

Advice Statement 002/2016**March 2016****What is the clinical effectiveness, cost effectiveness and patient satisfaction of home health monitoring for the treatment of hypertension?**

This advice has been produced following completion of [evidence note 59](#) by Healthcare Improvement Scotland, in response to an enquiry from the Quality and Efficiency Support Team

Background

Hypertension (high blood pressure) is a major risk factor for cardiovascular disease. The Scottish Public Health Observatory estimated that in 2012/2013, one-third of adults in Scotland had hypertension (rising to a half of men and more than two-thirds of women in those aged over 75 years).

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 has defined HHM as an intervention in which patients are supported to receive or capture digital information relating to their condition, which can be conveyed from the home or community setting for clinical review and remote monitoring by health and care staff, as required.

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

Clinical effectiveness

- The available evidence was consistent with a reduction in clinic systolic blood pressure (means ranged from 2.63 to 5.64 mmHg), clinic diastolic blood pressure (means ranged from 1.68 to 2.83 mmHg), and ambulatory systolic blood pressure (means ranged from 2.28 to 4.27 mmHg) with use of HHM. In 2011, the NICE hypertension guideline development group agreed that a minimally important difference in blood pressure was 5 mmHg.
- The clinical and longer-term importance of the reductions was not clear and it was not possible to identify which aspects of the HHM intervention may be effective.
- The available evidence reported conflicting findings relating to ambulatory diastolic blood pressure, medication use and primary care attendance, and it was not possible to determine whether or not HHM was beneficial for patients with hypertension.
- Patient satisfaction was not generally reported as an outcome measure, but a qualitative interview study conducted with 25 patients in Scotland found that most participants were positive about the intervention and perceived that it improved access to clinicians and data.

Safety

- There was insufficient evidence available to determine whether there was a significant

difference in the safety of HHM interventions compared with usual care.

Cost effectiveness

- A UK cost utility analysis reported that HHM was likely to be cost effective in both male and female populations with incremental cost effectiveness ratios of £1,624 and £4,923 respectively. Cost-effectiveness was reliant on the short term clinical benefits in systolic blood pressure being sustained over the long run. However, there are uncertainties relating to the extrapolation of 1-year blood pressure reduction data and technology compliance rates beyond 1 year and also relating to the appropriateness of the cost and utility estimates used in the analysis.

Context/conclusion

- Whilst evidence was mostly consistent with a reduction in measures of blood pressure with HHM use, it was not possible to draw firm conclusions from the available clinical and cost-effectiveness evidence, or to determine which components of an intervention may be effective.
- Future research should be carefully designed to identify the most important components of the intervention, its long-term effects, the characteristics of patients most likely to benefit, and patient satisfaction and preferences.

Advice context:

The status of SHTG Advice Statements is advisory.

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 will be 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.

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