

RISK FACTORS

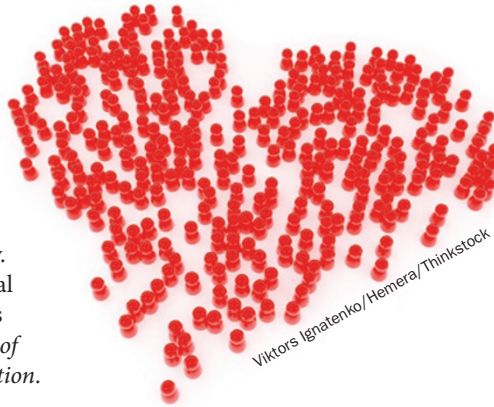
CVD risk prevention—40-year programme improves outcomes

A long-term, community-wide programme targeting cardiovascular risk factors in a low-income, rural community in Franklin County, ME, USA was associated with sustained reductions in hospitalizations and mortality. Results from this observational study conducted over 40 years were published in the *Journal of the American Medical Association*.

With >150,000 individual contacts between a county resident and a health coach or nurse in 1974–2010, the Franklin Cardiovascular Health Program included interventions to improve detection and control of hypertension and hyperlipidaemia, and limit tobacco use. The programme also promoted healthy eating and physical activity. Outcomes measured over 4 decades included hypertension, hyperlipidaemia, smoking, hospitalization rates, and overall and cardiovascular disease (CVD)-related mortality.

The proportion of individuals with controlled hypertension increased from 18.3% to 43.0% (absolute increase 24.7%, 95% CI 21.6%–27.7%, $P < 0.001$) 4 years after the start of hypertension interventions. Between 1986 (when cholesterol screening started) and 2010, control of total-cholesterol levels increased from 0.4% to 28.9% (absolute increase 28.5%, 95% CI 25.3%–31.6%, $P < 0.001$). After tobacco smoking cessation programmes started in 1988, the percentage of individuals who stopped smoking improved from 48.5% to 69.5%, and were significantly higher than state-wide rates (observed–expected [O–E] 11.3%, 95% CI 5.5%–17.7%, $P < 0.001$).

Importantly, improvements in risk-factor control coincided with lower hospitalization rates in 1996–2000 than



predicted by household income (O–E –17 discharges per 1,000 population, 95% CI –20.1 to –13.9, $P < 0.001$), and with lower mortality in 1970–1989, when rates were the lowest in the state (O–E –60.4 deaths per 100,000 population, 95% CI –97.9 to –22.8, $P < 0.001$).

In an accompanying editorial, Labarthe and Stamler state that “the multiplicity of interventions merits emphasis and illustrates an approach to population health, an increasingly important concept in health care”. With the exception of a cardiovascular programme in North Karelia, Finland, in which a population-wide improvement in CVD risk factors decreased mortality, similar projects developed in the 1980s did not reduce morbidity and mortality. Nevertheless, the investigators in the Franklin Cardiovascular Health Program suggest that “community health improvement programmes may be both feasible and effective”, particularly in “socioeconomically disadvantaged communities where the needs are greatest”.

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Original articles Record, N. B. et al. Community-wide cardiovascular disease prevention programs and health outcomes in a rural county, 1970–2010. *JAMA* 313, 147–155 (2015) | Labarthe, D. R. & Stamler, J. Improving cardiovascular health in a rural population: can other communities do the same? *JAMA* 313, 139–140 (2015)