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## #327 - A systematic review and narrative synthesis of evidence for physical activity and other behavioural non-communicable disease risk factors

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### Objectives/aims

Non-communicable diseases (NCDs) are the leading causes of death worldwide. Systems approaches have potential for creating sustainable outcomes at scale but have rarely been used to support scale up in physical activity/nutrition promotion or NCD prevention more generally. This review aimed to: (i) synthesise evidence on the use of systems approaches in scaling up interventions targeting four behavioural risk factors for NCDs; and (ii) to explore how systems approaches have been conceptualised and used in intervention implementation and scale up.

### Methods

Seven electronic databases were searched for studies published 2016-2021. Eligible studies targeted at least one of four NCD behavioural risk factors (physical inactivity, tobacco use, alcohol consumption, diet), or described evaluation of an intervention planned for or scaled up. A narrative synthesis of how systems approaches had been operationalised in scale up, following PRISMA guidelines.

### Main findings

Twenty-one intervention studies were included (physical activity and diet n=7; diet n=4; physical activity n=4; combination of all four risk factors n=3; tobacco n=2; diet and malnutrition n=1). Only 19% (n=4) of interventions explicitly used systems thinking to inform intervention design, implementation and scale up (all four risk factors n=2, diet n=1, tobacco use n=1). Studies were categorised as having a (i)



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high, (ii) moderate, or (iii) no use of a systems approach. Five studies ('high use') planned and implemented scale up with an explicit focus on relations between system elements and used system changes to drive impact at scale. Seven studies ('moderate use') considered systems elements impacting scale-up processes or outcomes but did not require achieving system-level changes from the outset. Nine studies ('no use') were designed to work at multiple levels among multiple agencies in an intervention setting, but the complexity of the system and relations between system elements was not articulated.

In physical activity research, and NCD prevention more broadly, the use of systems approaches in scaling up remains in its infancy. For researchers, practitioners and policymakers wishing to adopt systems approaches to intervention implementation at scale, guidance is needed on how to communicate and operationalise systems approaches in research and in practice.

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