

Health economic evaluations of multidomain lifestyle intervention for dementia prevention accounting for cardiovascular risk: the FINGER project

Yunfei Li, Ron Handels, Nanbo Zhu, Erika J. Laukka, Sandar Aye, Xin Xia, Amaia Calderón-Larrañaga, Bengt Winblad, Maria Eriksdotter, Jenni Lehtisalo, Tiia Ngandu, Anders Wimo, Miia Kivipelto, Linus Jönsson

Take-away message

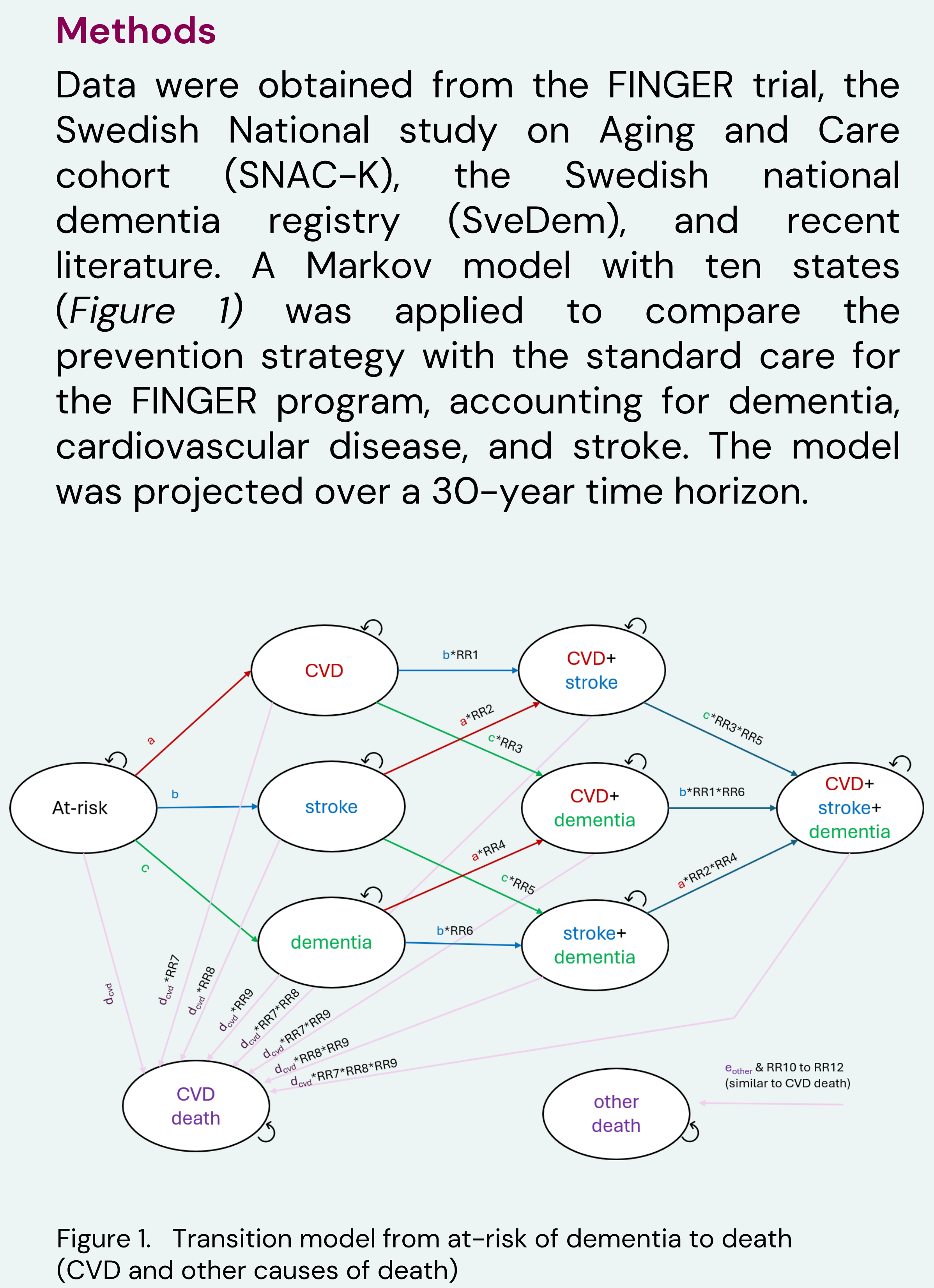
- The FINGER multidomain lifestyle intervention was cost-saving and improved health outcomes over a lifetime period.
- The intervention can potentially reduce the lifetime burden of dementia, CVD and stroke.
- Considering cardiovascular benefits further strengthened its lifetime value.

Introduction

Existing literature has shown strong evidence that multidomain lifestyle intervention improves cognitive impairment and cardiovascular benefits in older adults, exemplified by the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) trial. Few studies have incorporated cardiovascular outcomes when evaluating cost-effectiveness, despite their substantial impact.

Aim

To estimate the cost-effectiveness of the FINGER trial by incorporating the cardiovascular events and also linking the its primary cognitive outcomes to extrapolate long-term dementia risk of the FINGER trial.



Results

The prevention strategy was dominant with a total cost-saving of 69,083 SEK (equal to US\$8,055) and a gain of 0.11 quality-adjusted life years (QALYs) per person. The prevention strategy was projected to prevent cases of dementia, as well as cardiovascular and stroke events.

Table 1. main outcomes for the 30-year model in Sweden

	Standard	Intervention	Difference	Difference (%)
Cumulative incidence (per 100,000)				
Dementia events	62,070	61,243	-827	-1.3%
CVD events	64,472	59,491	-4,981	-7.7%
Stroke events	32,228	26,918	-5,310	-16%
Costs/person (SEK)				
Healthcare cost	2,350,356	2,274,909	-75,447	-3.2%
Intervention cost	0	6,364	6,364	--
Total	2,350,356	2,281,273	-69,083	-2.9%
QALYs	6.58	6.69	0.11	1.7%
ICER	Reference	Dominance	<0	--

Note: QALYs, quality-adjusted life years; ICER, incremental cost-effectiveness ratio; Willingness-to-pay threshold is 600,000 SEK per QALY gained. Costs were expressed in SEK and indexed to 2021.

Conclusions

The multi-domain lifestyle interventions in the FINGER trial were estimated as cost-effective. This prevention strategy has the potential to reduce not only dementia incidence but also cardiovascular and stroke events.