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Home blood pressure telemonitoring and pharmacist management for improved blood pressure control?

Hypertension is a frequent association of both type 1 and type 2 diabetes. Uncontrolled hypertension results in an increase in cardiovascular events and mortality, and it is now clear that appropriate treatment of hypertension to relevant targets prevents cardiovascular events. However, despite improved therapies, with reduced side effects, numerous studies have indicated that a small proportion of treated patients achieved targets (e.g. Prugger et al, 2011). This may be related to inadequate therapeutic titration, lack of adherence and, indeed, adverse side effects.

In our current health structures, the question is, how to improve blood pressure control without necessitating frequent primary or secondary care appointments? Home blood pressure monitoring is a useful addition to the management of hypertension, and is also known to predict cardiovascular risk better than office blood pressure measurements. Several recent studies have demonstrated that combined intervention of telemedicine with nurses or pharmacists is an effective approach to improving hypertension management (Kaambwa et al, 2013; Margolis et al, 2013; Stoddart et al, 2013). In a cluster randomised clinical trial summarised in this edition of *Cardio Digest* (Margolis et al, 2013), individuals with uncontrolled blood pressure were randomised to receive usual care or a blood pressure telemonitoring intervention. Those in the active intervention arm received home blood pressure telemonitors and transmitted blood pressure data to pharmacists, who adjusted anti-hypertensive therapy accordingly. Approximately 50% of individuals using the blood pressure telemonitors achieved blood pressure targets of <140/90 mmHg (<130/80 mmHg in individuals with diabetes or chronic kidney disease) at 6, 12 and 18 months, compared with 21.3% in the usual care group. Post-monitoring assessment of the participants in the intervention arm revealed sustained improvements in blood pressure control. Thus, home blood pressure recording and telemonitoring to healthcare professionals, such as pharmacists, results in improved blood pressure control, which persists following the active intervention period. Also, patients demonstrate greater satisfaction when blood pressure monitoring is undertaken in this manner compared to current practice.

Clearly, this should be an intervention applicable to the management of diabetes in the United Kingdom, particularly with the developments of alternative models of care, for example including intermediate services, which could readily undertake the intervention as described above.

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Margolis KL, Asche SE, Bergdall AR et al (2013) Effect of home blood pressure telemonitoring and pharmacist management on blood pressure control: a cluster randomized clinical trial. *JAMA* **310**: 46–5

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