportionment of these 'savings' at a local level may be unequal: telecare expenditure in social care settings may generate more savings on local health budgets than within social care itself, and this may be a de-incentive to develop local AT and telecare services unless budgets are fairly re-apportioned. This will affect the provision of services to many who could benefit from access to assistive technology and telecare, including people with dementia. The bottom line is that the achievement of this transformation in services within a two year Preventive Technology Grant funding period will be a rather tall order, even for the most cohesive and well managed local partnerships.

Prevention versus eligibility criteria

The White Paper (Her Majesty's Government/Department of Health, 2006) calls for the delivery of local services that are both preventive and offer choice. However, at the time of writing four out of five councils with social services responsibilities were

exercising their powers under Fair Access to Care legislation to review eligibility criteria for services: setting higher threshold criteria for services (Local Government Association, 2006). It is not clear how AT and telecare will be affected by this. If it is used to support those who meet revised criteria, this challenges a view that a better return on the 'investment' is to target technology on low need groups. It does, however, focus on people who have high needs and where there are risks to independence: people with dementia will constitute a large proportion of this group. Alternatively, local authorities may, instead, provide technology to people whose needs don't qualify them for social care. This might be justified under the aegis of 'prevention'. In the short term, this might lead to poor targeting of local AT resources and to the inappropriate use of technology for people with dementia. A further complicating factor is that the PTG is not intended to replace social alarms in sheltered housing: it will therefore be important that local housing strategies for older people recognise the needs of people with dementia to prevent relocation to residential and nursing care.

Limited opportunities for extending the role of assistive technology and telecare

A striking feature of the much policy guidance and commentary relating to AT and telecare is a pre-occupation with risk management and safety. Clearly, this is a very important issue, particularly but not exclusively for people with dementia, but it is not the only way in which these technologies can be used. The use of technology to remind and prompt, support communication, and enable more constructive use of leisure time are just a few of the other ways in which technology might be harnessed. Unfortunately, demand from public sector organisations will be for risk

management and safety devices: the market for assistive technologies that meet different needs and have a different purpose will be elsewhere.

Assistive technology and telecare as a substitute for social care

There is an inherent risk that assistive and telecare technologies will be used as a substitute for social care rather than to support and complement it. Whilst this may suit some who resent the intrusion of care services into their lives, the loss of social contact for people with dementia who may already be experiencing social isolation and problems with communication will have very serious consequences indeed. Local authority home care budgets are increasingly tight, demand is rising, and in many or most parts of the UK it is difficult to attract and retain high quality care staff (Eborall & Garmeson, 2001). Although technology could be used to re-configure care packages so the care provided is, for example, more person and less task centred, there is a risk that it will simply be used to reduce the cost of a local community care budget.

Knowledge and skill deficits

A lack of knowledge about assistive technology and telecare by local professionals and managers working in health, housing and social care organisations was a key finding of the ASTRID supply chain analysis, and remains a continuing issue. Whilst single day, in-service training courses might helpfully raise awareness of technology's potential, the knowledge requirement – particularly if telecare technologies are used to support the most vulnerable groups, including people with dementia – will be much greater if technology is to be used appropriately. Down (Foundation for Assistive Technology (Assistive Technology Forum), 2005) suggests that

radical changes to occupational roles may be needed to use technology most effectively.

Access to reliable and objective information about assistive and telecare technologies is also needed. At the present time, there are dangers that local professionals and managers, most of whom will have little experience or knowledge of this field, will rely too heavily on advice from manufacturers which may in the longer term not offer best value for the local agencies concerned.

Unintended impacts of performance indicators

The three performance indicators referred to earlier in the paper are designed to encourage local authorities to get the widest possible use of assistive and telecare technology. Where the ability to understand and retain information about assistive technologies is difficult or impossible, there is the risk either that these service user groups may be overlooked as the task of providing technology is easier and more straightforward in relation to other service user groups, or technology will be provided without proper regard for the needs of the user. In either scenario, people with dementia will not be well served.

Person centred uses of technology versus technology driven services?

Knowledge about what AT and technology can do is not well developed in local authorities or PCTs. It may be easier for local agencies to work with a single manufacturer or retailer to provide a 'whole solution' – not only technology but also advice and support in its installation. This does not preclude the use of other technologies (other manufacturers may provide better products in some areas). However, in the event of equipment malfunction –

especially if this has serious consequences for the end user – local agencies would be right to be concerned that manufacturers may blame each other's products for the malfunction. To avoid this, service level agreements with a single manufacturer may become the more frequent approach to procurement. This, in turn, may make it more likely although not inevitable that a 'one-size fits all' approach where a technology-based, rather than person-centred approach to the deployment of assistive technology and telecare becomes common. People are assessed as to whether they might need a given and available item of equipment which is part of the manufacturer's product range rather than to find what kinds of technologies could be used to meet their individual needs. This outcome seems most likely if assistive technologies are used for people with dementia in a prophylactic manner by staff who are not skilled in assessing for assistive technology and telecare.

Final thoughts

People with dementia arguably stand to gain more than most from what assistive technology and telecare may have to offer, and the use of new technologies was pioneered by those with an interest in this field. However, evidence collected in this paper suggests that the prospects for the development of high quality services for this group at the present time are uncertain. First, the use of AT to support people with dementia may be marginalised. As mainstreaming takes place, its use for this group is seen as less of a priority because of the importance attached to securing good performance indicator returns which will focus its use on less dependent and less 'hard to reach' groups. Second, where AT is used for people with dementia, it may be used inappropriately if the manner of service delivery doesn't

reflect the specific needs of this group. At best, it may be wasteful as provided technology won't be useful. At worst, it may be actually be damaging as technology is used as a substitute for social care and contact, or even to control behaviour defined as troublesome for the benefit of a third party.

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Notes on contributors

John Woolham is Senior Research Officer at Northamptonshire Community Services. He has been involved in evaluating assistive technology and telecare services, particularly for people with dementia, for a number of years. Grant Gibson and Pam Clarke are researchers in the Department of Primary Care at the University of Liverpool.

Address for correspondence

Dr John Woolham
Senior Research Officer
Northamptonshire County Council
Community Services
County Hall
Northampton
NN1 1DN
Email:
jwoolham@northamptonshire.gov.uk