NEW BLOOD

The New Normal: Blood Pressure Monitoring and Cardiovascular Risk Assessment in the Era of Remote Care Delivery

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The time has come for telehealth to become usual care.

Telehealth has played a major role in the public health response to the COVID-19 pandemic and facilitated remote healthcare delivery. A key function of telehealth is to support the remote delivery of healthcare while maintaining a link between patient and physician.

To capitalise on the full potential of telehealth, the approach should include a broad range of digital technologies that integrate information communication technology alongside care delivery to support patient consultation, transfer data between multidisciplinary teams and remotely monitor physical measurements¹. Telehealth presents an opportunity to improve ongoing care delivery for hypertension management and cardiovascular disease CVD prevention.

Remote blood pressure monitoring.

There are numerous, well-known challenges that limit accurate clinic blood pressure (BP) measurement, such as whitecoat hypertension and poor adherence to BP measurement protocols². Given known challenges and the sustained need to reduce face-to-face clinical consultations due to COVID-19, it may be argued that there is little need nor justification for in-person clinic BP measurement. In fact, telehealth presents an opportunity to improve BP management (Figure 1). With the use of validated devices, home and ambulatory BP monitoring are alternatives that support accurate, remote BP measurement and may be superior to usual care for BP management³. There is strong rationale for widespread use of home and ambulatory BP monitoring as both

are more reproducible than office BP and more predictive of target organ damage⁴.

Out-of-office blood pressure measurement for absolute CVD risk assessment.

CVD primary prevention guidelines typically recommend the use of absolute CVD risk assessment to identify those at increased risk that require intervention. Most absolute CVD risk equations were derived using clinic BP measurements obtained either in a research or clinical setting. Despite the strengths of home and ambulatory BP monitoring, neither measurement method is currently recommended for use in absolute CVD risk assessment. This is in part due to a lack of evidence on the utility of such measurement methods for absolute CVD risk assessment. However, one study has demonstrated that the use of home or ambulatory BP had little effect on CVD risk assessment when compared to clinic BP⁵ yet existing cardiovascular risk scores were developed for use with measurements obtained in clinics. With a shift to telemedicine, further work is needed to understand the role of remote BP measurement for absolute CVD risk assessment to identify individuals at increased risk and support guideline-recommended CVD prevention interventions.

Next steps to support telehealth for BP management and CVD prevention.

The major challenges impeding the use of telehealth for BP management and CVD prevention include: 1) obtaining accurate home BP readings; 2) integrating digital technologies, including BP devices, to support data transfer to healthcare providers; and 3) confirming the

validation of using home BP measurements for absolute CVD risk assessment. Patients need to be supported to obtain a validated BP device with appropriate instructions provided to measure and record BP accurately. Ideally, home BP devices need to be fully integrated with existing healthcare information communications technology so that data can be automatically recorded from devices and transferred to the patient's health record to support healthcare providers to make informed decisions about patient management. However,

so far there is no consistency in approaches to achieve this in practice. Finally, given the superiority and accessibility of home BP monitoring, further research is urgently needed to investigate the use of home BP for absolute CVD risk assessment.

In summary, the new normal of remote healthcare delivery presents an opportunity to address the known challenges to BP measurement and improve patient outcomes.

Figure 1. The use of telemedicine in the management of hypertension. Adapted from Omboni et al¹

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