Physical activity and pedestrian safety – a public health issue

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Why does physical activity matter?

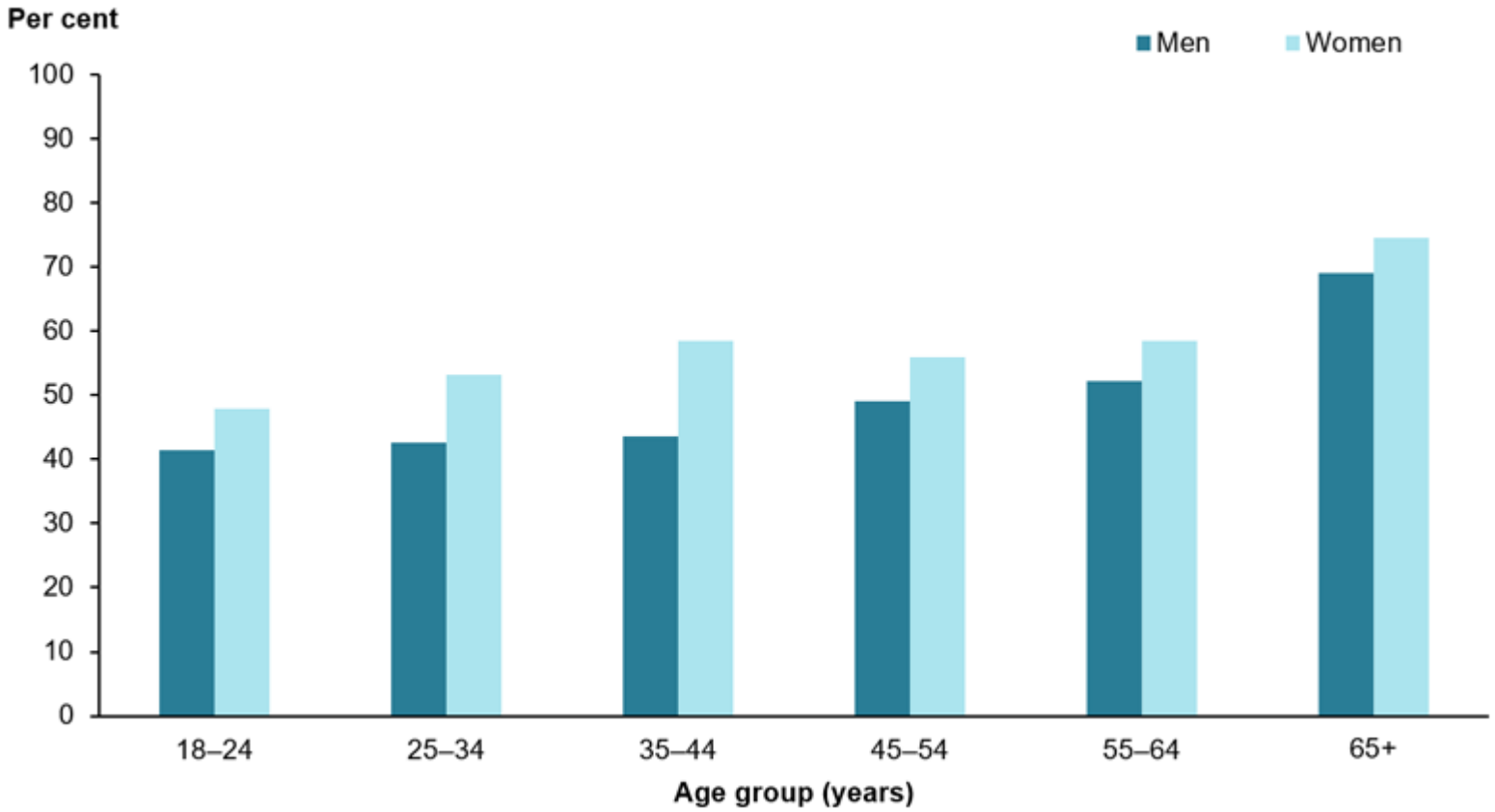
Physical inactivity contributes 9% of the global premature mortality (Lee 2012)

Physical activity has known health benefits – cardiovascular, musculoskeletal, mental health; habitual physical activity is important in the primary and secondary prevention of varied chronic conditions

Maintaining healthy levels of physical activity across the life course linked to better health outcomes in older age

In 2015, 2.5% of the total disease burden in Australia was due to physical inactivity (AIHW 2019) but it contributed 10–20% of the individual disease burden from diabetes, bowel cancer, uterine cancer, dementia, breast cancer, coronary heart disease and stroke (AIHW 2019)

Equity issue: people in the lower socioeconomic groups experience rates of disease burden due to physical inactivity at 1.7 times that of the highest socioeconomic groups



Prevalence of insufficient physical activity among adults, by age and sex, 2017–18 (AIHW 2019)

UNSW SYDNEY

% Sedentary/low level of exercise by socio-demographic status

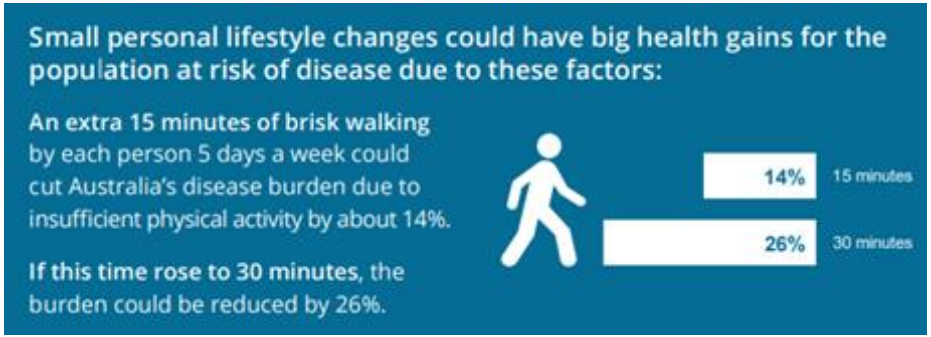
		Sedentary/Low exercise
Country of birth	Australia Born overseas	65.0% 68.8%
Main language spoken at home	English Language other than English	65.0% 73.8%
Labour force	Employed Unemployed	61.9% 66.9%
Index of disadvantage	Highest disadvantaged Lowest disadvantaged	76.1% 55.8%
Remoteness	Major cities Regional and remote	64.3% 72.4%

National Health Survey 2014-2015)

Walking

Walking is the most common form of exercise (ABS 2011)

More walking reduces risk of disease



Barriers to walking

The built environment, the social environment, meteorology, safety, and topography

Built environment: population density, land use mix, street connectivity, and footpath availability.

Walkability index (Frank 2010) - population density, land-use mix, street connectivity, and retail floor area ratio – also predicts walking

Investment in walking infrastructure can have substantial economic returns (benefit cost ratio of walking interventions is 13:1 – $13 of benefit for every $1 of expenditure; Arup 2018)

How do people get to work? (Census, 2016)

	Car, as driver (%)	Train, bus, tram or ferry (%)	Bicycle or walked only (%)
Sydney	65.5%	20.9%	5.9%
Melbourne	74.4%	13.4%	5.4%
Brisbane	75.3%	10.5%	4.9%
Adelaide	79.9%	8.3%	4.0%
Perth	79.3%	8.1%	3.8%
Hobart	76.0%	5.3%	8.1%
Darwin	75.2%	6.8%	7.1%
Canberra	74.9%	7.1%	8.4%

Why reshape the urban environment?

Promoting active modes of travel (bicycle, walking) and adapted delivery systems,

Improved accessibility due to decreased car traffic and improved performance of public transport,

Better sharing between modes of travel, including freeing spaces formerly dedicated to cars,

Improved quality of life and health by reduced air and noise pollution,

Increase in number of visitors and revenue (after an initial downturn),

Established spaces for sociocultural activities, quality interactions and social cohesion,

Green spaces contributing to urban biodiversity and improved local microclimate,

Opportunity to promote architectural heritage.

(Hubert 2017 – case study of Brussels)


A Step Change for Scotland
TRAVEL
Encourage walking for short journeys and as a key part of multi-mode trips
AIR QUALITY
More people walking and cycling will help reduce air pollution. It's not far, leave the car
EDUCATION
Implement safer routes to nurseries, schools, colleges and universities to encourage daily walking
BUILT ENVIRONMENT
Design our towns and cities to be walkable, safe, attractive, and sustainable
WALKING FOR HEALTH
Offer free community walking programmes supported by trained volunteers
GREEN INFRASTRUCTURE
Enable easier access to parks, greenspaces and wider countryside for everyone
LOCAL ECONOMIES
Supporting economic activities, including tourism, through improved walking opportunities
WORKPLACE
Promote walking as an important part of the working day
PATH NETWORKS
Provide good quality, maintained multi-use path networks in and around communities
HEALTH & SOCIAL CARE
Promote the benefits of walking for mental and physical wellbeing
EVERYONE, EVERYWHERE
Walking is free, fun, healthy and for everyday journeys
Let's Get Scotland Walking
Everyone can help make Scotland a 'walking friendly' country
#stepchangescot www.stepchangescot.scot
healthier scotland
SCOTTISH GOVERNMENT

Fort Street Auckland

New pedestrian network (NZ$23m), increased pedestrian volumes by 54% and consumer spending by 47%.

Number of vehicles fell by 25%; 80% said they felt safer in the area.

Safety

Urban design is critical to safety

Intrinsic part of a safe systems approach

– design the risk of out the system

Reduce exposure – reduce cars (congestion tax, banning), or slow speeds (engineering, eg chicanes, speed humps, narrow roads) in pedestrian areas

Better transfers between transport types

Prioritise pedestrian movements over cars (traffic lights)

Legislate in favour of vulnerable road users

Design in safety and physical activity

Better urban design will maximise safety and physical activity

Design out equity issues - address pedestrian infrastructure and transport in underserved communities for broader health benefits – urban, regional and remote

Focus on system changes rather than relying on individuals to change behaviour – create an environment that makes positive behavioural change the obvious and easy path

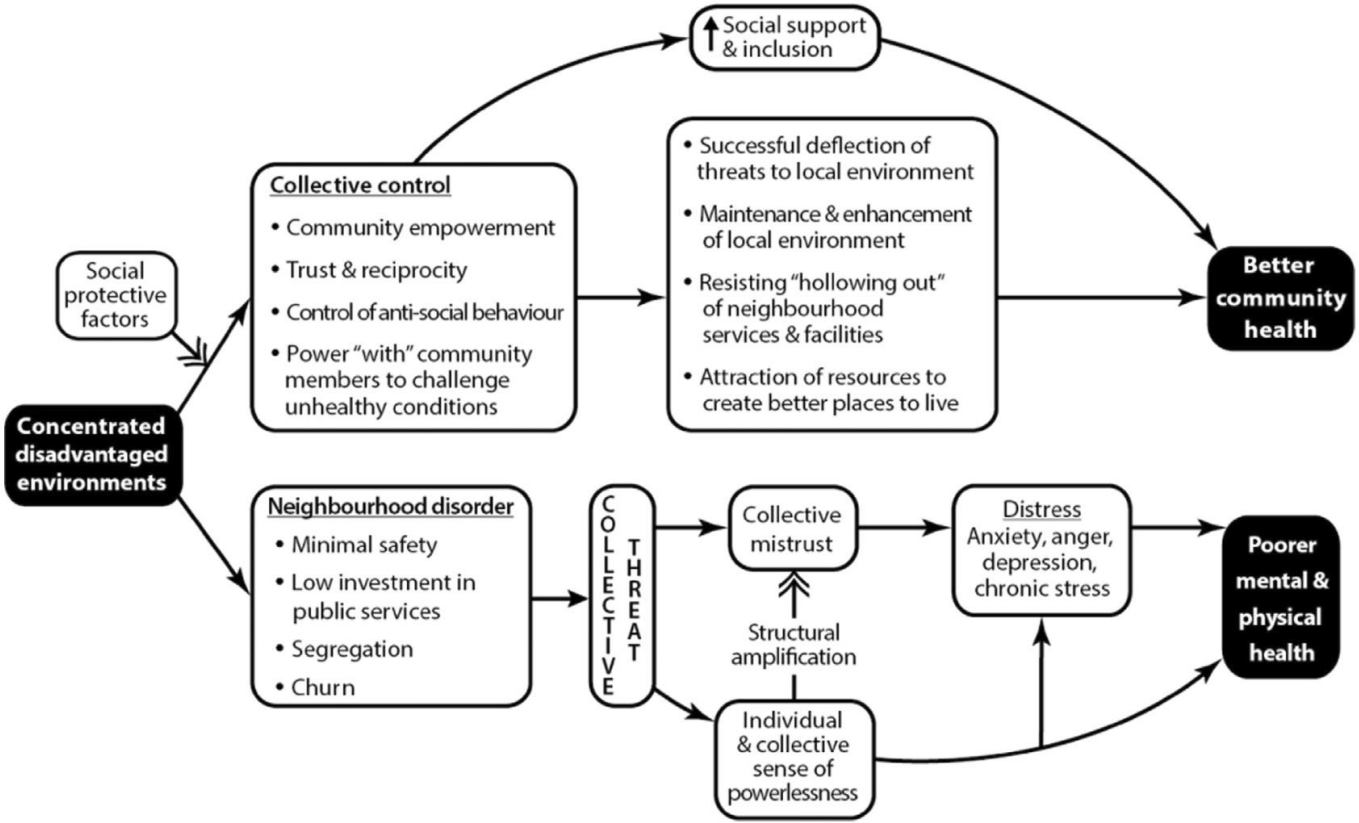


Fig. 2. Meso/community pathways from low control to socio-economic inequalities in health.

How do we give the Safe Systems approach a true upstream public health focus?

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