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Title:

Rethinking cardiovascular screening: an observational study of workplace wellness kiosks

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Background
Opportunistic screening of blood pressure (BP) in primary care is currently not able to achieve universal coverage, and can intrude into limited patient contact time. Out-of-office kiosks offer an innovative means to identify individuals with high cardiovascular risk. We carried out an retrospective observational study of an interactive workplace wellness kiosk (Wellpoint), to assess its potential as an intervention to reduce BP.
Methods
We conducted a retrospective analysis of data from a single UK employer, with kiosks installed in six workplaces. Pseudonymised data from six sites was supplied by the kiosk manufacturer, including 34,662 BP measurements from 9,562 unique users, of whom 3,998 made repeated measurements. We carried out paired t-tests on the data from employees with repeat BP measurements approximately 6 or 12 months after their baseline measurement, to identify changes in BP over this period.
Results
In 955 employees with measurements 5-7 months after baseline, BP dropped by 6.02/2.78 mmHg (95% CI 5.10/2.09 to 6.94/3.47 mmHg, $p<0.0001$). 676 employees made repeat measurements 10-14 months from baseline. These experienced a drop in BP of 5.80/2.83 mmHg (95% CI 4.68/1.97 to 6.92/3.69 mmHg, $p<0.0001$). Subgroup analysis showed no significant difference in BP changes between sites.
Conclusions
These results show that there is a small but clinically and statistically significant reduction in BP in users of a workplace kiosk, which is sustained at 6 and 12 months. Population-level changes in blood pressure of this magnitude are likely to result in considerable decreases in overall cardiovascular risk. It is not possible to rule out regression to the mean as an explanation for the decrease in blood pressure, and so further research in the form of a randomised controlled trial is planned. Workplace kiosks may offer an opportunity to think differently about cardiovascular screening and monitoring in the workforce.