

Advice Statement 003/2016

March 2016

What is the clinical effectiveness, cost effectiveness, safety and patient satisfaction of home health monitoring compared with usual care for patients with moderate to severe chronic obstructive pulmonary disease?

This advice has been produced following completion of [evidence note 60](#) by Healthcare Improvement Scotland, in response to an enquiry from the Quality and Efficiency Support Team

Background

In 2012/2013, practice team information data estimated that about 20 women and 18 men per 1,000 patients, across all ages, consulted a general practitioner or practice nurse at least once due to chronic obstructive pulmonary disease (COPD).

The Scottish Government's national telehealth and telecare delivery plan includes an objective to expand home health monitoring (HHM) across Scotland. The Scottish Centre for Telehealth and Telecare defines HHM as an intervention which supports patients to digitally receive or capture information on their condition. If required, physiological and symptom information can be relayed from the home or community setting for clinical review and remote monitoring by health and care staff.

HHM is a term covering a range of complex interventions, involving multiple technological and healthcare components. The literature identified within the evidence note consisted of diverse technologies and usual care comparators, making assessment challenging.

Clinical effectiveness

- Although the evidence base comprised good quality systematic reviews, there was considerable heterogeneity among the included studies and inconsistencies in the results reported. In the results presented below, HHM refers to HHM plus usual care or HHM alone compared with usual care.
 - Compared with usual care, HHM may reduce hospitalisation rates as well as improve the time free of hospitalisation and other healthcare services such as first urgent GP call.
 - The effect of HHM on respiratory exacerbations, health-related quality of life, emergency department visits and length of hospital stay were inconsistent.
- Overall, patients were generally satisfied with HHM. However, some patients noted difficulties relating to the use of the technology. In a Scottish study, patients reported that the intervention helped them to accept more responsibility for their health.

Safety

- Studies which assessed safety did not identify any safety concerns.

Cost effectiveness

- Cost-effectiveness analyses, with time horizons ≤ 1 year, indicate that HHM plus usual care compared with usual care alone is not cost effective in patients with moderate to

severe COPD. However, it is recognised that a 1-year time horizon may not be sufficient to fully assess cost effectiveness.

Context/conclusion

- The complex nature of HHM, heterogeneity of the evidence and uncertainties around the cost effectiveness of HHM make it difficult to advise on its use in patients with COPD in NHSScotland at this time.
- Future research should be carefully designed to identify the most important components of the HHM interventions and their cost, long-term effects, the characteristics of patients most likely to benefit and their satisfaction and preferences.
- Results from the ongoing [United4Health study](#) of 3,500 COPD patients co-ordinated from Scotland are expected to be published in 2016.

Advice context:

The status of SHTG Advice Statements is 'required to consider'.

No part of this advice may be used without the whole of the advice being quoted in full. This advice represents the view of the SHTG at the date noted.

It is provided to inform NHS boards in Scotland when determining the place of health technologies for local use. The content of this Advice Statement was based upon the evidence and factors available at the time of publication. An international evidence base is reviewed and thus its generalisability to NHSScotland should be considered by those using this advice to plan services. It is acknowledged that the evidence constitutes only one of the sources needed for decision making and planning in NHSScotland. Readers are asked to consider that new trials and technologies may have emerged since first publication and the evidence presented may no longer be current. SHTG Advice Statements are considered for review on a 2-yearly basis. The evidence will be updated if requested by the clinical community, dependent on new published reports. This advice does not override the individual responsibility of health professionals to make decisions in the exercise of their clinical judgment in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Acknowledgements

SHTG would like to thank the following individuals and organisations who provided comments on the draft Advice Statement:

- *Jill Adams, Respiratory Co-ordinator, Chest, Heart and Stroke Scotland*
- *Dr Gordon Black, National Clinical Lead (Primary Care), Quality and Efficiency Support Team, Scottish Government*
- *Professor Brian McKinstry, Professor Primary Care eHealth, University of Edinburgh*
- *Jennifer Wilson, Practice Nurse / Lead Advisor, Quality and Efficiency Support Team, Scottish Government*

Declarations of interest were sought from all reviewers. All contributions from reviewers were considered by the SHTG's Evidence Review Committee. However, reviewers had no role in authorship or editorial control and the views expressed are those of SHTG.

Chair Scottish Health Technologies Group



NICE has accredited the process used by Healthcare Improvement Scotland to produce its evidence review products. Accreditation is valid for 5 years from January 2013. More information on accreditation can be viewed at www.nice.org.uk/accreditation