



FOCUS ON RESEARCH

Scale-Up-BP: Implementing evidence-based hypertension research at scale

Researchers

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Aim

To determine the feasibility of implementing telemonitoring of high blood pressure (HBP) at scale for patients with HBP in primary care and the potential for a phase 4 study exploring clinical and health economic impacts.

Project Outline/Methodology

HBP accounts for 1.2 million GP appointments each year in Scotland. Home BP measures are more predictive of clinical outcomes than surgery measures and, in research settings, if transmitted electronically to clinicians via telemonitoring result in better controlled BP. However, it is not known if these advantages will persist when scaled up to routine care nor if there is an impact on clinical outcomes such as stroke or heart attack. Normally this would be explored using very large trials randomised at practice level (cluster RCTs) or controlled implementation trials (e.g. step-wedge trial). Such large trials can be difficult to recruit to and it is not clear if routinely acquired data from practices would be good enough to answer questions of clinical or cost effectiveness. We took advantage of a planned implementation of telemonitoring in NHS Lothian (Scale-Up-BP) to explore in eight practices how willing practices and patients were to take part and if some types of patient were disadvantaged by it. We collected routine data from practices and hospitals to determine how useful they would be as trial outcomes. To explore the implementation we used qualitative interviews, field observations and questionnaires and additionally conducted a Scotland-wide survey to determine GP's interest in taking part in large trial.

Key Results

We found that generally there was support for adopting Scale-Up-BP among practices although actual implementation varied from practice to practice. The early adopting practices were largely affluent but this changed as more practices joined. There was evidence of significant adoption at scale by 4/8 practices, with good integration into practice routines. The time required to add a patient to the system was the main barrier. The presence of local champions was strongly influential on adoption. There was an apparent improvement in BP control

among participants during the study and a fall in the number of face-to-face appointments over the year. These figures, however, need to be interpreted with caution as it is not known if such changes may have happened by chance or for other reasons. With some limitations we found that routinely acquired data could be used to determine clinical and economic outcomes, but that determining comparable BP of control groups could be difficult. Given the evidence from other randomised trials and the results of the Lothian implementation, we questioned the need to run a further trial to demonstrate reduction in BP. To show impact on stroke and heart disease, we calculated that a cluster RCT would have to be very large (around 250 practices) and run for around 5 years. This would be challenging.

Conclusions

A significant proportion of general practices and professionals embrace the idea of supervised telemonitoring at scale. While initial take-up was from affluent practices this changed with time. A study to determine impact at scale on BP may not be necessary, given the existing evidence from RCTs and observational data from Lothian and may prove difficult to interpret due to challenges in obtaining equivalent measures in control groups. While a cluster RCT, step-wedge, or controlled cohort study exploring impact on cardiovascular and economic outcomes would be challenging it could be feasible if run over a longer period and clinical outcomes could be derived from routinely acquired data.

What does this study add to the field?

This is the first UK exploration of the impact of BP telemonitoring applied at scale and the use of routinely acquired data to measure its impact.

Implications for Practice or Policy

These results suggest that the Scottish government should consider rolling out telemonitoring at scale for HBP, albeit in an evaluative context. Particular care must be taken to include all groups in society.

Where to next?

We intend to compare anonymised data from non-participating patients with patients who had the intervention recognising the need to explore data from more deprived practices. We will seek funding for an evaluation of Scale-up across Scotland.

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