

1. Executive Summary

This first best practice guide in the area of telecare and telehealth aims to acknowledge the growing role of electronic health support in the prevention and management of chronic illnesses relevant to older people.

Technical advances in information exchange coupled with societal demographic pressures exist to stimulate interest and deployment of a wide range of telecare and telehealth solutions. Common chronic disease states such as diabetes, stroke, and pulmonary disease are typical areas of relevance within the sphere of home monitoring. The transfer of clinical data between radiologists and clinicians is developing rapidly and is known as teleradiology. Social support examples are numerous and diverse, ranging from simple safety monitoring equipment, to complex systems within bespoke 'smart home' facilities.

The area of telecare and telehealth should not be considered as a single entity rather the field consists of many separate evolving divisions. Where systems offer clear empowerment, quality of life gains or reduction of risk to the individual and/or serve also to improve markers of healthcare activity (hospital avoidance, reduced length of stay etc.) then these can be recommended.

As geriatricians, our engagement with other stakeholders is therefore important if the interests of older people and knowledge of the effects of illness in this group are to be represented. It may be important to guard against diversion of funding away from traditional older person's services, routed in the principles of comprehensive assessment, towards unproven telecare and telehealth projects and with it the potential loss of the healthcare worker-patient bedside interaction.

Several issues remain unclear related to terminology, systems organisation, and legal clarity. Arguments against uncritical roll out are based on the lack of evidence (at a standard most clinicians would accept) within some areas of telecare and telehealth (notwithstanding that evidence-informed rather than evidence-based practice may provide the necessary standard to service commissioners).

2. Introduction & Terminology

Telemedicine, telecare and telehealth are areas within the broader sphere of gerontechnology that involve information exchange at different sites between persons/patients and health and care staff. Such processes encourage diagnosis, monitoring and decision making, often between rural and urban locations. The effect in some instances is to promote the transfer of care from the hospital to the home, community or more specialized 'smart home' setting.

The terms reference specific activities. Telecare is “the remote or enhanced delivery of health and social services to people in their own home by means of telecommunications and computerised systems. Telecare usually refers to equipment and detectors that provide monitoring of care needs emergencies and lifestyle changes, using information and communication technology (ICT) to trigger human responses, or shut down equipment to prevent hazards.”¹

Telehealth is “the use of telecommunication technologies to provide health care services and access to medical and surgical information for training and educating health care professionals and consumers, to increase awareness and educate the public about health-related issues, and to facilitate medical research across distances.”²

Telemedicine has been defined as “the use of telecommunications technology to provide, enhance, or expedite health care services, as by accessing off-site databases or transmitting diagnostic images for examination at another site.”³

Thus, while there are occasions when the terms are used interchangeably, telecare focuses on social support, telemedicine on clinical data exchange and telehealth embraces clinical data exchange as well as wider streams of information provision beyond medical professionals e.g. involving the general public.

Each area covers a wide range of interventions and systems. Some, such as NHS Direct functions as a guidance and support portal⁴; telemedicine applications in which automated monitoring and feedback exist in diabetes, heart failure and stroke; clinical case discussions via videoconferencing bring central expertise to more peripheral sites; home safety monitoring interventions function to support older people at home.

How good is the evidence base supporting these applications? The research literature is populated by a vast number of pilot projects⁵. More stringent analysis of effect, based on RCT design or large observational study methodology, lessens the number of valid reports of outcome considerably. Findings from the Working Group of the Telecare Policy Collaborative published by the Department of Health categorize benefits according to that experienced by the individual or those leading to cost or flow improvements within the healthcare system⁶. Using the terms “vital signs monitoring”, “safety and security monitoring” and “information advice and support”, a good evidence base was seen for the latter when individual benefit was analysed. Vital signs monitoring and information advice and support were associated with some evidence of useful effect in the area of cost benefit or impact on healthcare systems. Of the three domains, safety and security monitoring had the weakest evidence base. The authors acknowledge the importance of considering the merits of these interventions despite unable to meet arguably robust criteria. Furthermore, given the nature of the systems involved, trial design and interpretation must remain flexible and that evidence informed rather than evidence based practice remains an important consideration.

3. Health Policy & Models of Service Provision

The services available within the area are summarised in several useful non-governmental agency websites (Telecare Services Association⁷; European Connected Health Campus (ECH Campus)⁸; Telemedicine Information Exchange⁹).

Whilst numerous services operate in this field there persists a general sense of apprehension at the level of fragmentation and limited degree of integration into existing health system infrastructures. The government is attempting to address this question as to how care should be organised or reorganised in order to benefit from the potential benefits of telemedicine and telehealth. In July 2008, the Department of Health, announced the beginning of the Whole System Demonstrator (WSD) programme designed to “explore the exciting possibilities opened up by truly integrated health and social care working supported by advanced assistive technologies such as telehealth and telecare.”

The programme was launched in May 2008 and is planned to run for two years and include over 6000 people in sites in Kent, Cornwall and Newham. Results are expected to be published late 2010. The results of the evaluation, which involves the comparison between technological supports versus normal care, are set to provide the evidence base for future care models. The supporting technology ranges from reminding devices, to enuresis sensors, to GPS-based tracking devices. Medical monitoring consists of peripheral devices capable of analyzing physiological variables such blood sugars and weight readings. Persons with heart failure, diabetes and COPD represent the main patient groups.

Five questions are being asked of the evaluation:

- Does the introduction of telehealth or telecare result in reduction in service utilisation and costs of care?
- What is the effect on carer burden, self-care behaviours and quality of life? What predicts whether people will use the service as planned?
- What is the effectiveness of the introduction of telecare and telehealth?
- What are the service users, informal carers and health and social care professionals' experiences of telehealth and telecare?
- What organisational factors facilitate or impede the sustainable adoption and integration of telehealth/telecare?

The significance of the WSD programme is partly expressed by its scale which should permit an appropriate assessment as to the boundaries of responsibility and communication factors which currently act as obstacles to the effective delivery of technological care support. In effect, the WSD programme seeks to describe the infrastructural landscape that operates when statutory and non-statutory providers operate in this field so that future models of service provision can

be defined. The results of this programme are keenly awaited.

4. Responsibilities / Role of the Geriatrician

The importance of comprehensive geriatric assessment to the geriatrician means the potential opportunities afforded in telemedicine and telecare support are significant as long as they are delivered in an equitable context which preserves the dignity of the older person.

The Society takes the view that the clinician acting within a gate keeping capacity has an important role to play in the assessment of older people as to their suitability for a technological intervention. Just as physical, occupational and speech/language therapies proceed in conjunction with the clinical management skills provided by a geriatrician, pathways should be present to allow the flexible input of specialist consultant opinion. By way of example, there is little utility in electronically monitoring falls activity and generating sophisticated summary data to a central hub if the person has undiagnosed or undertreated Parkinson's disease. The clinical focus will obviously vary according to the technological solution proposed but it is an unavoidable fact that the adequacy of home support and the assessment of chronic disease status are day to day issues for geriatricians. Our voice needs to be heard.

5. Recommendations

Through the Telecare and Telehealth SIG, the Society wishes to actively engage members to share experiences and proposals and analyse evidence within this rapidly evolving area. In particular, the Society seeks to ensure that older people are not adversely affected by a clinical decision-making process in which people receive a technology-centred treatment pathway without reference to their clinical ability to benefit.

6. References

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