Cardiovascular disease screening in homeless individuals—a feasibility study

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Background: The risk and burden of cardiovascular disease (CVD) are higher in homeless than in housed individuals, yet population-level CVD screening largely excludes homeless individuals.

Purpose: (i)To investigate feasibility of dedicated mobile CVD screening for homeless individuals; and (ii)To estimate prevalence of risk factors and burden of CVD

Methods: With patients, health professionals and researchers, we co-developed and implemented a 15-minute CVD assessment for homeless individuals as an add-on service to the Find&Treat service (a peer-led, multi-disciplinary outreach team across London) during scheduled, routine visits to homeless hostels. We included a questionnaire (demographic, past medical history and symptom data) as well as clinical assessment (blood pressure, ABPI, cholesterol, HDL, HDL ratio, glucose, HbA1c and mobile ECG to detect atrial fibrillation, AF).

Results: Among 656 individuals screened in 75 routine visits between May 2019 and January 2023, we recruited 524 (79.9%) individuals. Mean age was 47 (SD 13.1) years (range 18-87). Male gender (79%) and white ethnicity (55%) were more common. Current or previous smoking (79%), previous CVD (stroke, myocardial infarction, or peripheral arterial disease) (15%) and family history of heart attack in a 1st degree relative <60 years (27%) were common.

Although only 2% reported previously diagnosed hypercholesterolaemia, 24% of screened individuals had total cholesterol >5.0 mmol/L. Prevalence of AF was high, particularly among those aged 18-30 (7/57, 12.3%). Asian and British Asian individuals had highest prevalence of raised HbA1C levels (>6%) (8/33, 24.2%), compared to black and black British (22/120, 18.3%) and white (15/283, 5.3%) individuals. Among individuals aged 25 - 84 with no previous CVD, one third had a 10-year QRISK score of ≥10% (120/362, 33.1%), consistent across different ethnic groups: white (75/233, 32.2%), black (24/77, 31.2%) and Asian (6/17, 35.3%).

Conclusions: A simple, pragmatic CVD assessment for homeless individuals was feasible and acceptable, and identified gaps in diagnosis and prevention. There is a high burden of CVD risk factors and CVD amongst homeless individuals, which could be addressed by integration of CVD screening into existing inclusion health outreach frameworks.