

THE UNIVERSITY OF WESTERN AUSTRALIA
 Ours
 Shaping tomorrow's Australia

Physical Activity Interventions – Evaluation: Critique of progress

Fiona Bull
 School of Population Health, University of Western Australia, Perth Australia
 School of Sport, Exercise and Health Science, Loughborough University, UK

6th International Conference Movement and Health 2010 and Conference & Annual meeting of HEPA Europe Olomouc, November 2010

Loughborough University

THE UNIVERSITY OF WESTERN AUSTRALIA

Outline

Part A
 Outline a set of criteria of good evaluation practice
 Assess how well we are doing - "Grade" !!

Part B
 Quick look at a prioritized research agenda for physical inactivity PA with a focus on low and middle income countries

THE UNIVERSITY OF WESTERN AUSTRALIA

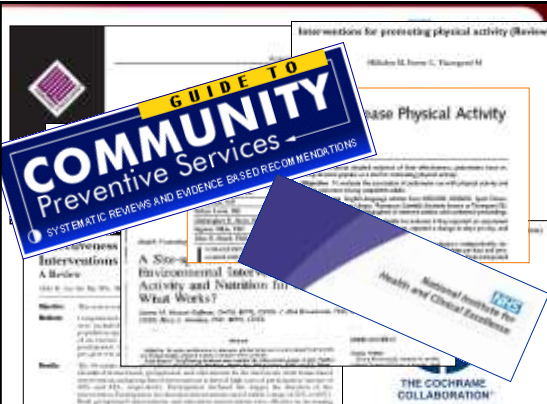
Putting a mirror up on what we do....



THE UNIVERSITY OF WESTERN AUSTRALIA



THE UNIVERSITY OF WESTERN AUSTRALIA



THE COCHRANE COLLABORATION

THE UNIVERSITY OF WESTERN AUSTRALIA

Progress?
 Program Evaluation
 What works?



THE UNIVERSITY OF WESTERN AUSTRALIA

Policy interested researchers / policy makers
Testing of different 'interventions' to influence...

Methods	Settings
<ul style="list-style-type: none"> Primary health Health education Mass media Sponsorship Coaching/Building Advocacy Org. change Healthy public policy 	<ul style="list-style-type: none"> Home School Work Community Sports Other Health care

Populations: Children, Adults, Elderly, CoLD, Indigenous, Adolescents

THE UNIVERSITY OF WESTERN AUSTRALIA

C For progress on program evaluation
'Report'

Some progress made over the recent years. Showing evidence of taking on new ideas and approaches, however major gaps remain. There is a clear need to learn from past experiences to avoid repeating mistakes, telling us what we already knew or worse 'reinventing the wheel'.

Need to work more with others and move on to some of the more difficult questions to make a greater contribution to the field.

THE UNIVERSITY OF WESTERN AUSTRALIA

There is some evidence to suggest that interventions designed to increase physical activity can lead to moderate short and mid-term increases in physical activity, at least in middle age. Due to the clinical nature of the studies, only limited conclusions can be drawn. Longer studies with greater diversity of individual participants, and with longer follow-up periods, are required.

Existing evidence about the effectiveness of physical activity interventions for sedentary adults in the general population is limited by the recruitment of motivated volunteers, and the problems of managing physical activity using self report. No studies examined the effectiveness of interventions on participants from various backgrounds. Future reports of studies should provide greater detail on the nature of the professional who delivered the interventions, the theoretical basis of the intervention and how the theory was translated into practice.

High quality evidence from a wider variety of participants is needed.

THE UNIVERSITY OF WESTERN AUSTRALIA

Many interventions provided components which would be difficult to deliver in usual practice as they would demand large resources. Most of the interventions offered a choice of physical activity options.

Our review suggests that physical activity interventions have a small to moderate sized effect on increasing self-reported physical activity, and on cardiorespiratory fitness, at least in the general population. In general, few studies of the effectiveness of physical activity promotion interventions have targeted or included substantial numbers of racial/ethnic minorities or people from low-income backgrounds. Interventions that target general populations in minority groups of any kind.

THE UNIVERSITY OF WESTERN AUSTRALIA

It is not known how easily studies conducted in the US and Australia could be transferred to UK settings. **INSERT "COUNTRY"**


At present, no review-level evidence of the effectiveness of interventions aimed at changing the provision of cycle lanes or other physical activity opportunities in the workplace. Despite the popularity of primary care interventions in the UK, it is still not known whether individual advice from a general practitioner may lead to significant increases in physical activity that can be sustained beyond three months. However, theory-based intervention research is needed, as well as use of strong experimental designs and development of instruments that are valid and meaningful for the targeted population. As in most other areas of physical activity research, longer follow-up is encouraged. Some additional information is needed for generalization to other populations.

THE UNIVERSITY OF WESTERN AUSTRALIA

adolescents. Moreover, studies that have examined the effectiveness of physical activity increases have not generalized to other settings, and maintenance of physical activity has either been poor or not assessed. The effectiveness of intervention programs in this area has not been well understood. Improving methodology about program implementation and maintenance of physical activity in children and adolescents. Although a general understanding of intervention programs has been developed, more specific future studies should include school-based, workplace, and community-based physical activity interventions. For example, school-based physical activity interventions should be applied to more specific purposes. Despite numerous studies examining the associations between environmental variables and physical activity, very few controlled intervention studies have been conducted. Economic. No studies were found that met the requirements for inclusion.

Focus of this talk

- INVESTIGATOR DRIVEN RESEARCH**
 - Longer time lines
 - Funding applications
 - Study 'control' is mostly with the researchers – for the program and the evaluation
 - Usually able to assemble adequate resources and technical skills
- PRACTICE BASED PROGRAM EVALUATION – “REAL WORLD”**
 - Program comes from practitioners / government
 - Time lines (short !)
 - Flexibility often limited



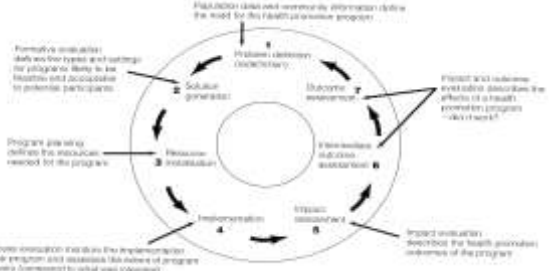
Example: Testing of a primary care intervention program (UK)



Criteria for good program evaluation

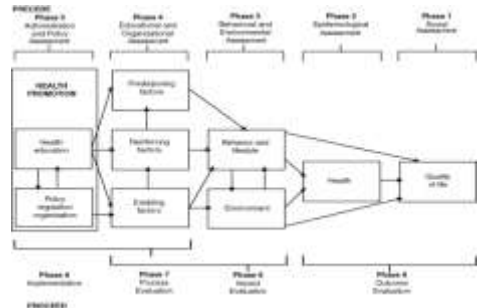
- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory & knowledge
- Set clear program goals / objectives

Start early!

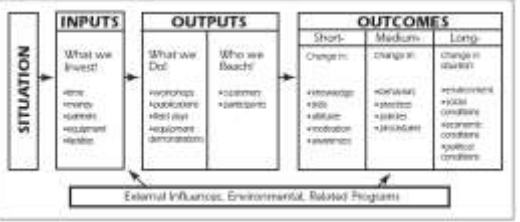


1.1 Health Promotions Planning and Evaluation Cycle

The PRECEDE Model



Logic Models






Elements of good program evaluation

Be SMART

- S**pecific
- M**easurable
- A**chievable
- R**elevant
- T**ime-specific






C- For progress on program evaluation

- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory
- Set clear program goals / objectives

- **Use robust / valid and suitable measures**






- **Engage stakeholders**
- **Multiple disciplines**
- **Use mixed methods**




Elements of good program evaluation

PA measures for program evaluation

- **International physical activity questionnaire (IPAQ)**
- **Global physical activity questionnaire (GPAQ)**




C- For progress on program evaluation

- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory and knowledge
- Set clear program goals / objectives




- **Use robust / valid and suitable measures**
- **Allocate / plan sufficient time and resources to evaluation (and the intervention to see effects)**


- Engage stakeholders
- Multiple disciplines
- Use mixed methods



Allocate sufficient time and resources to evaluation (and the intervention to see effects)

- Short term studies
- Follow up too early or not late enough
- Sufficient 'dose' of intervention or program



C- For progress on program evaluation

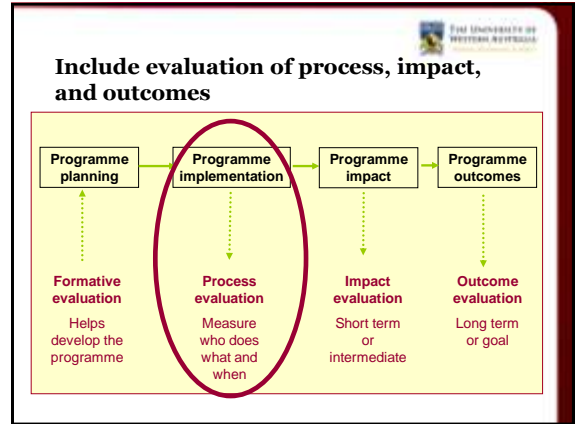
- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory and knowledge
- Set clear program goals / objectives

- **Use robust / valid and suitable measures**
- **Allocate / plan sufficient time and resources to evaluation (and the intervention to see effects)**
- **Undertaken at the population level ('scale')**

- Engage stakeholders
- Multiple disciplines
- Use mixed methods

C For progress on program evaluation

- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory
- Set clear program goals / objectives
- Engage stakeholders
- Multiple disciplines
- Use mixed methods
- Use robust / valid and suitable measures
- Allocate / plan sufficient time and resources to evaluation (and the intervention to see effects)
- Undertaken at the population level ('scale')
- Include evaluation of process, impact, and outcomes**



Well@Work
Promoting active & healthy workplaces

- 2 year workplace health project
- 11 projects across England
- Physical activity and other lifestyle behaviours
- £1.6 million project (20% on evaluation)
- Funded by:

Loughborough University logo at the bottom.

Well@Work project goals

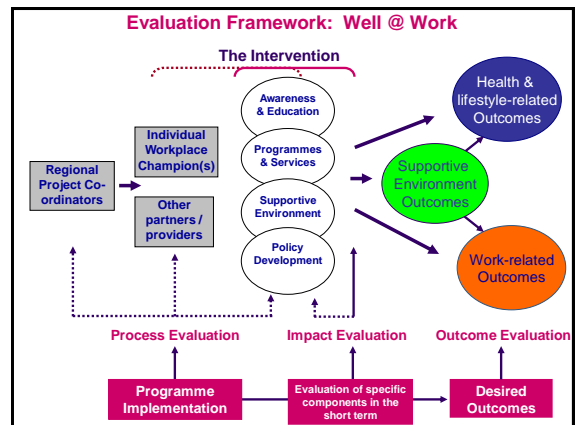
- To assess the effectiveness of health promoting interventions in the workplace
- To develop and disseminate an evidence base on what works in health promotion in the workplace in England

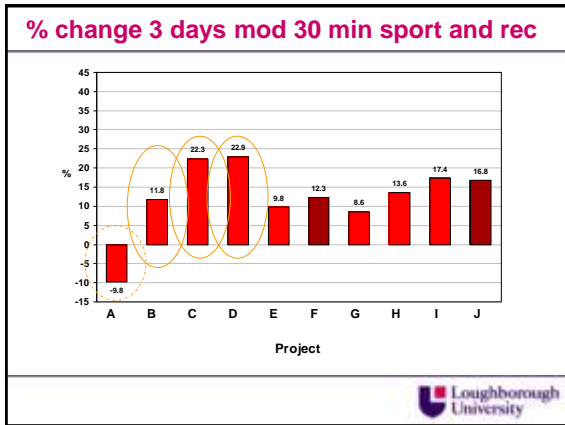
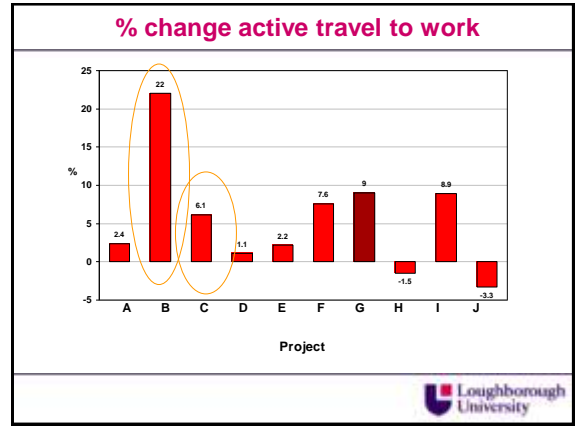
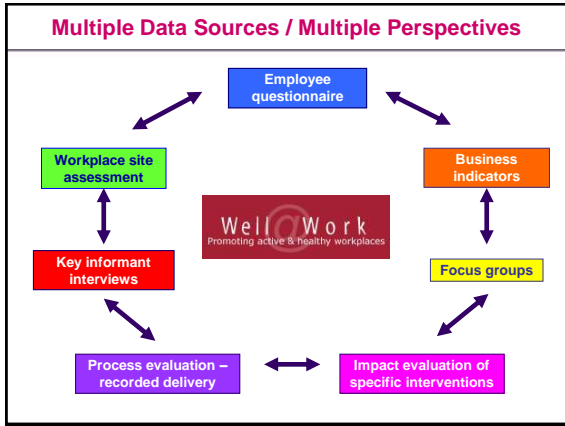
Loughborough University logo at the bottom.

Regional projects

		n
East	– 9 small-medium sized businesses	894
East Midlands	– 14 voluntary organisations	773
London	– General Hospital	2165
North East	– Construction/service industry	187
	– Private Care Home	256
North West	– Food manufacturer	1400
	– Prison	720
South East	– Food manufacturer	1575
South West	– City Council	843
West Midlands	– Primary Care Trust	1000
Yorkshire	– Insurance company	465
9 regions	32 organisations	10,278 employees

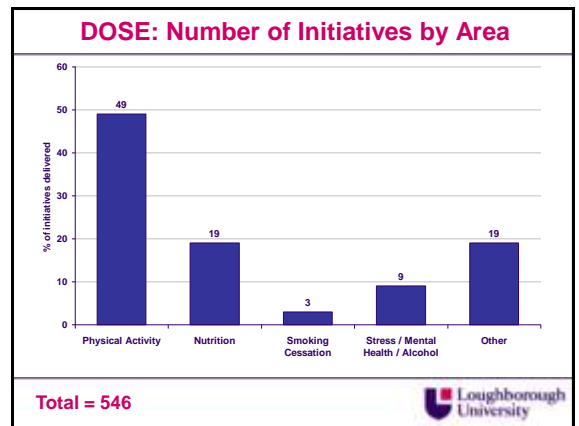
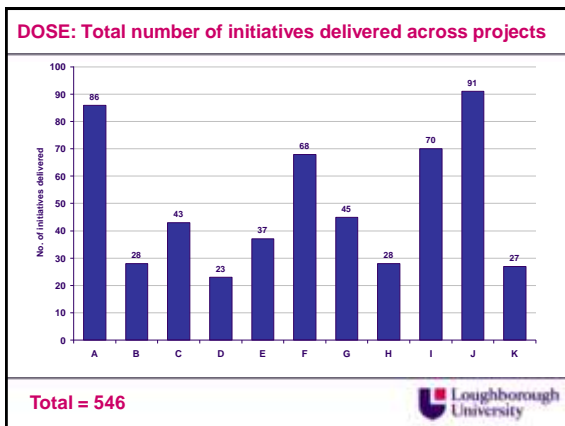
Loughborough University logo at the bottom.

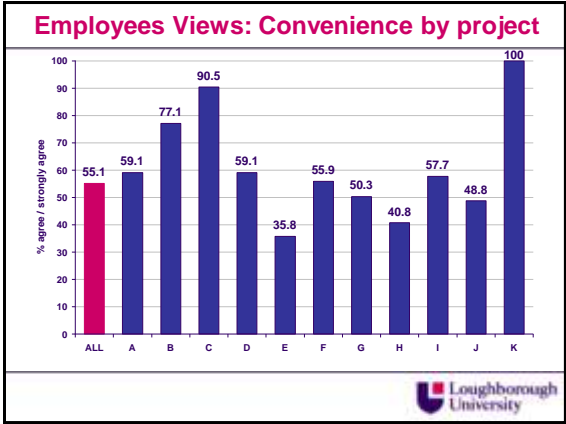
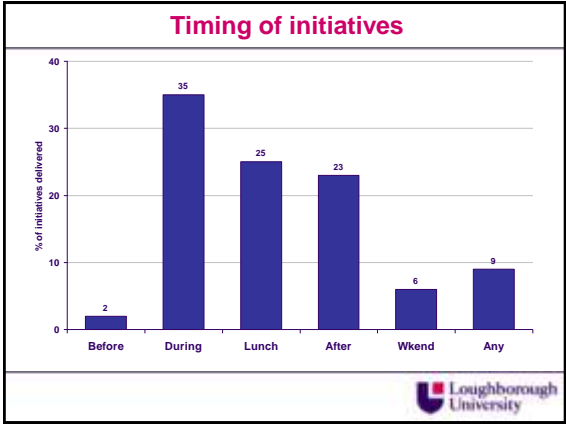
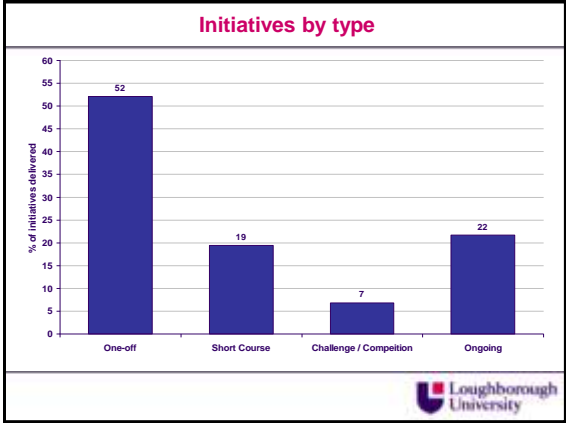
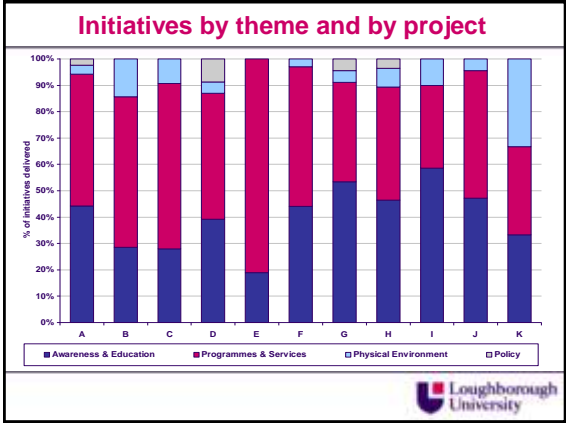
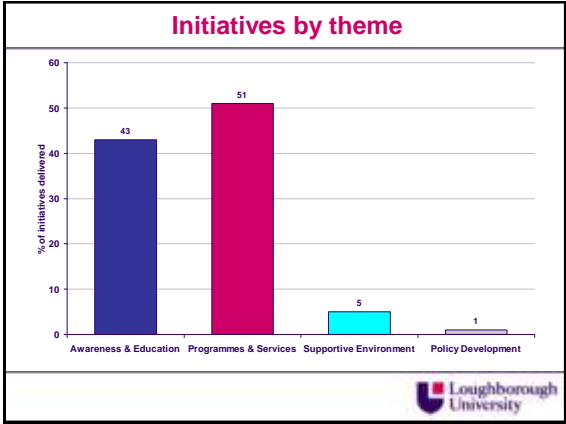
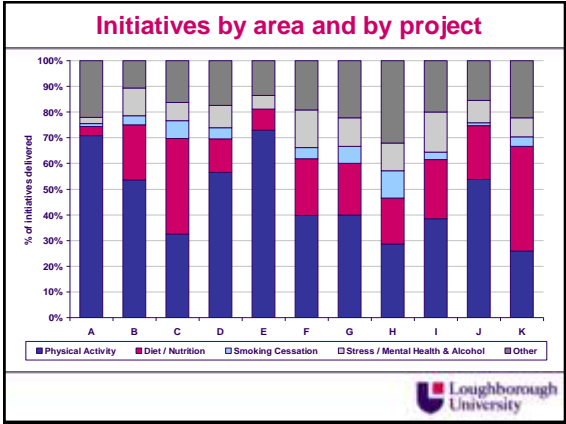




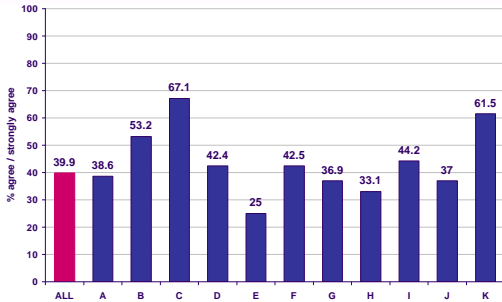
Results: Summary

- Diet - % meeting "5-a-day"**
 - Significant increase in 5 projects
- Smoking behaviour**
 - No change
- Alcohol consumption**
 - No change
- Environmental improvements**
 - Some
- Policy Development**
 - One





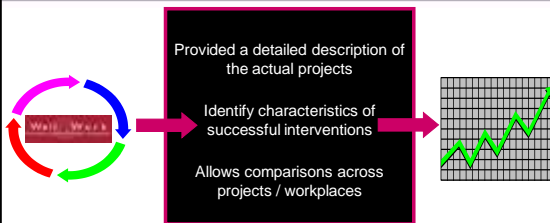
Employees Views: 'met needs' by project



Process evaluation tools

Paper and electronic versions

So what uses the process data



Helps to explain and interpret how and why outcome results were (or were not) achieved



<http://www.bhf.org.uk/publications>

C - For progress on program evaluation

- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory
- Set clear program goals / objectives
- Engage stakeholders
- Multiple disciplines
- Use mixed methods
- Use robust / valid and suitable measures
- Allocate / plan sufficient time and resources to evaluation (and the intervention to see effects)
- Undertaken at the population level ('scale')
- Include evaluation of process, impact, and outcomes
- Use appropriate evaluation design**

Realistic Evaluation - Paradigm Shift

A move away from the logical positivism approach
 – Where meaning is only relevant through rigorous observation and experiment



Generative Logic approach

- A focus on underlying mechanisms rather than just surface (or observable) events
- to explain how things work and in what contexts (CMO)

Pawson and Tilly

iConnect - an evaluation of interventions to improve the infrastructure for walking and cycling in the UK

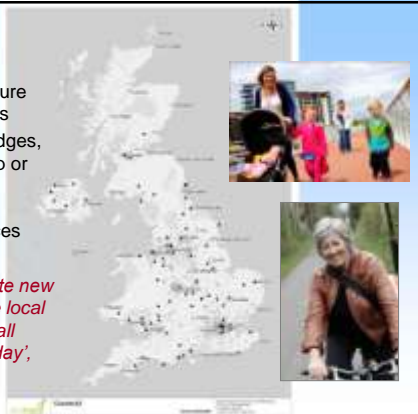
The iConnect research consortium

- Prof John Preston
- Prof Fiona Bull
- Dr Christian Brand
- Dr Ashley Cooper
- Prof Andy Day
- Prof Nanette Mutrie
- Dr David Ogilvie
- Dr Jane Powell
- Dr Harry Rutter

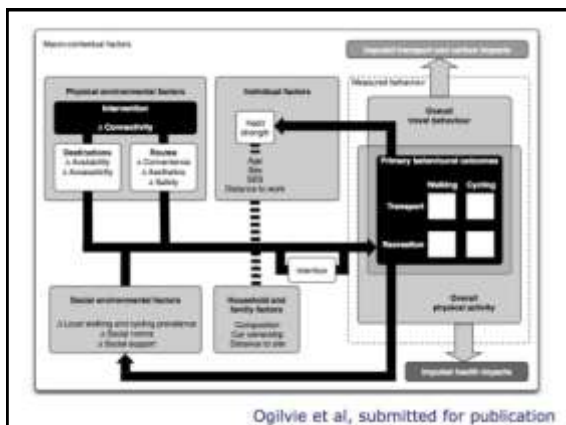


Connect2

- 79 infrastructure improvements
- Eg paths, bridges, etc) linking up or improving connections between places

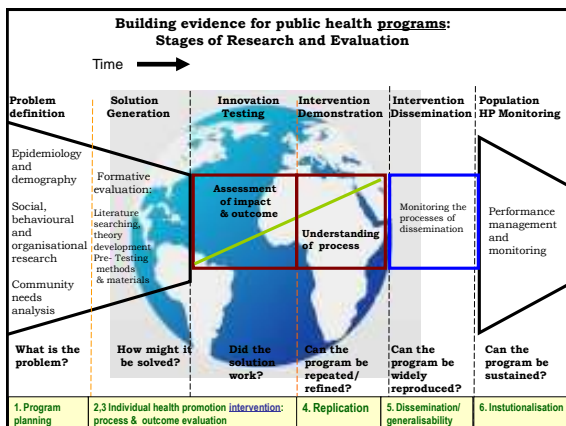


- Aims to 'create new routes for the local journeys we all make every day'.



C - For progress on program evaluation

- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory
- Set clear program goals / objectives
- Engage stakeholders
- Multiple disciplines
- Use mixed methods
- Use robust / valid and suitable measures
- Allocate / plan sufficient time and resources to evaluation (and the intervention to see effects)
- Undertaken at the population level ('scale')
- Include evaluation of process, impact, and outcomes
- Use appropriate evaluation design
- Informed by what we know already - address important gaps



In Summary

- Start evaluation planning alongside program (intervention planning)
- Use a planning framework
- Informed by relevant theory and knowledge
- Set clear program goals / objectives
- Engage stakeholders
- Multiple disciplines
- Use mixed methods
- Use robust / valid and suitable measures
- Allocate / plan sufficient time and resources to evaluation (and the intervention to see effects)
- Undertaken at the population level ('scale')
- Include evaluation of process, impact, and outcomes
- Use appropriate evaluation design
- Informed by what we know already - address important gaps

We do know what to do, so

PART 2

Key domains for research:

- Major NCDs
 - 7.1 Cardiovascular diseases
 - 7.2 Cancer
 - 7.3 Chronic respiratory diseases
 - 7.4 Diabetes
- NCD risk factors
 - 7.5 Tobacco control
 - 7.6 Diet, nutrition, physical activity and obesity
- Cross-cutting domains
 - 7.7 Health systems and primary health care
 - 7.8 Social determinants and NCDs
 - 7.9 Genetics

WHO led process
Prioritized Research Agenda for NCD Prevention and Control

Collaborators

- **Professor Fiona Bull**, School of Population Health, The University of Western Australia, Australia;
- **Professor Adrian Bauman**, School of Public Health, The University of Sydney, Australia;
- **Dr Pedro Hallal**, Postgraduate Program in Epidemiology, Federal University of Pelotas, Brazil;
- **Professor Harold W. Kohl III**, School of Public Health, University of Texas Health Sciences Center – Houston and University of Texas at Austin, USA;
- **Professor Mark Tremblay**, Department of Pediatrics, University of Ottawa, Canada.

Adults
N=25

Young People
N=30

Thank you