

RETHINKING CARDIOVASCULAR SCREENING: AN OBSERVATIONAL STUDY OF WORKPLACE WELLNESS KIOSKS

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Why screen in workplaces?

- Current opportunistic screening of blood pressure has limited coverage, and can intrude into patient contact time. Out-of-office screening may offer an innovative means to identify individuals with high cardiovascular risk.
- The working population tend to be younger, and so are more likely to be able to reduce risk using lifestyle modification.

Methods

- We conducted a retrospective analysis of data from a single UK employer, with kiosks installed in six workplaces.
- Pseudonymised data from six sites were 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

- We saw significant reductions in both systolic and diastolic blood pressure at both 6 and 12 months from baseline.
- Subgroup analysis did not show any significant difference in changes in blood pressure by site.
- Employees who continued to use the kiosk after their baseline measurement had significantly higher baseline blood pressure (1.47/0.83 mmHg, $p<0.001$) than those who only made one measurement.

Timeframe	N	Systolic change (mmHg)		Diastolic change (mmHg)	
		Mean	95% CI	Mean	95% CI
0-6m	955	-6.02***	(-5.1 to -6.9)	-2.78***	(-2.1 to -3.5)
0-12m	676	-5.80***	(-4.7 to -6.9)	-2.83***	(-2.0 to -3.7)
6-12m	368	1.90*	(0.6 to 3.2)	0.74	(-0.3 to 1.8)

* $p<0.01$, *** $p<0.0001$

Changes in systolic and diastolic blood pressures at 6 and 12 months



The kiosk incorporates a blood pressure monitor and scales as well as a touch-screen interface

Conclusions

- We found a small but clinically and statistically significant reduction in blood pressure in users of a workplace kiosk. Population-level changes in blood pressure of this magnitude are likely to result in considerable decreases in overall cardiovascular risk.
- As this is retrospective data with no control group, it is not possible to rule out regression to the mean as an explanation for the observed reductions in blood pressure. 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.