

Scoping out the key ingredients to achieve change at the societal level:

Perspectives on interventions aimed at physical activity and sedentary behaviour

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Presenter Disclosure Information

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- **Advisory Board:** Member, Institute Advisory Board-Institute for Nutrition, Metabolism, and Diabetes,(CIHR); Mission Advisory Panel (MAP) Committee, Heart & Stroke Foundation of Canada.

Reducing the Rising Tide of Societal Cardiometabolic Diseases: From Why to How

- Over the past few days, leading international speakers have provided evidence that:
 - Increasing PA and reducing SB (the WHAT) can lessen the burden of CMD (the WHY)
 - Despite this, a majority of citizens across the world (WHO) are still (WHEN) not meeting PA guidelines.
 - So we know WHERE we want to be - but HOW do we get there?'

Reducing the Rising Tide of Societal Cardiometabolic Diseases: From Why to How

- How can we get there
 - Scope out some of the key ingredients for achieving change in physical activity at the societal level
 - Share some examples of programs and policies that have had an impact
 - Share some resources that can collectively allow for progress



... can a societal
change in
cardiometabolic
diseases even
occur ... ?

A Change in Cardiometabolic Diseases at the Population Level

BMJ 2013;346:f1515 doi: 10.1136/bmj.f1515 (Published 9 April 2013)

Page 1 of 3

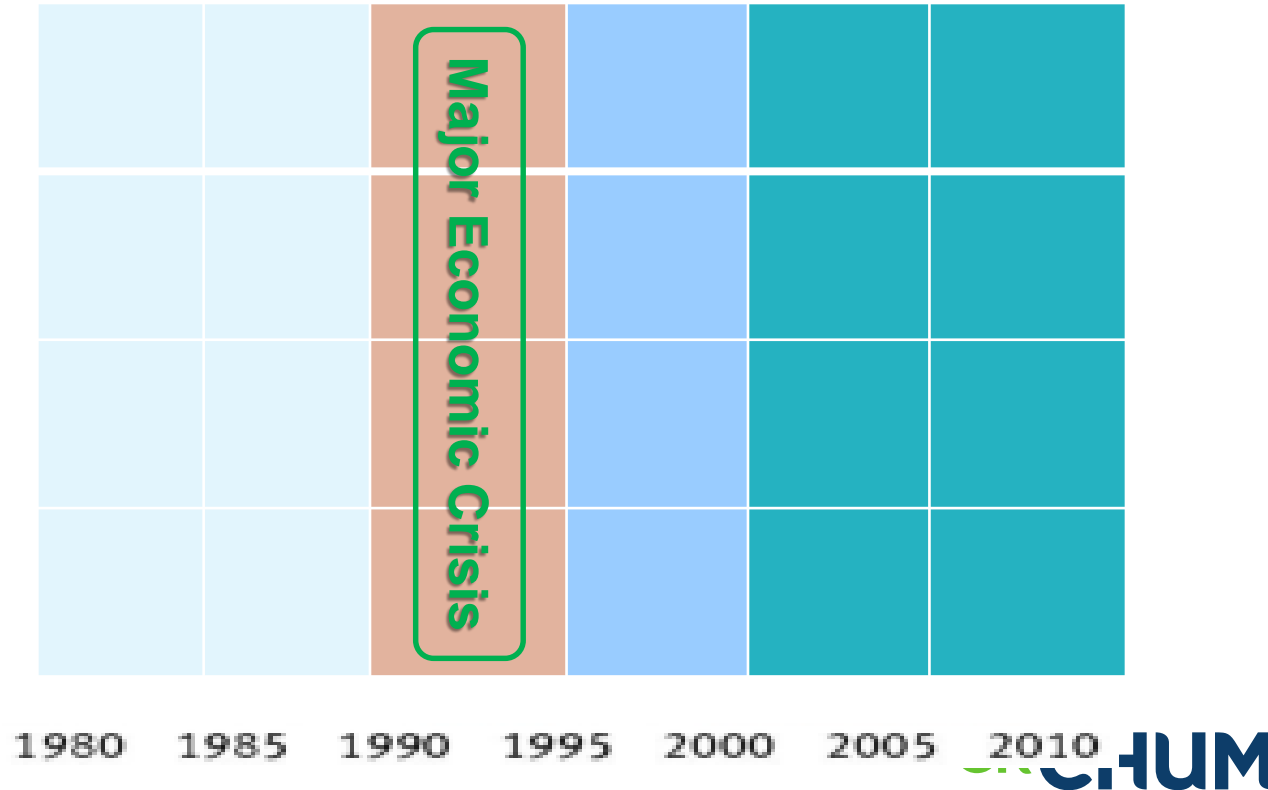
RESEARCH

Population-wide weight loss and regain in relation to diabetes burden and cardiovascular mortality in Cuba 1980-2010: repeated cross sectional surveys and ecological comparison of secular trends

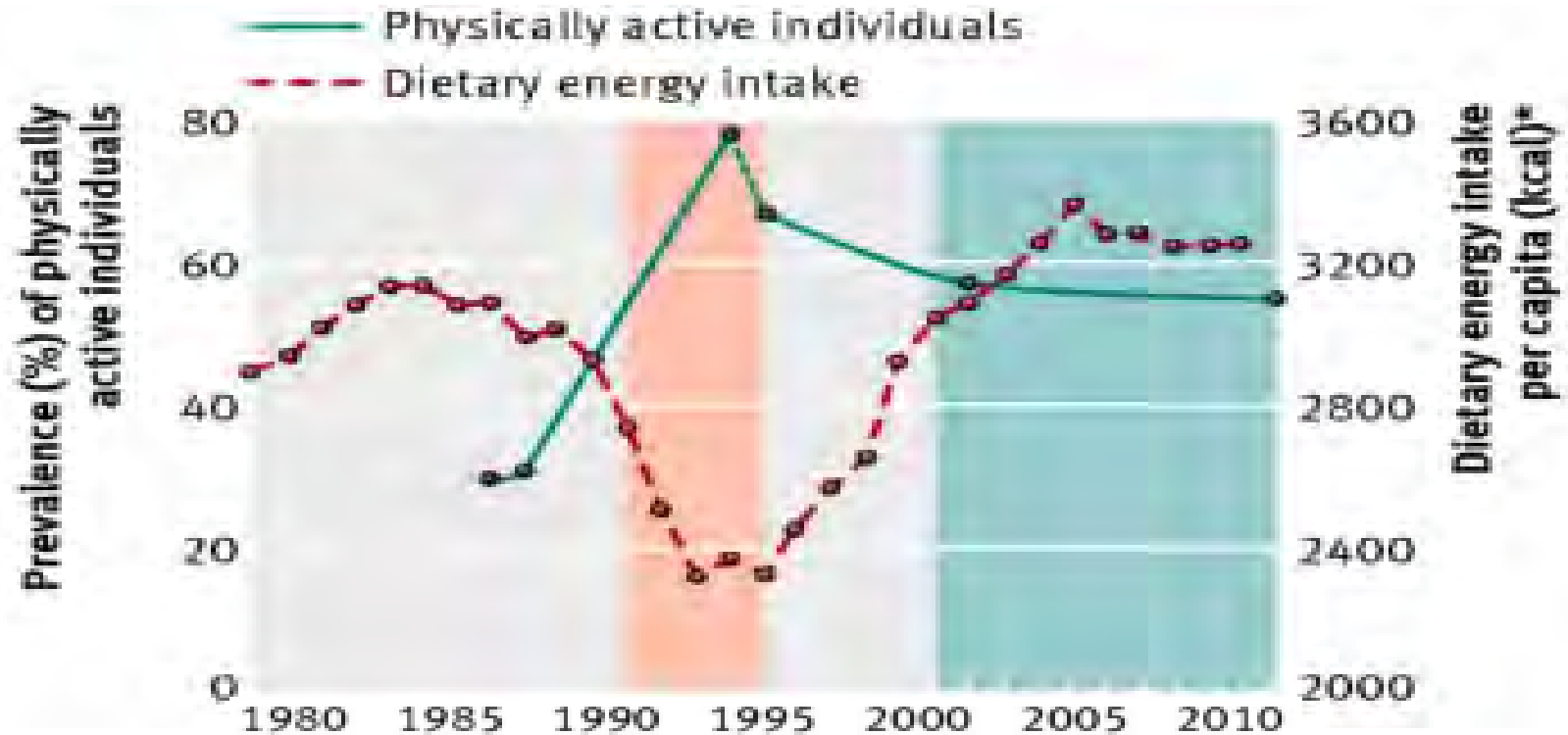
 OPEN ACCESS

Manuel Franco *associate professor*¹ *adjunct associate professor*² *visiting researcher*³, Usama Bilal *research assistant*¹ *visiting researcher*², Pedro Orduñez *regional adviser*⁴ *professor*², Mikhail Benet *professor*², Alain Morejón *assistant professor*², Benjamin Caballero *professor*², Joan F Kennelly *research assistant professor*⁷, Richard S Cooper *professor and chair*²

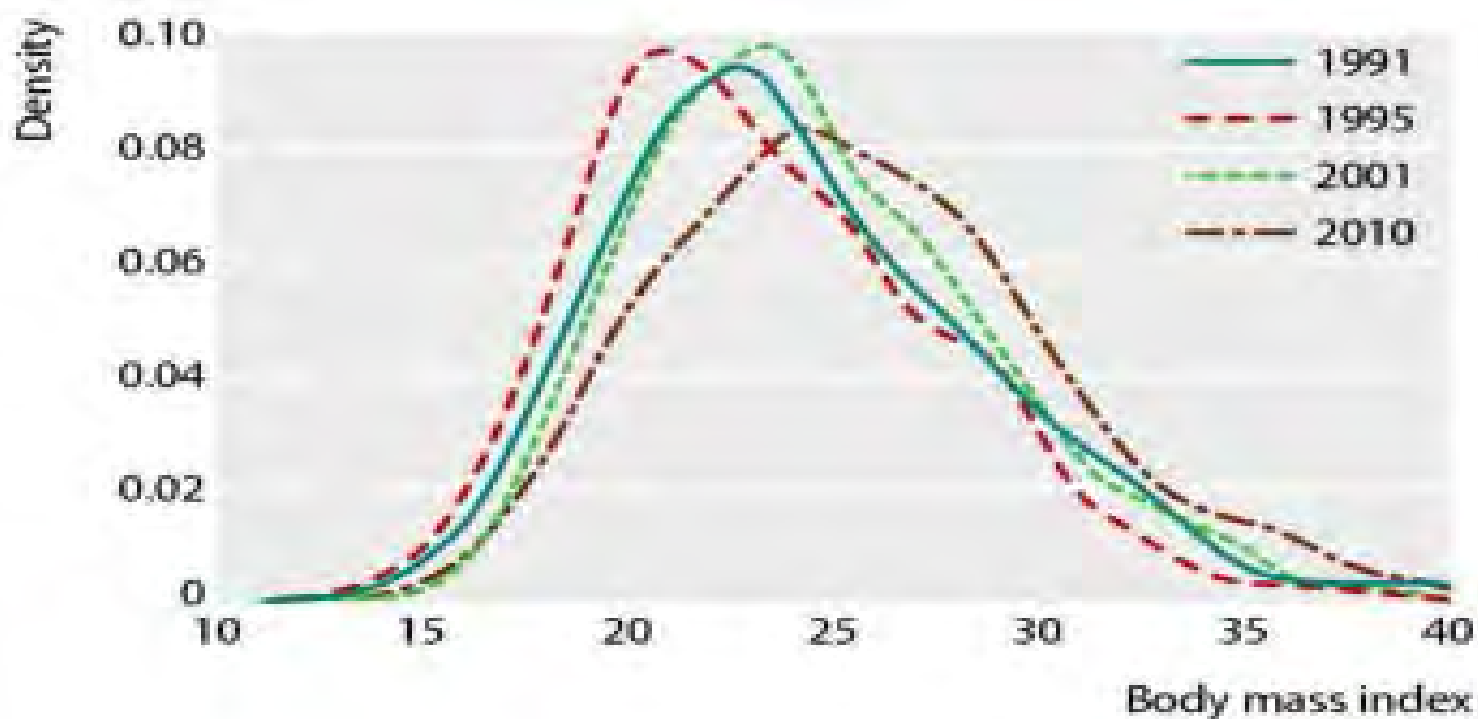
A Change in Cardiometabolic Diseases at the Population Level



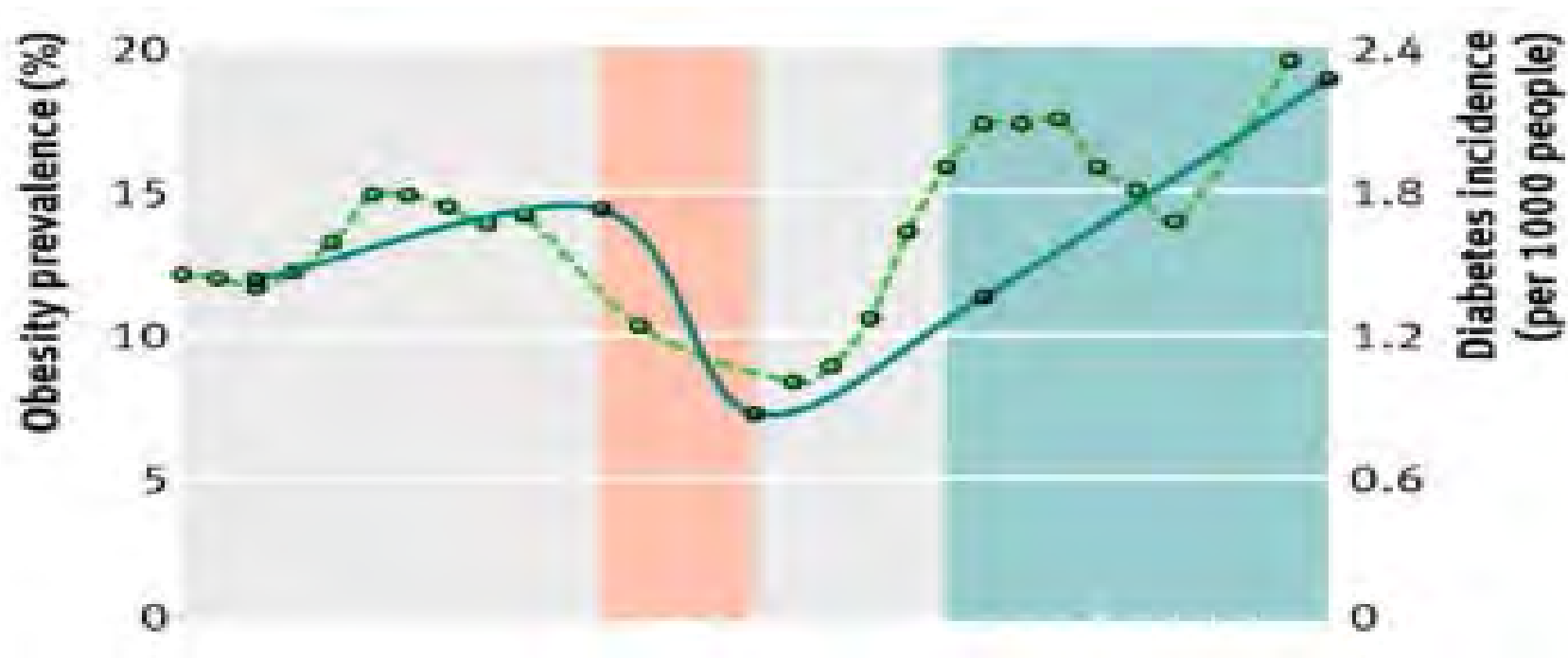
A Change in Cardiometabolic Diseases at the Population Level



A Change in Cardiometabolic Diseases at the Population Level



A Change in Cardiometabolic Diseases at the Population Level





... OK... so,
let's just get
people MOVING
MORE and EATING
BETTER !!!

Myths around Getting People to MOVE

MORE and EAT BETTER according to Michael Kelly from NICE

... just have to share info on health benefits ...

It's just common sense!!!

... just have to get the message through...



... people are rational...

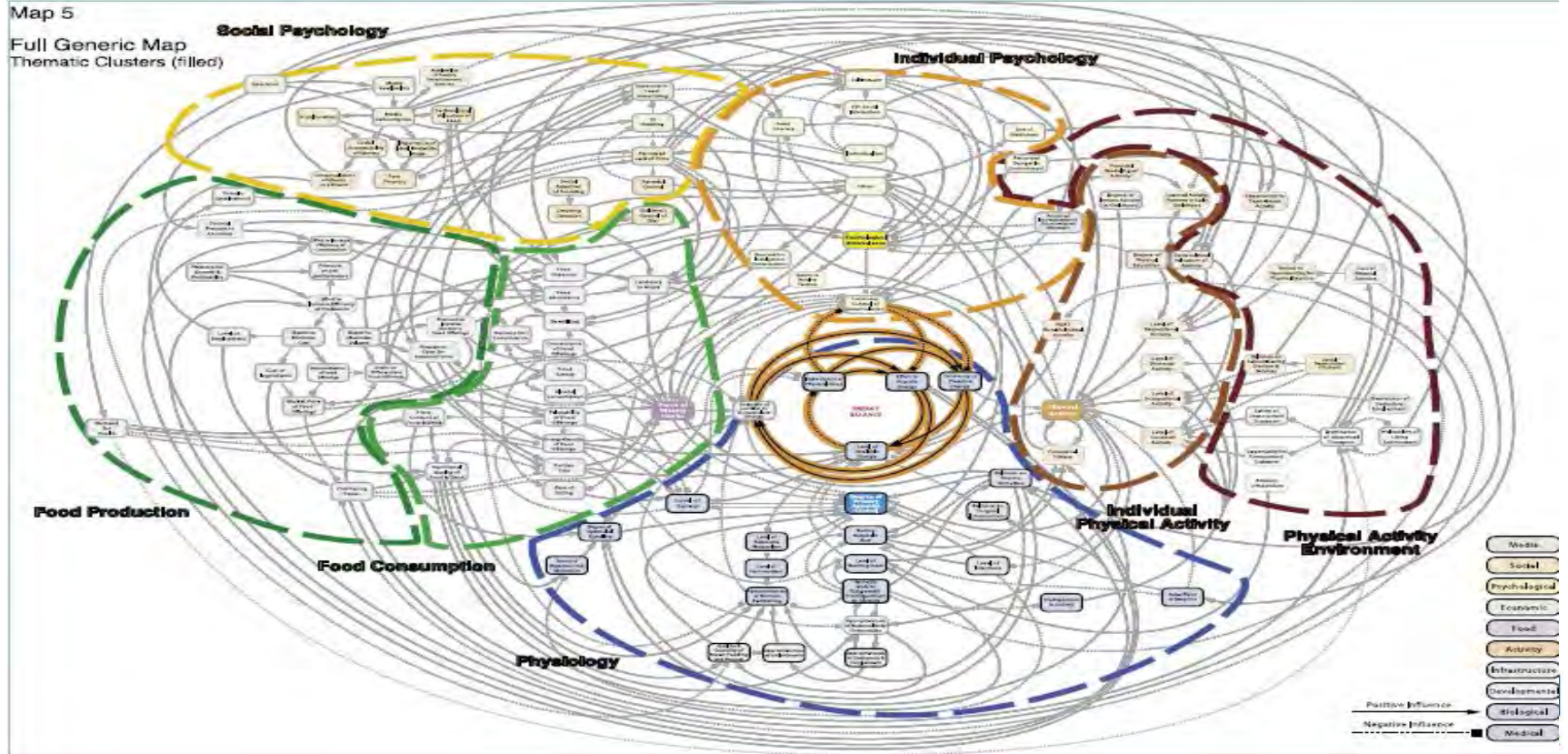
... It's possible and easy to predict behaviour ...

... people are IRrational...

Why Do People Move the Way they Do and Eat the Way they Do? (from the Foresight Project UK)

Map 5

Full Generic Map
Thematic Clusters (filled)





... GOOD GRIEF
...how do we
figure this one
out ? ...

Starting Point: Know What It Means to Move More and Eat Better?



5TH ICCR CONGRESS | Chronic Societal
Cardiometabolic
Diseases

8 to 12 JULY 2015
QUÉBEC CITY CONVENTION CENTRE
QUÉBEC, CANADA



International Chair on
Cardiometabolic Risk

Key Ingredients for Achieving Change

(The Toronto Charter for Physical Activity, a tool built on an international consensus)

Adopt
evidence-
based
interventions

Embrace an
equity approach

Address
environmental,
social, &
individual
determinants



The Toronto Charter for Physical Activity: A Global Call for Action

Physical activity promotes wellbeing, physical and mental health, prevents disease, improves social connectivity and quality of life, provides economic benefits and contributes to environmental sustainability. Communities that support health-enhancing physical activity in a variety of accessible and affordable ways, across different settings and throughout life, can achieve many of these benefits. The Toronto Charter for Physical Activity outlines four actions based upon nine guiding principles and is a call for all countries, regions and communities to strive for greater political and social commitment to support health-enhancing physical activity for all.

Why a Charter on physical activity?

The Toronto Charter for Physical Activity is a call for action and an advocacy tool to create sustainable opportunities for physically active lifestyles for all. Organizations and individuals interested in promoting physical activity can use this Charter to influence and unite decision makers, at national, regional and local levels, to achieve a shared goal. These Organizations include health, transport, environment, sport and recreation, education, urban design and planning, as well as government, civil society and the private sector.

Physical activity – a powerful investment in people, health, the economy and sustainability

Throughout the world, technology, urbanization, increasingly sedentary work environments and automobile-focused community design have engineered much physical activity out of daily life. Busy lifestyles, changing priorities, changing family structures and lack of social connectedness may also be contributing to inactivity. Opportunities for physical activity continue to decline while the prevalence of sedentary lifestyles is increasing in most countries, resulting in major negative health, social and economic consequences.

For health, physical inactivity is the fourth leading cause of chronic disease mortality (such as heart disease, stroke, diabetes, cancers), contributing to over three million preventable deaths annually worldwide. Physical inactivity also contributes to the increasing level of childhood and adult obesity. Physical activity can benefit people of all ages. It leads to healthy growth and social development in children and reduces risk of chronic disease and improved mental health in adults. It is never too late to start physical activity. For older adults the benefits include functional independence, less risk of falls and fractures and protection from age-related diseases.

© 2014 Toronto Charter for Physical Activity



... GREAT
...let's see
some of that
evidence ... !!!



A red banner with a white border and a wavy top edge. The text "Lise's Office" is written in white, bold, sans-serif font.



Key Ingredients for Achieving Change

Multitude of Sources of Information



Cochrane
Library

Trusted evidence.
Informed decisions.
Better health.




[Advanced Search](#) | [Search Manager](#) | [MeSH](#)

- Public health **interventions** for increasing **physical activity** in children, adolescents and adults: an overview of systematic reviews
Philip RA Baker , Maureen Dobbins , Jesus Soares , Daniel P Francis , Alison L Weightman and Joseph T Costello
Online Publication Date: January 2015

- Workplace-based organisational **interventions** to prevent and control obesity by improving dietary intake and/or increasing **physical activity**
Janice Christie , Peter O'Halloran , Woody Caan , Chris R Cardwell , Taryn Young and Mala Rao
Online Publication Date: June 2010

-  Remote and web 2.0 **interventions** for promoting **physical activity**
Charles Foster , Justin Richards , Margaret Thorogood and Melvyn Hillsdon
Online Publication Date: September 2013

-  Face-to-face **interventions** for promoting **physical activity**
Justin Richards , Melvyn Hillsdon , Margaret Thorogood and Charles Foster
Online Publication Date: September 2013



- Face-to-face versus remote and web 2.0 **interventions** for promoting **physical activity**
Justin Richards , Margaret Thorogood , Melvyn Hillsdon and Charles Foster
Online Publication Date: September 2013



- Community wide **interventions** for increasing **physical activity**
Philip RA Baker , Daniel P Francis , Jesus Soares , Alison L Weightman and Charles Foster
Online Publication Date: January 2015

Interventions for promoting **physical activity**

Charles Foster , Melvyn Hillsdon , Margaret Thorogood , Asha Kaur and Thamindu Wedatilake
Online Publication Date: January 2005

- Incentive-based **interventions** for increasing **physical activity** and fitness
Grace C O'Malley , Philip RA Baker , Daniel P Francis , Ivan Perry and Charles Foster
Online Publication Date: January 2012

Key Ingredients for Achieving Change

Multitude of Sources of Information

The Guide to Community Preventive Services
THE COMMUNITY GUIDE
What Works to Promote Health

Community Preventive Services Task Force

Home Task Force Findings Topics Use The Community Guide Methods Resources News About Us


Home » Topics » [Physical Activity](#)

Text Size: [S](#) [M](#) [L](#) [XL](#)

Physical Activity

- [Behavioral and Social Approaches](#)
- [Campaigns and Informational Approaches](#)
- [Environmental and Policy Approaches](#)
- [Publications](#)

Increasing Physical Activity



Studies show that regular physical activity reduces the risk for depression, diabetes, heart disease, high blood pressure, obesity, stroke, and certain kinds of cancer. Yet, the [2008 Physical Activity Guidelines Advisory Committee](#) notes that data from various national surveillance programs consistently show most adults and youth in the U.S. do not meet current physical activity recommendations, e.g., 45% to 50% of adults and 35.8% of high school students say they get the recommended amounts of moderate to vigorous physical activity.

How much physical activity is enough to impact health? The [2008 Physical Activity Guidelines for Americans](#) provides science-based [recommendations for population subgroups](#), including:

Get Email Updates
Submit your email address to get updates on The Community Guide topics of interest.
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Partners

Key Ingredients for Achieving Change

Multitude of Sources of Information

NICE National Institute for
Health and Care Excellence



NICE
Pathways



Guidance



Standards
and indicators



Evidence
services

Sign in

[Behaviour change: individual approaches \(PH49\)](#)

[Exercise referral schemes to promote physical activity \(PH54\)](#)

[Community engagement \(PH9\)](#)

[Physical activity: brief advice for adults in primary care \(PH44\)](#)

[Physical activity and the environment \(PH8\)](#)

[Behaviour change: the principles for effective interventions \(PH6\)](#)

[Obesity: working with local communities \(PH42\)](#)

[Promoting physical activity in the workplace \(PH13\)](#)

[Promoting physical activity for children and young people \(PH17\)](#)

[Occupational therapy and physical activity interventions to promote the mental wellbeing of older people in primary care and residential care \(PH16\)](#)

[Preventing type 2 diabetes: population and community-level interventions \(PH35\)](#)

[Physical activity: encouraging activity in all people in contact with the NHS \(QS84\)](#)

Key Ingredients for Achieving Change

Multitude of Sources of Information

UNIVERSITY of York
Centre for Reviews and Dissemination

NHS
National Institute for Health Research

Home Sign In or Join

Welcome to PROSPERO
International prospective register of systematic reviews

Latest news

Increasing value and reducing waste in biomedical research

Latest new and updated records

is there a relationship between alcohol outlet density and alcohol consumption in early and middle adolescence? A systematic review

Registration no.	Title	Status
CRD42015024116	Systematic review of the mechanisms responsible for the effects of physical activity and fitness on mental health in young people	Ongoing
CRD42015024086	Does an activity monitor based intervention increase daily physical activity of adults with overweight or obesity? A systematic review and meta-analysis	Ongoing
CRD42015024004	Effectiveness of theory-based behavioral interventions to increase physical activity in children with chronic disease: a systematic review	Ongoing
CRD42015023875	Effectiveness of eHealth interventions promoting physical activity in older adults: a systematic review and meta-analysis	Ongoing
CRD42015023731	Aging-related biomarkers associated with sedentary behaviour in older adults: a systematic review (and meta-analysis)	Ongoing
CRD42015023351	Physical activity interventions during treatment for children and adolescents with cancer: a systematic review	Ongoing

Key Ingredients for Achieving Change

Conference Board of Canada and Canadian Alliance for Sustainable Health Care

- Spence, John C., & Thy Dinh. *Moving Ahead: Taking Steps to Reduce Physical Inactivity and Sedentary Behaviour.* Ottawa: The Conference Board of Canada, 2015 (see www.conferenceboard.ca)
 - **Cost-effectiveness**
 - **Scalability**
 - **Sustainability**

 The Conference Board of Canada Le Conference Board du Canada

Moving Ahead.

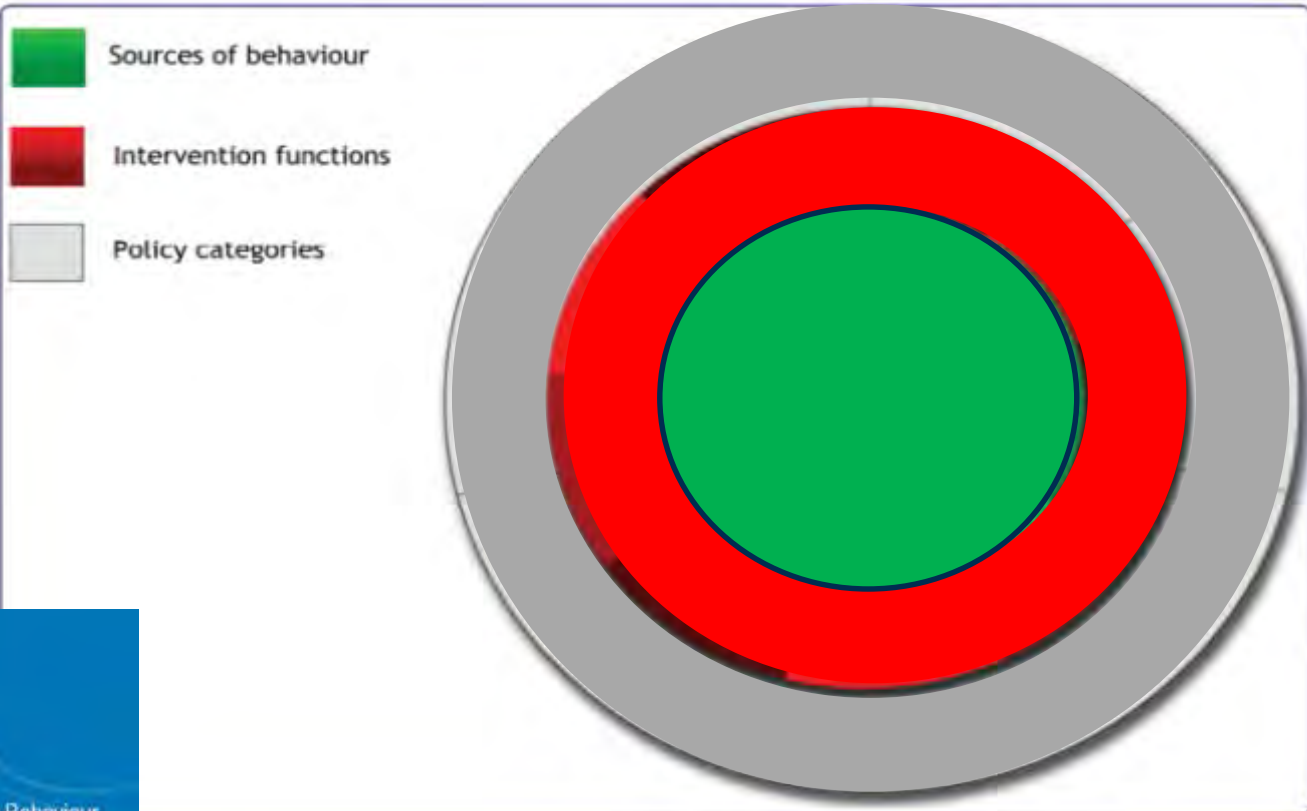
Taking Steps to Reduce Physical Inactivity and Sedentary Behaviour

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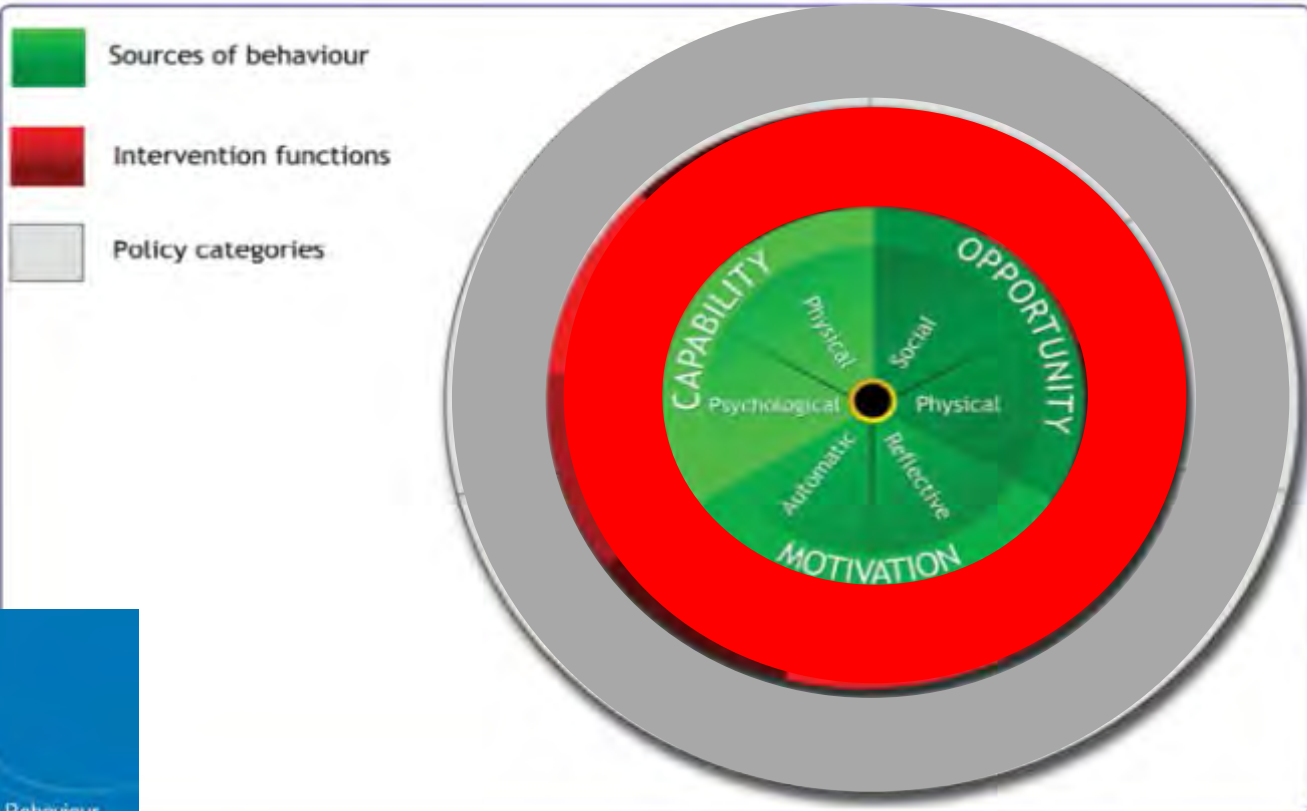
Creating Cost-Effective, Scalable, & Sustainable Interventions

The Behaviour Change Wheel (see Michie et al., *Implementation Science*, 2011)



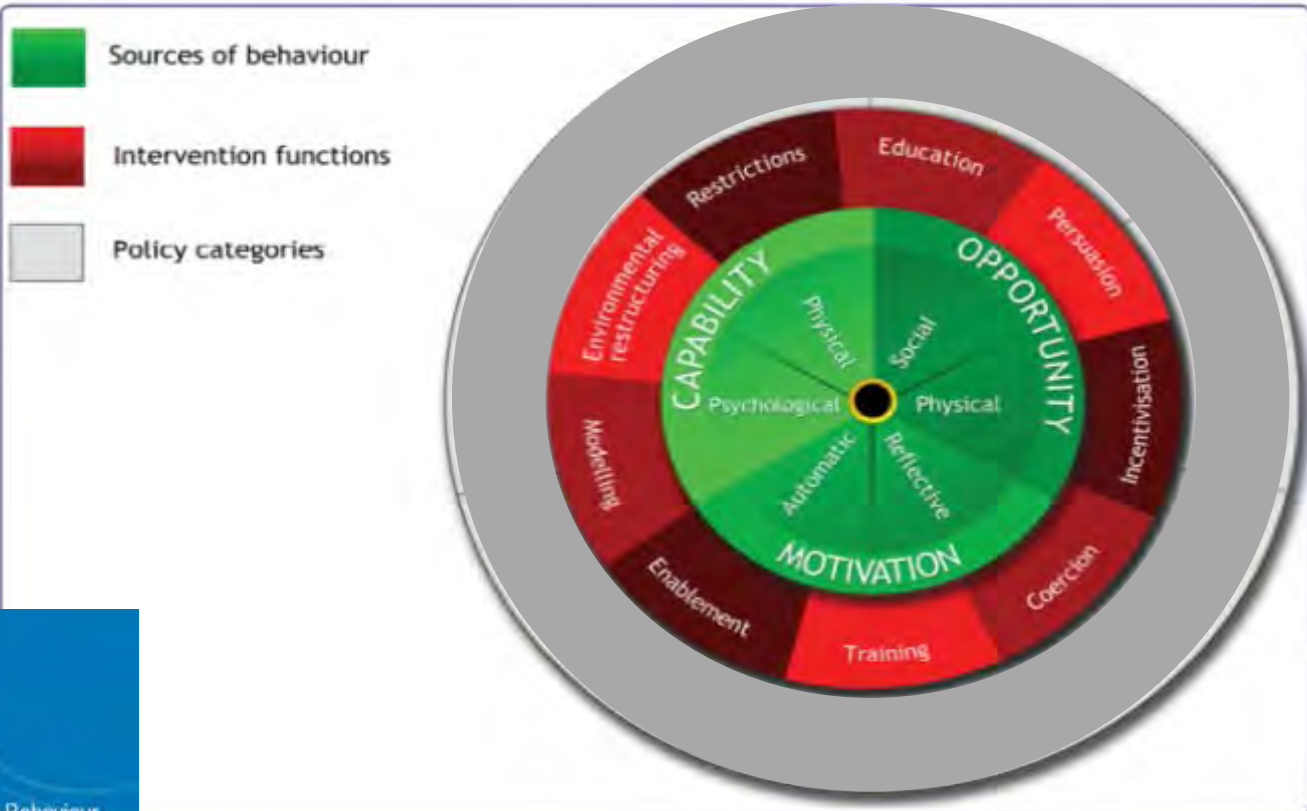
Creating Cost-Effective, Scalable, & Sustainable Interventions

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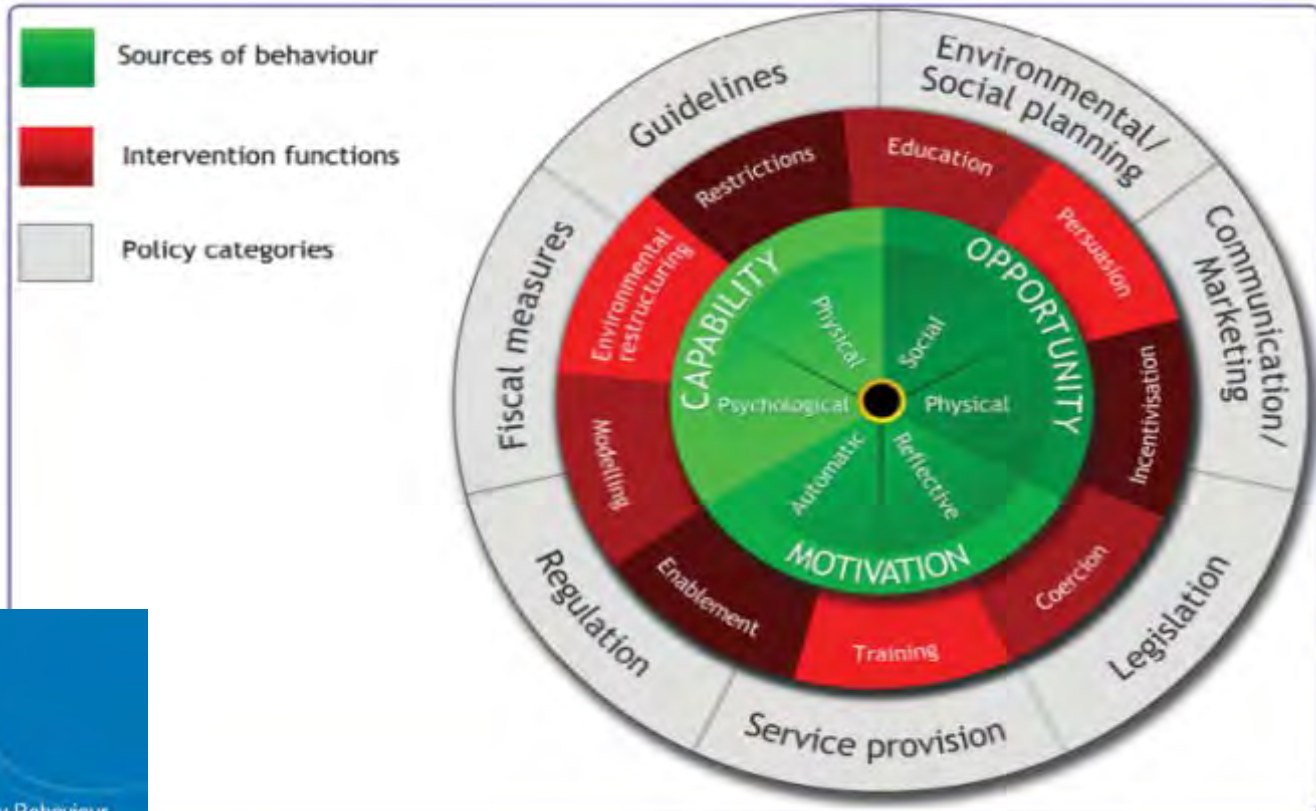
Creating Cost-Effective, Scalable, & Sustainable Interventions

The Behaviour Change Wheel (see Michie et al., *Implementation Science*, 2011)



Creating Cost-Effective, Scalable, & Sustainable Interventions

The Behaviour Change Wheel (see Michie et al., *Implementation Science*, 2011)





... OK ... are there potentially cost-effective, scalable, and sustainable interventions out there ?

Potentially Cost-Effective, Scalable, & Sustainable Interventions

Spence & Dinh (2015)

- Behavioural and Social Approaches
 - Individually adapted health behaviour change programs
 - Social support interventions in community settings
 - Enhanced school-based physical education

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Moving Ahead.

Taking Steps to Reduce Physical Inactivity and Sedentary Behaviour

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Potentially Cost-Effective, Scalable, & Sustainable Interventions

Spence & Dinh (2015)

- Campaigns and informational approaches
 - Community-wide campaigns

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Potentially Cost-Effective, Scalable, & Sustainable Interventions

Spence & Dinh (2015)

- Environmental and policy approaches
 - Community-scale urban design and land-use policies
 - Creation of, or enhanced access to, places for physical activity combined with informational outreach
 - Street-scale urban design and land-use policies
 - Point-of-decision prompts to encourage use of stairs

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Moving Ahead.

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Potentially Cost-Effective, Scalable, & Sustainable Interventions

Spence & Dinh (2015)

- Size of intervention effects
 - Most small to moderate with ES $\sim 0.12 - 0.62$
 - about 500 steps/day or 14.7 minutes more of physical activity over a week according to Conn, V.S., Hafdahl, A.R., & Mehr, D.R. (2011). Interventions to Increase Physical Activity Among Healthy Adults: Meta-analysis of Outcomes. *American Journal of Public Health* 101: 751–58
 - Need to understand variability across populations & contexts

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Moving Ahead.

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Some Examples Behavioural and Social Approaches

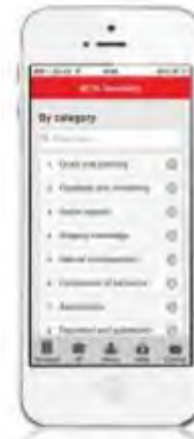
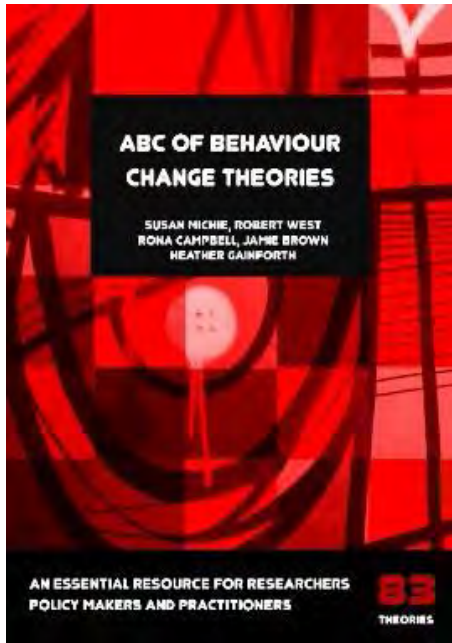
- Individually adapted health behaviour change programs



NATIONAL CANCER INSTITUTE **Research-tested Intervention Programs (RTIPs)**
RTIPs - Moving Science into Programs for People

[RTIPs Home](#) [RTIPs Archive](#) [Frequently Asked Questions](#) [Fact Sheet](#) [Contact Us](#)

Some Examples Behavioural and Social Approaches



83 Theories

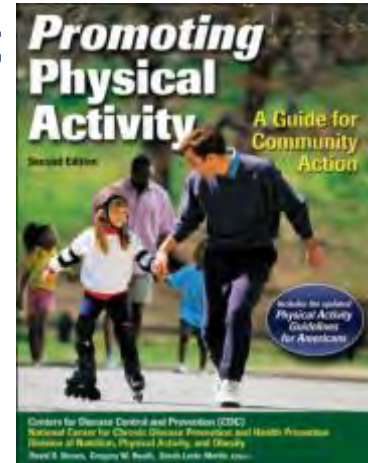
93 BCTs

3 websites:

- www.bct-taxonomy.com
 - www.behaviourchangewheel.com/
 - www.behaviourchangetheories.com
- 1 really-cool APP: BCT-Taxonomy

Some Examples Behavioural and Social Approaches

- Social support interventions in community settings
 - one-to-one counseling, advice, or group counseling;
 - self-directed or prescribed physical activity;
 - home- or facility-based physical activity;
 - ongoing face-to-face support;
 - telephone support;
 - written educational and motivational support; and
 - self-monitoring strategies.



Some Examples Behavioural and Social Approaches

- Enhanced school-based physical education

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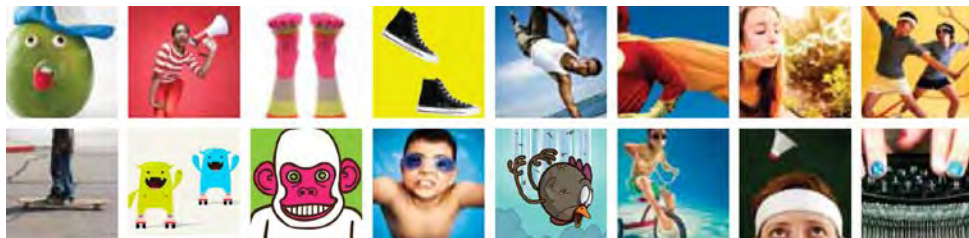
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Some Examples Campaigns and Informational Approaches

- Community-wide campaigns



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Some Examples Environmental and Policy Approaches

- Community-scale urban design and land-use policies



Some Examples Environmental and Policy Approaches



Some Examples Environmental and Policy Approaches

- Community-scale urban design and land-use policies

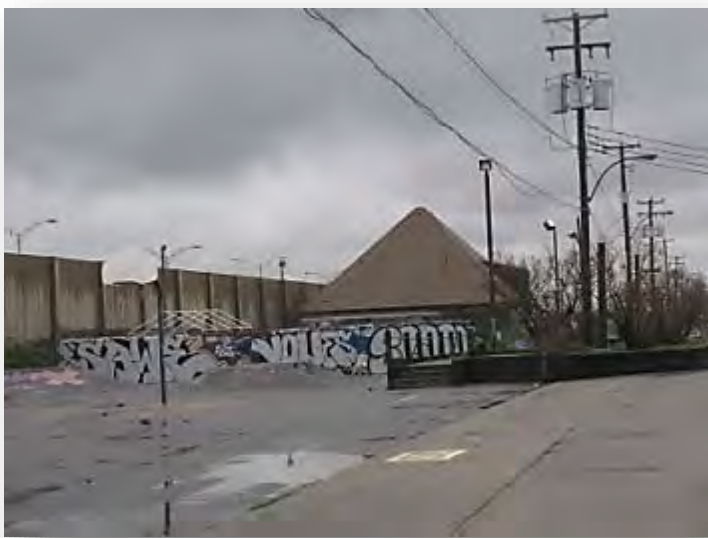


Example
Q21
Projects
2010-2013



Some Examples Environmental and Policy Approaches

- Creation of, or enhanced access to, places for physical activity combined with informational outreach



Some Examples Environmental and Policy Approaches

- Street-scale urban design and land-use policies

Some Examples Environmental and Policy Approaches

Before



After



Some Examples Environmental and Policy Approaches

- Some projects account for culture (planning of public spaces, « the school thread »)



Some Examples Environmental and Policy Approaches

- Point-of-decision prompts to encourage use of stairs



A flight
a day may
keep
chronic
disease
away.



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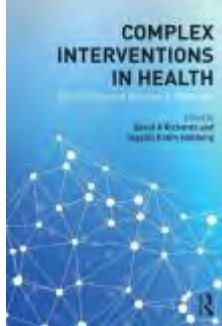


Ok ... I get the
picture ... can
this be summed
up?

Develop a Plan to Implement Evidence-based and Equity-aimed Programs & Policies



Evaluate & Share Outcomes





... so ... those
are the **KEY**
INGREDIENTS
... gee ... any
caveats ?

Theory is when we know everything but nothing works.



Praxis is when everything works but we do not know why.

...everything works and now, we know why ...

Collaborators, Partners, and Funders

• Researchers

- Tracie Barnett
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- François Lagarde
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