

# **(Modified) DPSEEA: A SatNav for Environmental Public Health in Complex Times**

**A Case Study from Scotland**

**Professor George Morris**

**HEALTH GAIN WORKSHOP**

**Cornwall 12th June 2012**

# A NEW APPROACH TO POLICY AND ACTION ON ENVIRONMENT AND HUMAN

**GOOD PLACES,  
BETTER HEALTH**

A NEW APPROACH TO ENVIRONMENT  
AND HEALTH IN SCOTLAND

IMPLEMENTATION PLAN



Today's 'Take Away  
Message'

*“The DPSEEA model, especially  
in its modified form, is a powerful  
and flexible tool helping  
governments and agencies and  
others to identify coherent  
crosscutting, evidence informed,  
policies and actions in complex  
times”*

# WHAT I WILL COVER TODAY

- The Challenge
- The Approach
- Implementation
- The Products
- The Learning
- Ecological Public Health

# The Challenge

In 2006, men could, on average, expect 67.9 years of healthy life and women 69 years.

But there are big differences between rich and poor.

In the most deprived 15% of areas in Scotland, men could only expect 57.3 years of healthy life and women 59 years

A boy born in the deprived inner city area of Calton, Glasgow, can expect to live to 54 years

A boy born in the nearby suburb of Lenzie can expect to live to 82

Glasgow's least affluent people live on average eight years less than the Indian average life expectancy. Yet people in Glasgow are fantastically rich compared most of the Indian population

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**Scotland's Public Health Challenge, is substantially defined by the need to improve the health and life circumstance of this man and his family**



**Many of us were rather concerned that the quality Physical Environment wasn't promoted as as central to tackling Scotland's most enduring challenge.....**



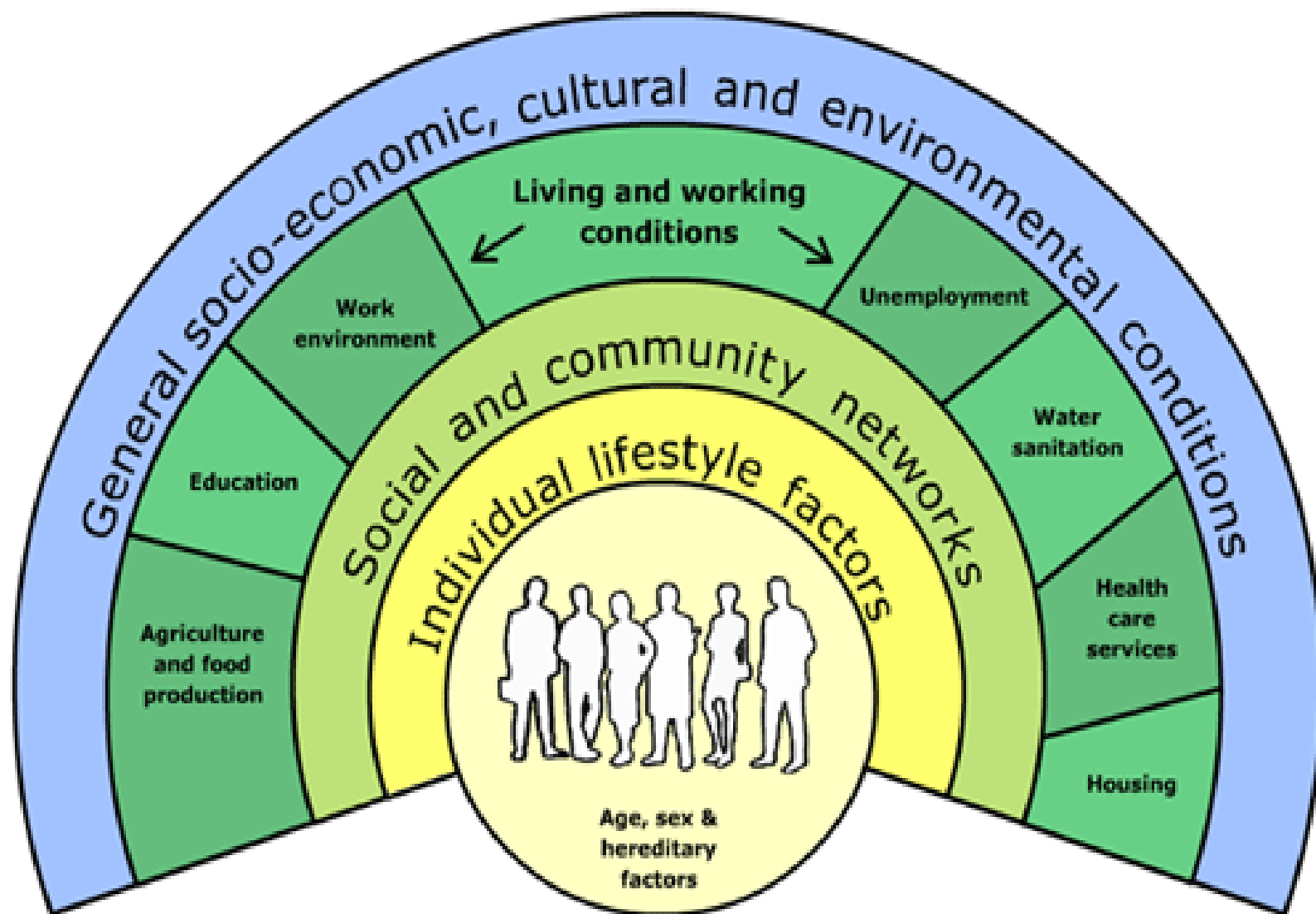
.....but it was more than that

- there seemed to be ‘**disarticulation**’ of environment from health at the level of policy and amongst practitioners at local level
- environmental health was narrow, compartmentalised and hazard focus.....**it had become ‘old fashioned’**
- embryonic discussion in Scotland, and elsewhere, about a ‘**physiology of deprivation**’ was not being explicitly linked to the E & H agenda
- the **psychosocial dimension** in environmental public health and the **health promoting potential of environment** or place was underemphasised

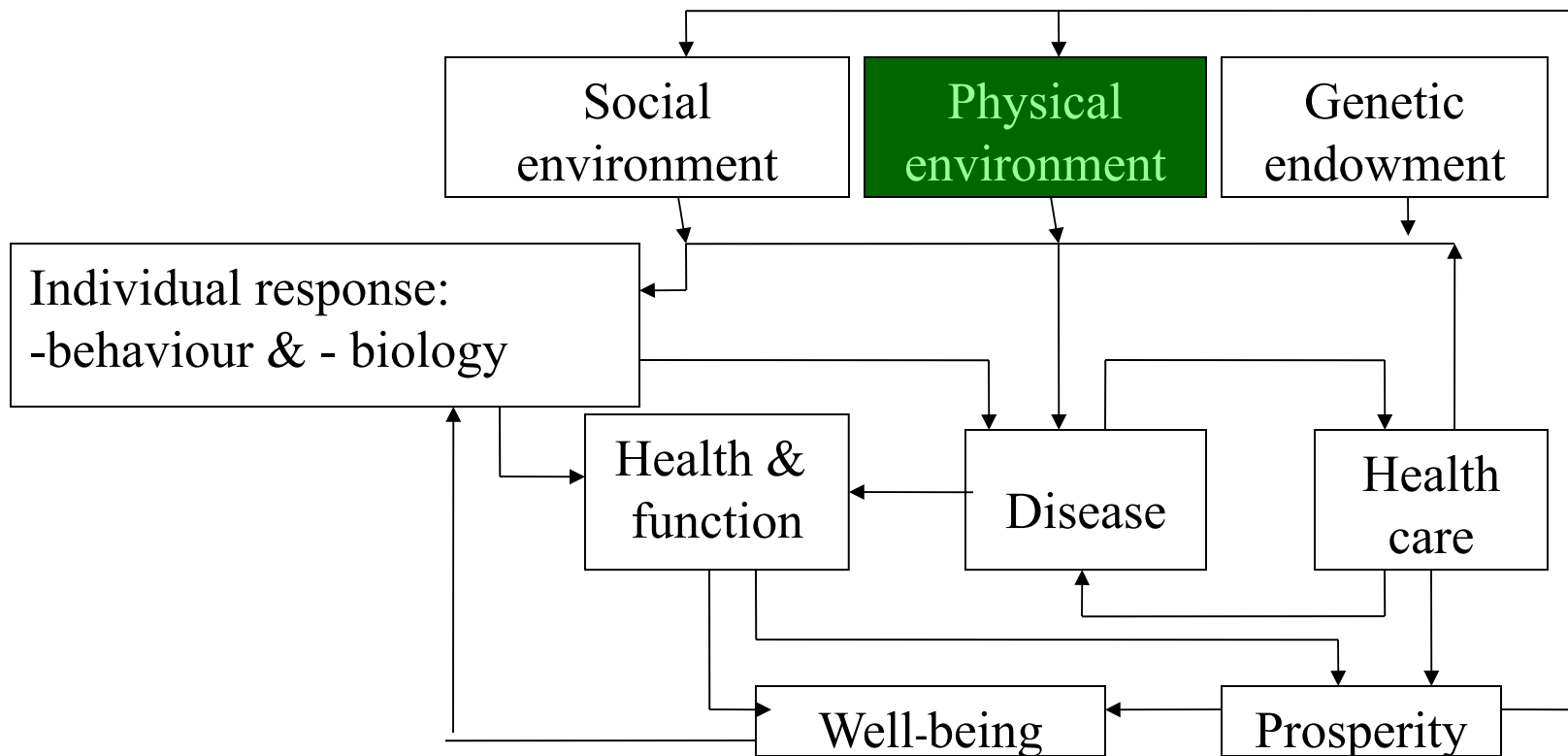
Arguably, since the 1970s, complex interaction amongst the determinants of health had been widely discussed.

By the 21st century 21st century **“everything matters”** had become a cliché of discourse across the discipline and not just in academic public health

# The Main Determinants of Health

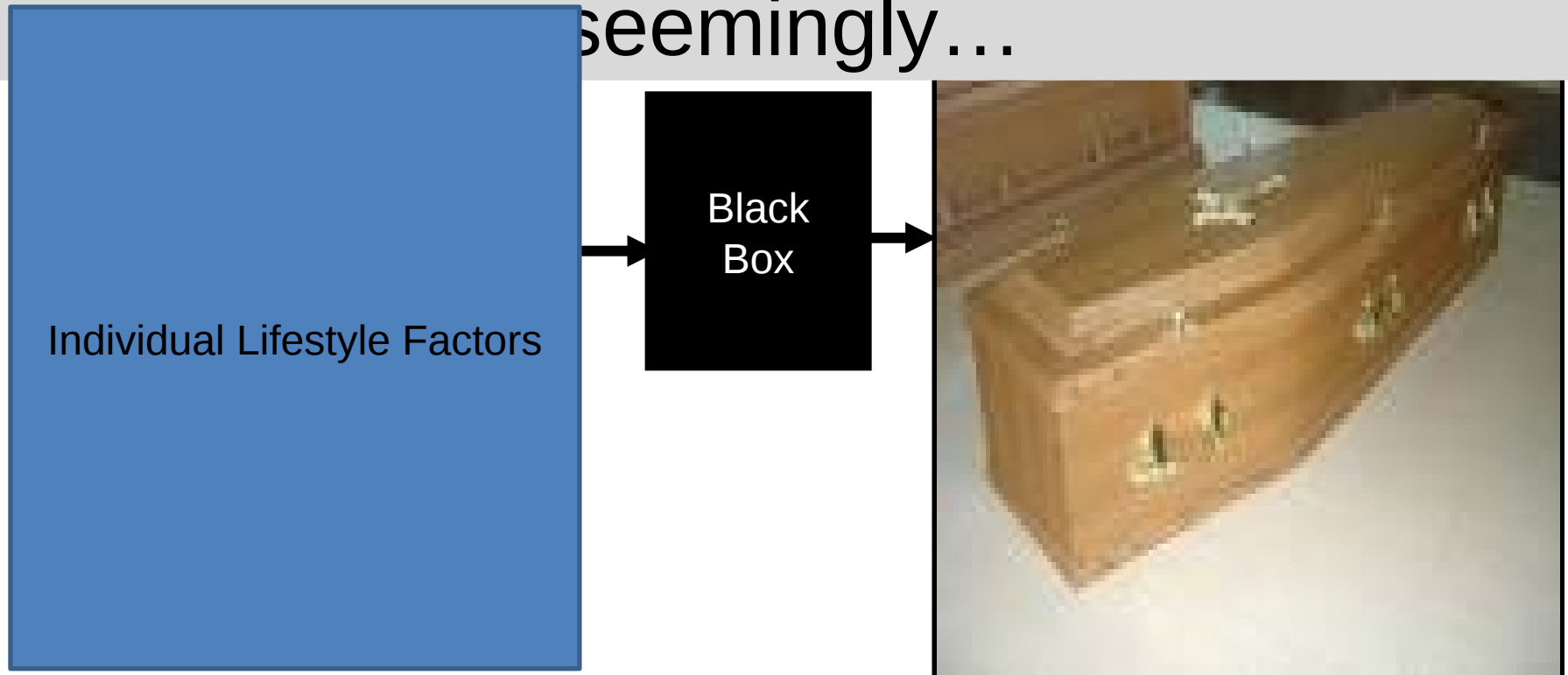


**THE MAIN DETERMINANTS OF HEALTH (Dahlgren and**



**THE SOCIOECOLOGICAL MODEL OF HEALTH (Evans and Stoddart 1994)**

Yet, despite the persuasive arguments, in the late 20th Century era of Chronic Disease Epidemiology, there was seemingly...



No place for place!

Or perhaps more charitably, public health was struggling to 'operationalise' the paradigm of '**everything matters**' through policy and action

We would have to embrace and learn to navigate within a complex reality



Subsequent observation by Briggs et al (2009) usefully characterised complexity in epidemiology and Health impact assessment as occurring in 3 key “locations”, namely:

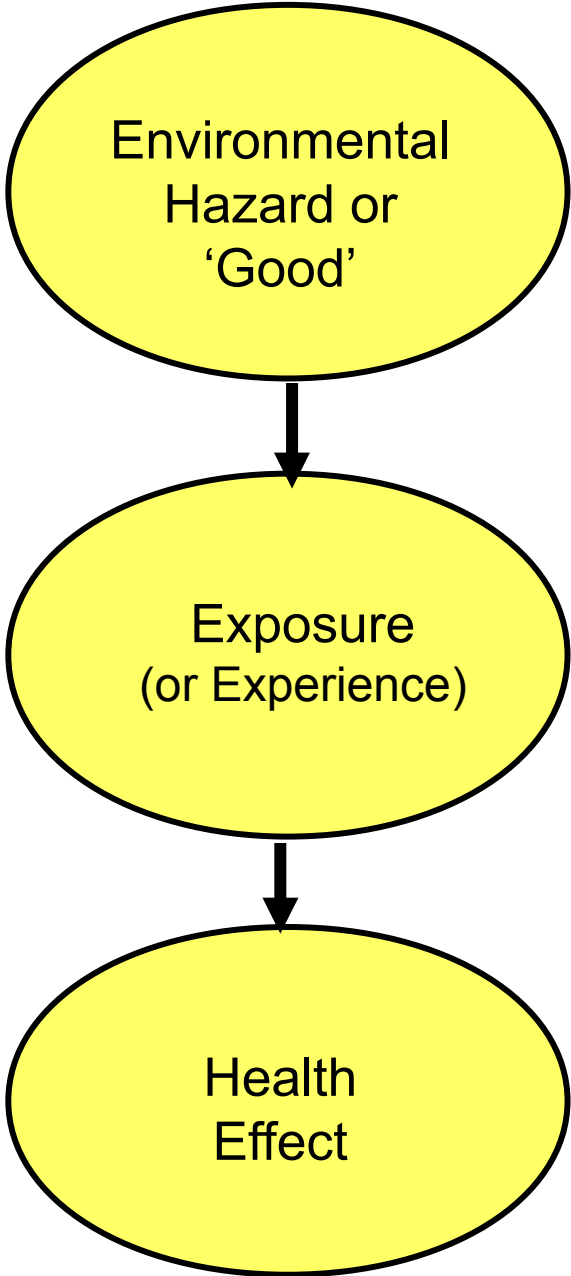
- In conceptualising the problem
- In its analysis
- In communicating the results

# The Approach

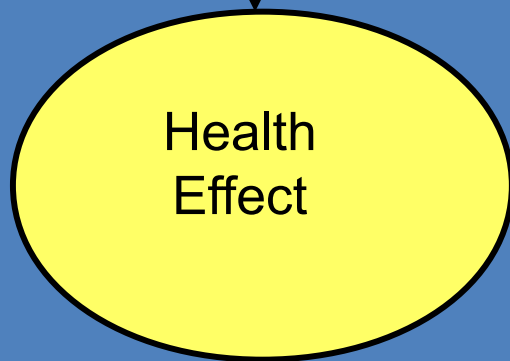
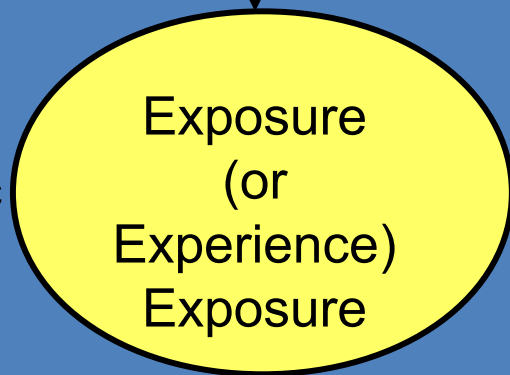
To produce effective modern policy and action on environmental public health we felt needed a simple framework which could:

- frame relationships in environment and health with reference to all the factors that bear upon them
- form the basis of a shared understanding amongst stakeholders
- configure the systems which would deliver the strategy, and, ultimately
- guide policy and action

We stated from here!

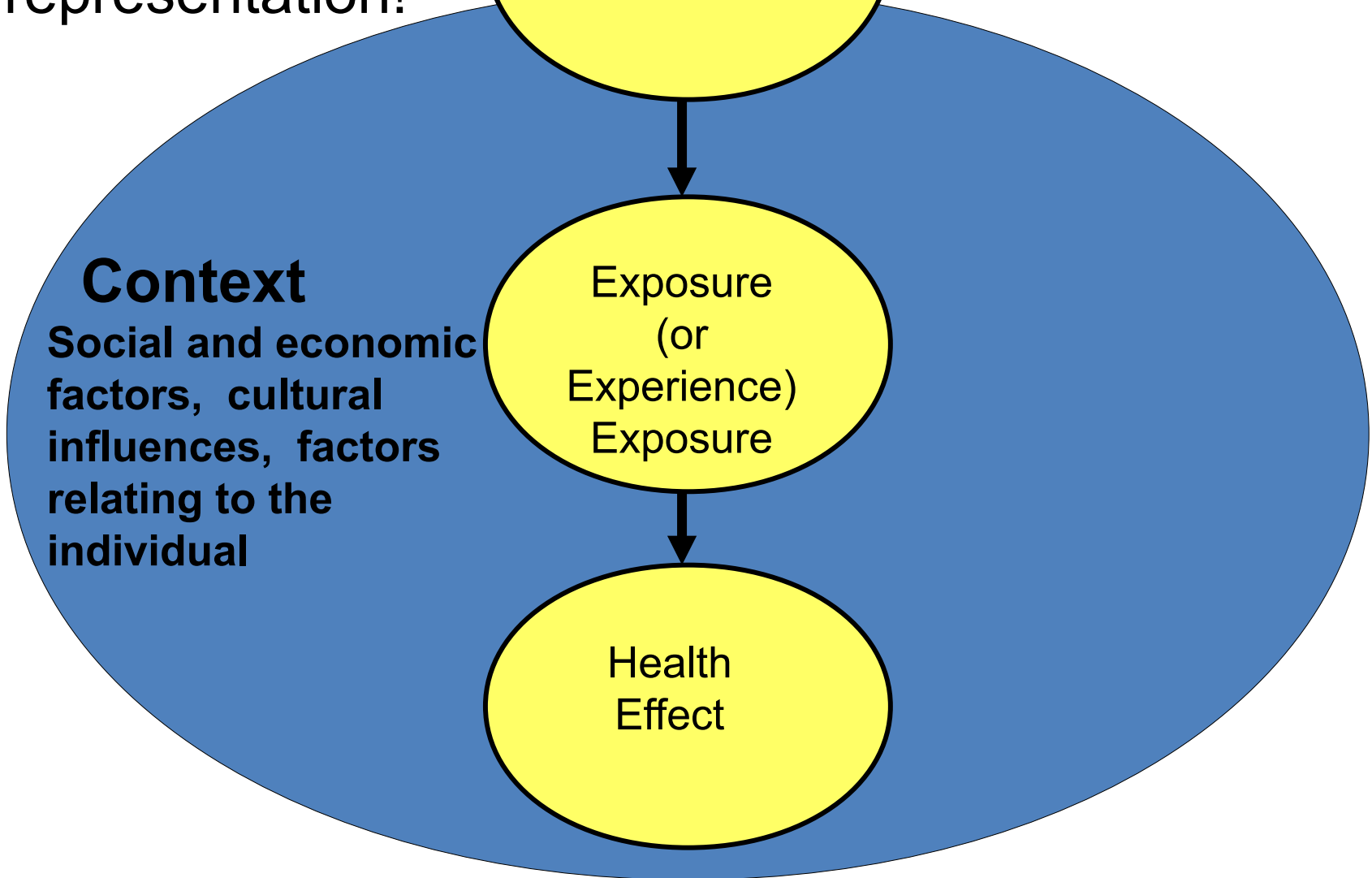


A more realistic representation!

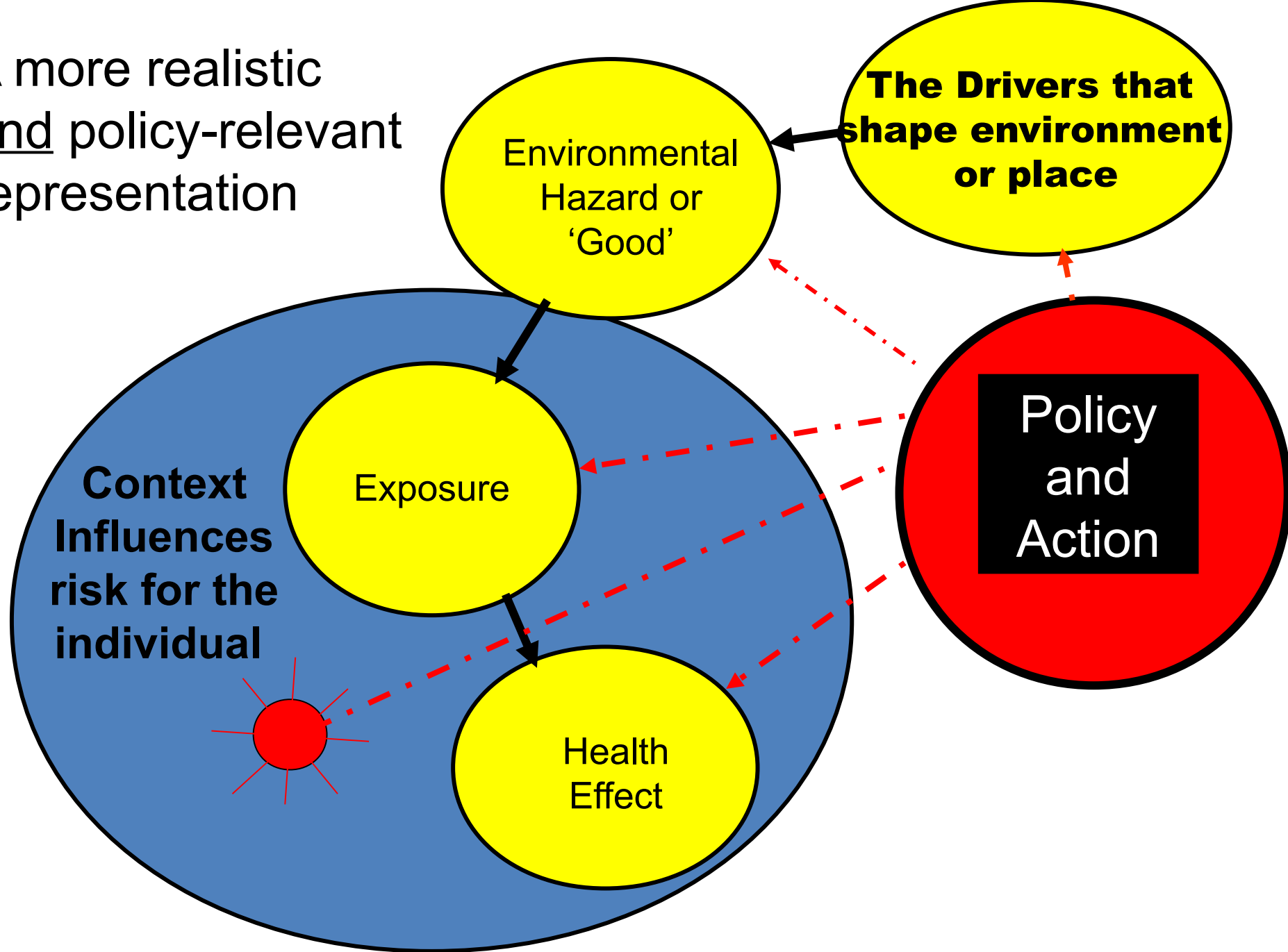


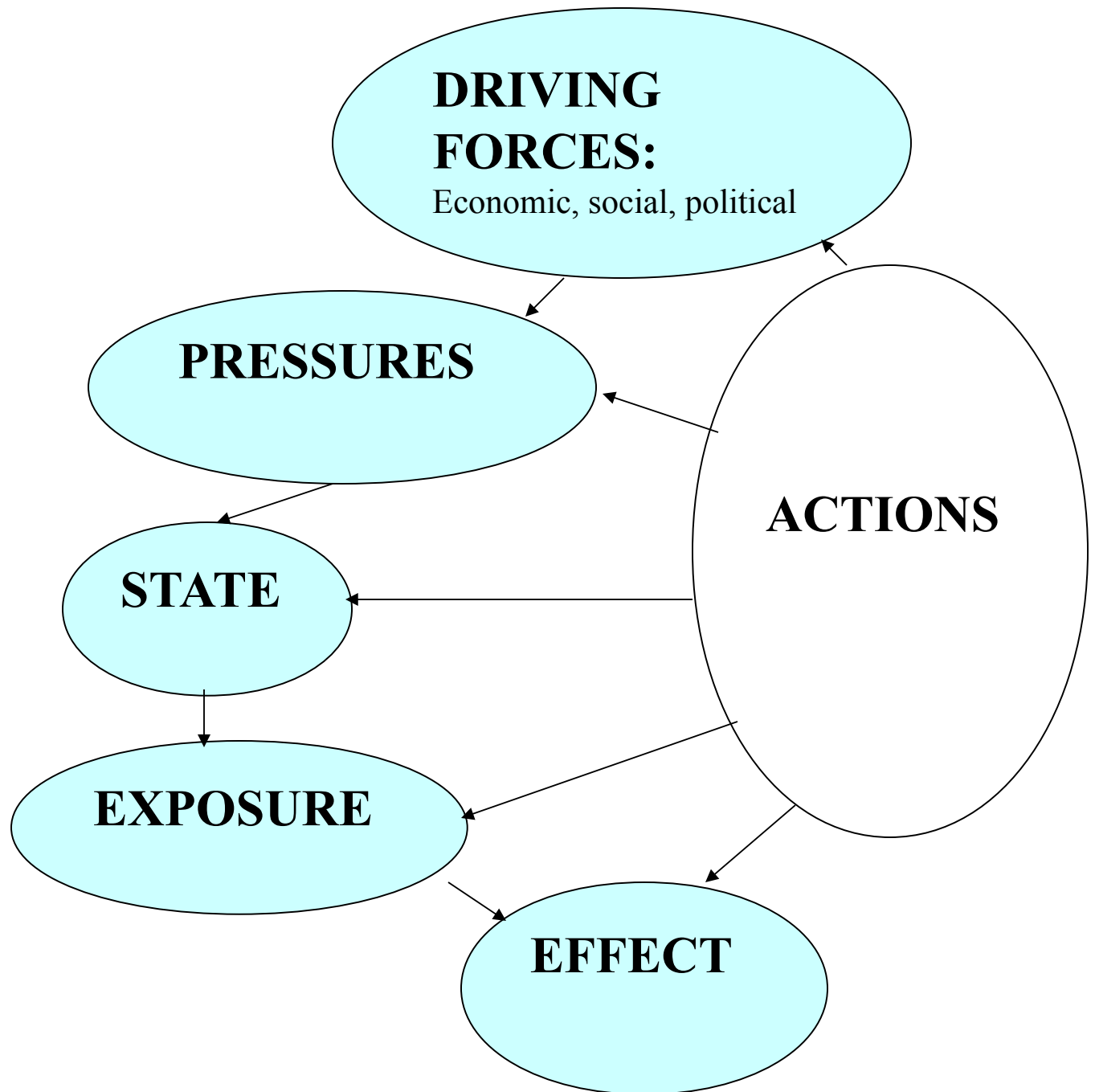
**Context**

Social and economic factors, cultural influences, factors relating to the individual

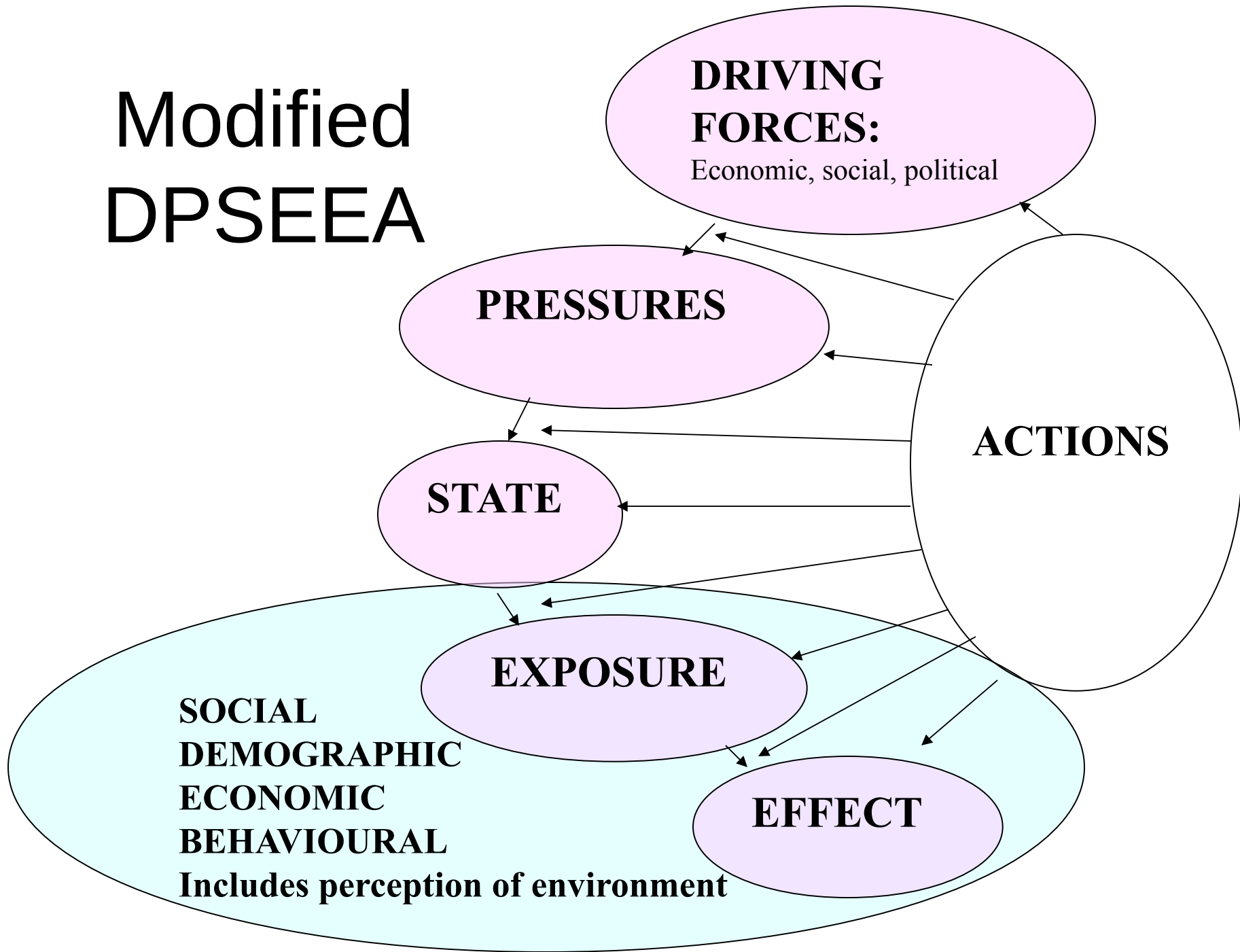


A more realistic  
and policy-relevant  
representation

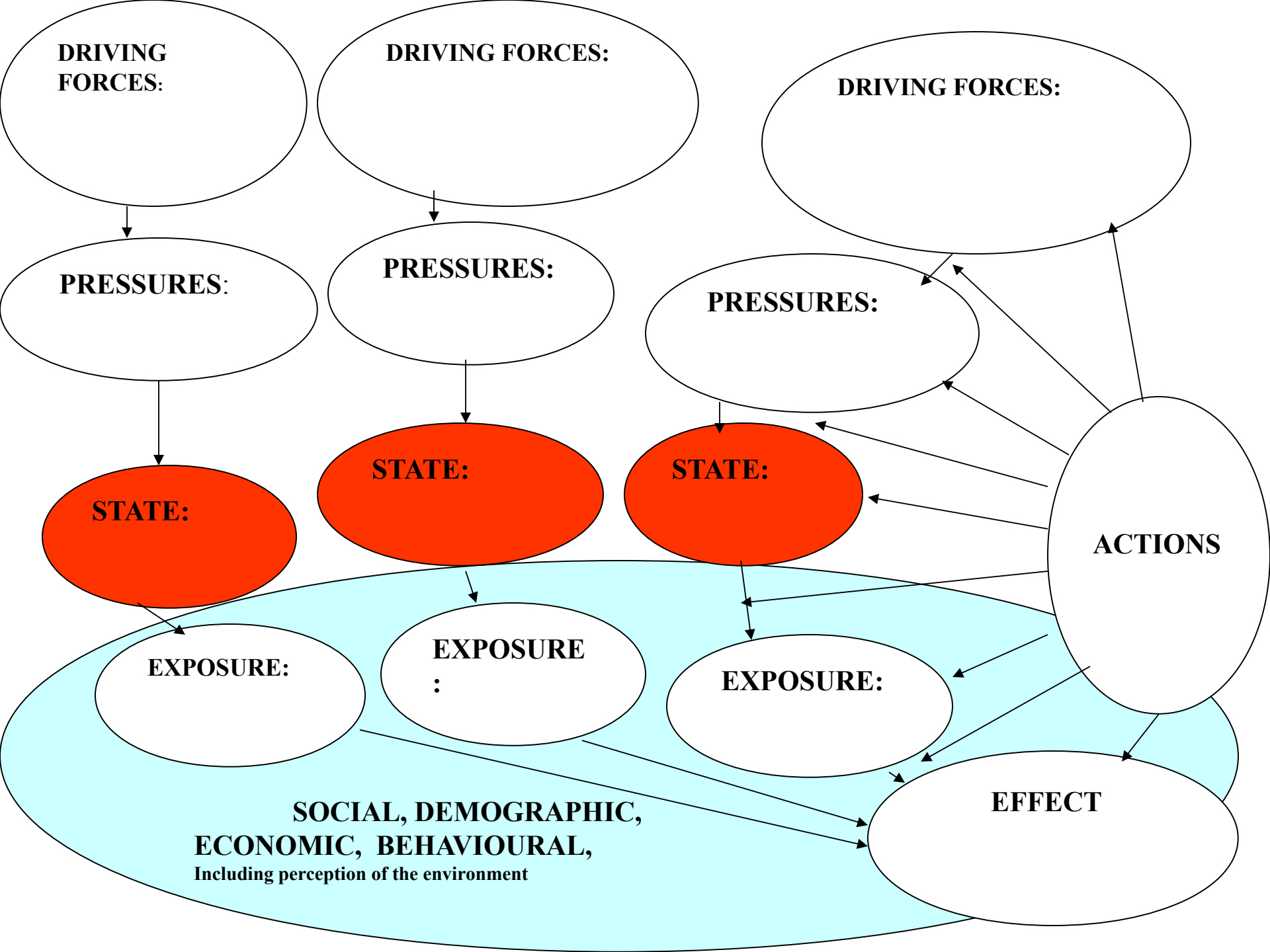


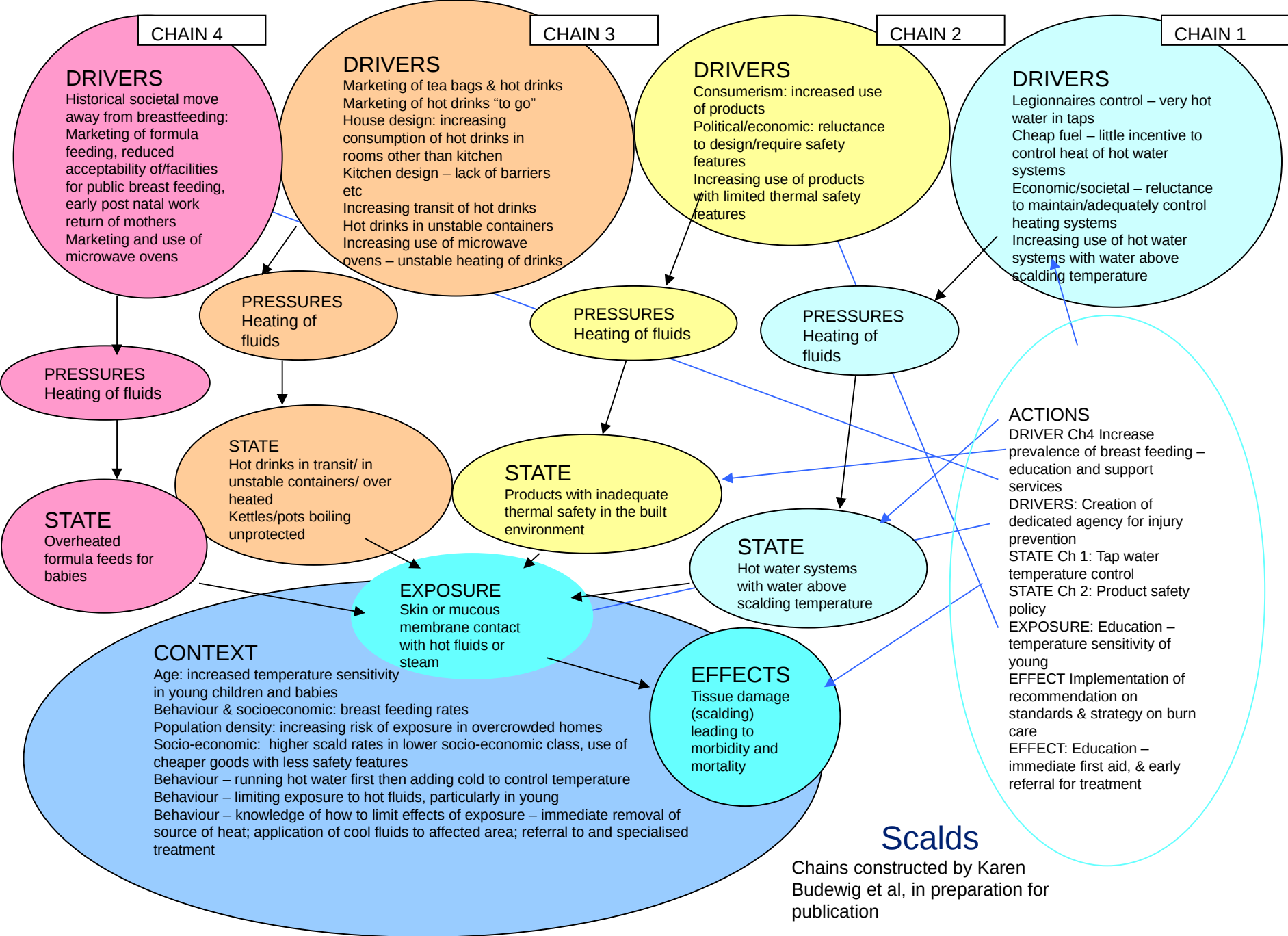


# Modified DPSEEA









CHAIN 4

CHAIN 3

CHAIN 2

CHAIN 1

**DRIVERS**

Historical societal move away from breastfeeding: Marketing of formula feeding, reduced acceptability of/facilities for public breast feeding, early post natal work return of mothers Marketing and use of microwave ovens

**DRIVERS**

Marketing of tea bags & hot drinks Marketing of hot drinks "to go" House design: increasing consumption of hot drinks in rooms other than kitchen Kitchen design – lack of barriers etc Increasing transit of hot drinks Hot drinks in unstable containers Increasing use of microwave ovens – unstable heating of drinks

**DRIVERS**

Consumerism: increased use of products Political/economic: reluctance to design/require safety features Increasing use of products with limited thermal safety features

**DRIVERS**

Legionnaires control – very hot water in taps Cheap fuel – little incentive to control heat of hot water systems Economic/societal – reluctance to maintain/adequately control heating systems Increasing use of hot water systems with water above scalding temperature

**PRESSURES**

Heating of fluids

**PRESSURES**

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Heating of fluids

**STATE**

Hot drinks in transit/ in unstable containers/ over heated Kettles/pots boiling unprotected

**STATE**

Products with inadequate thermal safety in the built environment

**STATE**

Hot water systems with water above scalding temperature

**STATE**

Overheated formula feeds for babies

**EXPOSURE**

Skin or mucous membrane contact with hot fluids or steam

**EFFECTS**

Tissue damage (scalding) leading to morbidity and mortality

**CONTEXT**

Age: increased temperature sensitivity in young children and babies Behaviour & socioeconomic: breast feeding rates Population density: increasing risk of exposure in overcrowded homes Socio-economic: higher scald rates in lower socio-economic class, use of cheaper goods with less safety features Behaviour – running hot water first then adding cold to control temperature Behaviour – limiting exposure to hot fluids, particularly in young Behaviour – knowledge of how to limit effects of exposure – immediate removal of source of heat; application of cool fluids to affected area; referral to and specialised treatment

**ACTIONS**

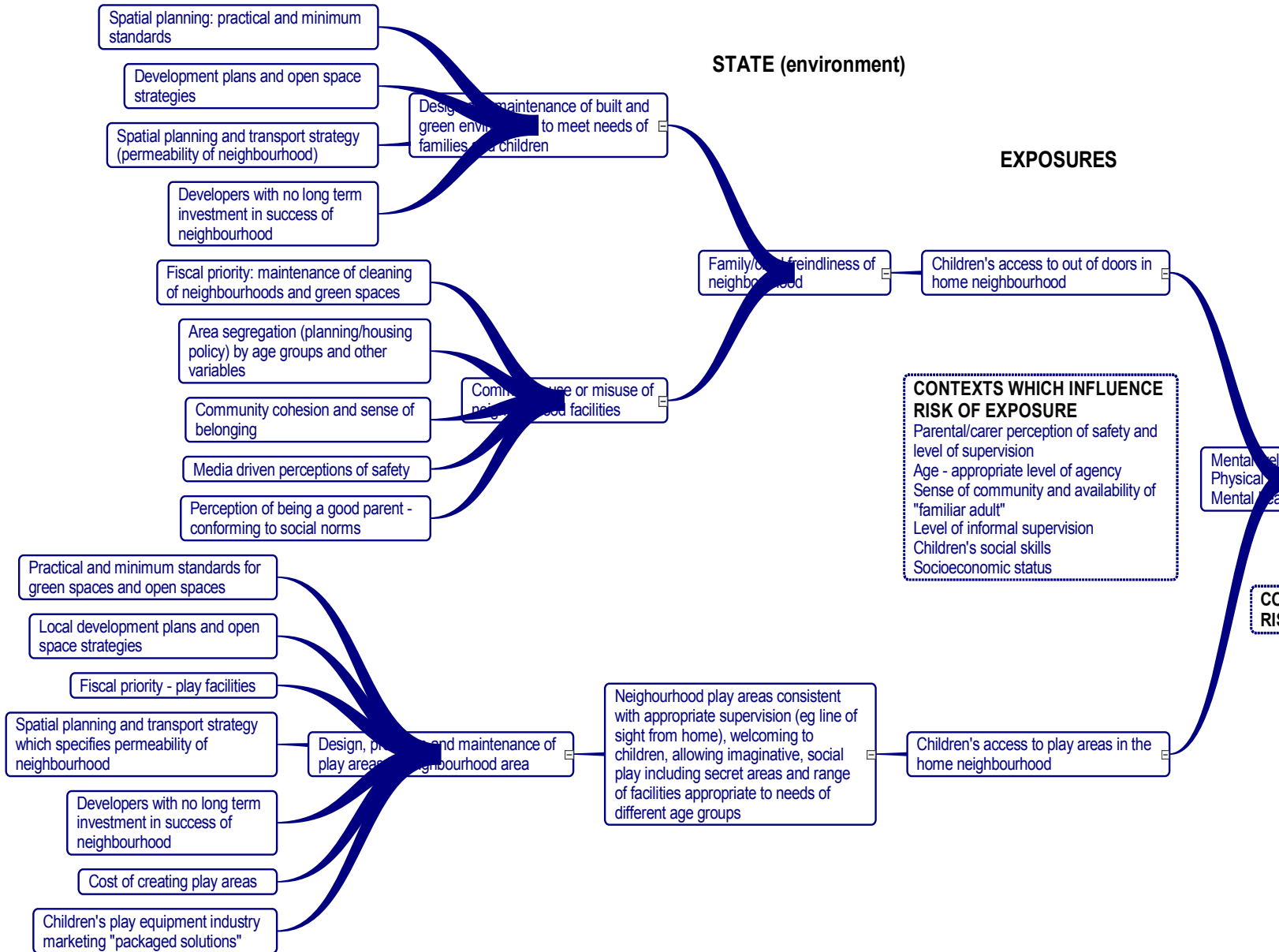
DRIVER Ch4 Increase prevalence of breast feeding – education and support services DRIVERS: Creation of dedicated agency for injury prevention STATE Ch 1: Tap water temperature control STATE Ch 2: Product safety policy EXPOSURE: Education – temperature sensitivity of young EFFECT Implementation of recommendation on standards & strategy on burn care EFFECT: Education – immediate first aid, & early referral for treatment

**Scalds**

Chains constructed by Karen Budewig et al, in preparation for publication

# MIND MAPPING SOFTWARE

## PRESSURES which impact on environment



- In December 2008, **Good Places, Better Health** was announced as a new policy initiative by Scottish Government alongside the SG 'Equally Well' strategy

- Its aim is to understand and address the contribution of environment to morbidity, mortality, health and well being in a more sophisticated way

- It sought to exploit a wider intelligence to inform policy and action

- Unusually for an environment and health policy, it was presented as relevant to both the hazard focussed Health Protection Agenda and the Health Improvement Agenda but especially health inequalities

**GOOD PLACES,  
BETTER HEALTH**  
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# Implementation

# A 'Prototype Phase'



## **What is needed to deliver places that nurture good health for children?**

Four health challenges facing children in Scotland:

Asthma, Obesity, Mental Health and

Wellbeing and Unintentional Injury

**WE SET OUT TO ANSWER QUESTIONS FOCUSING ON THE POTENTIAL OF PLACE**

**The engine of the process is the 4 Workpackages and their leadErs who make up**  
**THE GPBH INTELLIGENCE PARTNERSHIP**

**PROBLEM FRAMING**

NHS Health  
Scotland

**PRACTIC E, WHAT WORKS**

SNIFFER/HPS

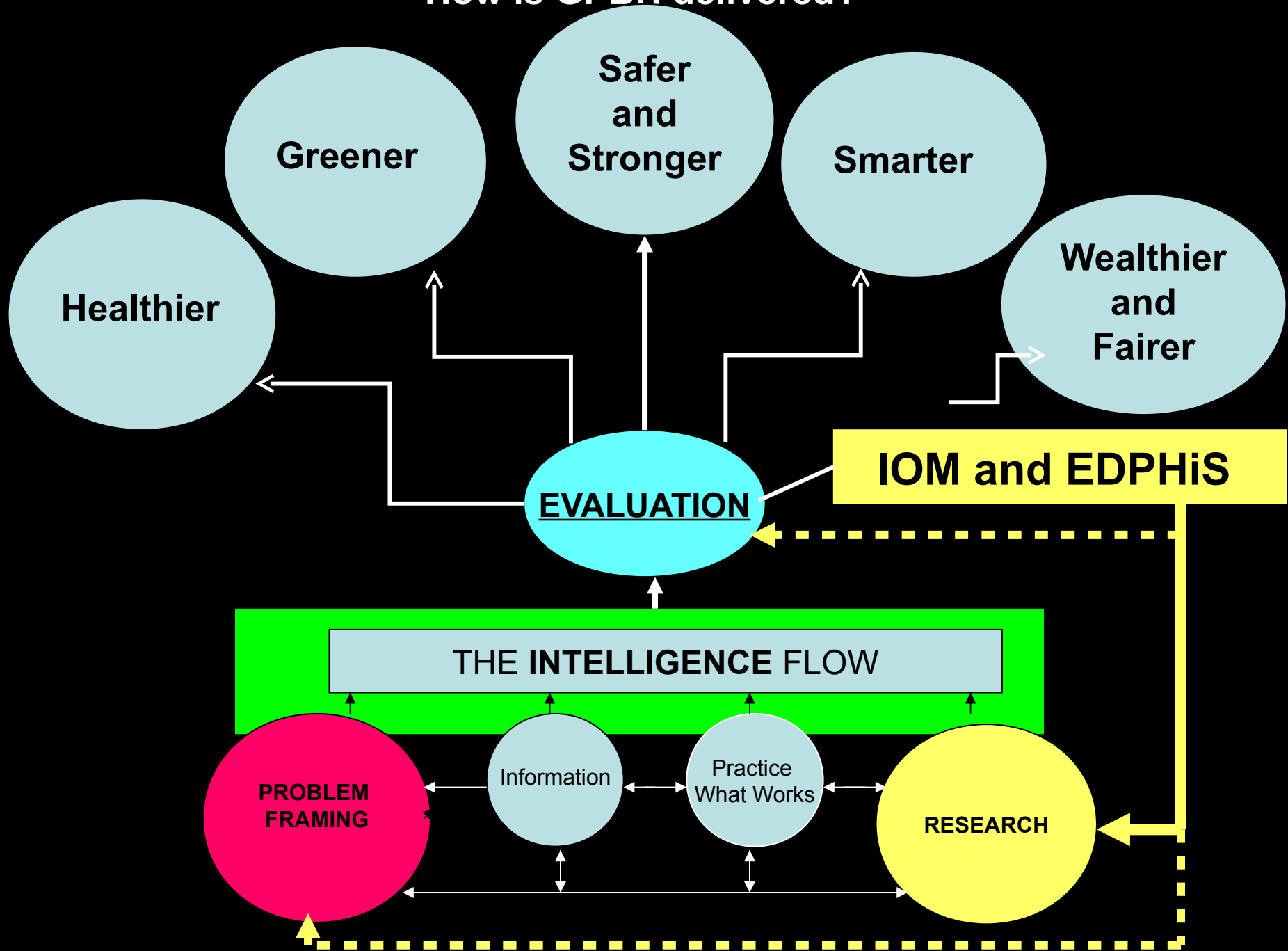
**INFORMATI ON**

SNIFFER/HPS

**RESEARCH AND QUANTIFICA TION**

EDPHiS

# How is GPBH delivered?





# The Products

# PRODUCTS

**“GOOD PLACES BETTER HEALTH FOR SCOTLAND’S CHILDREN” (REPORT)**

**Cross cutting intelligence: Housing, Neighbourhoods and Transport**

**EVIDENCE ASSESSMENT**

Obesity

**EVIDENCE ASSESSMENT**

Unintentional Injuries

**EVIDENCE ASSESSMENT**

Asthma

**EVIDENCE ASSESSMENT**

Mental Health & Wellbeing

**Health Topic specific intelligence**

- The Learning

- *“Five Pillars”*

# **1 Holistic problem framing**

Complex issues in environmental public health require to be considered with reference to all the factors that bear upon them and in a way which links to policy. This demands a robust, flexible, but above all holistic, problem framing approach.



1

In Good Places Better Health,  
mDPSEEA has filled that role



## **2 Wide Stakeholder Engagement**

Implicit in the analysis which calls for new approaches on environmental public health is a need for wide stakeholder engagement locally and nationally

In Good Places Better Health,  
mDPSEEA has underpinned  
stakeholder engagement



## **3 Exploitation of a ‘mixed economy’ of evidence**

A key challenge for modern environmental public health in moving beyond its health protection roots, concerns the need to draw upon a much wider range of qualitative and quantitative evidence.



In Good Places Better Health,  
mDPSEEA has been a framework  
for the assembling that 'mixed  
economy'

## **4. Evidence must be the subject to ‘qualitative synthesis’**

Whilst the assembly of a ‘mixed economy of evidence’ is consistent with a modern holistic approach to environmental public health, ways must be found to synthesise evidence of very different types to produce clear recommendations for policy. This demands a distinct ‘process stage’ which might be termed ‘qualitative synthesis’



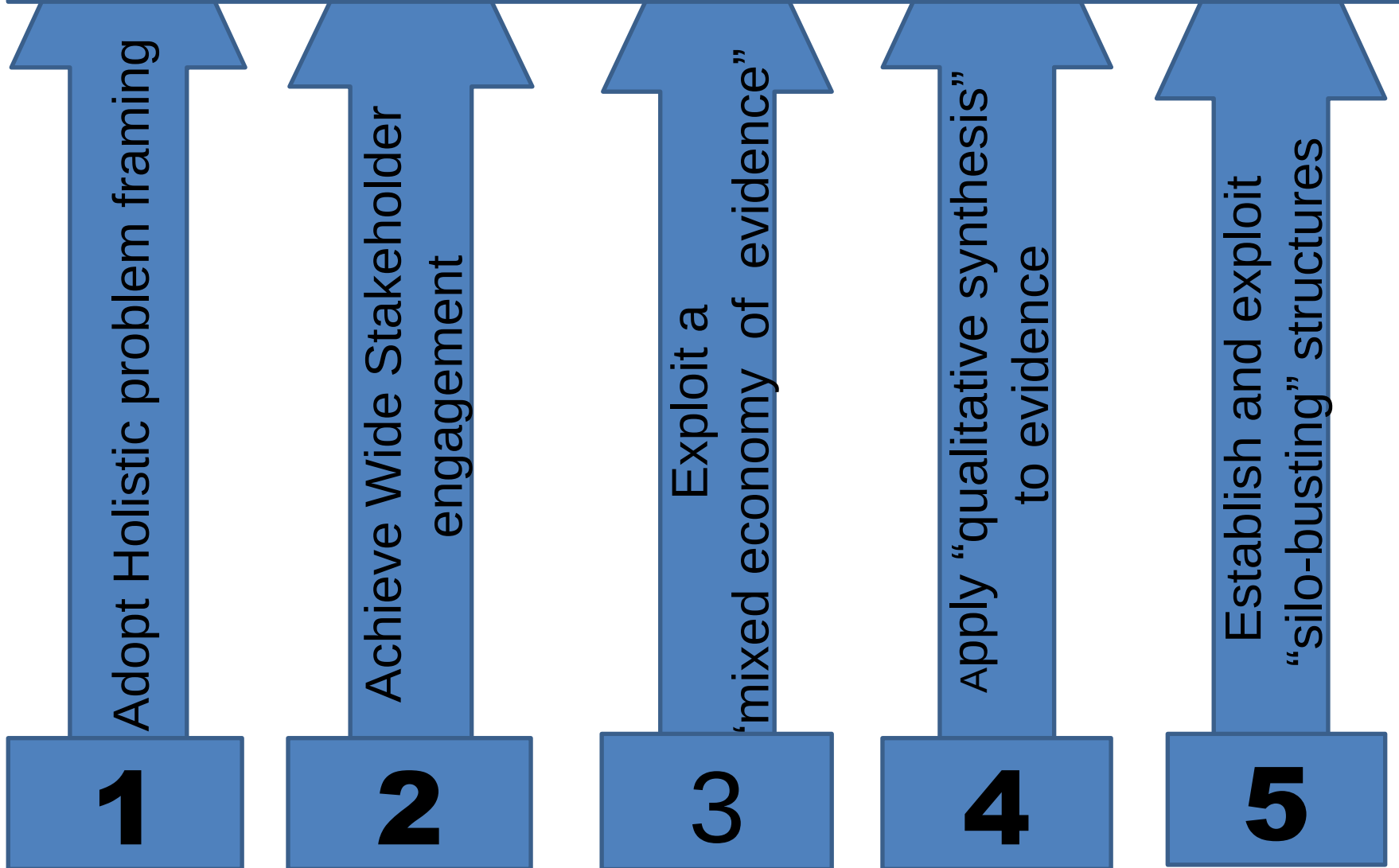
## **5. Establish and exploit silo-busting structures**

Structures created to deliver a new approach must be capable of challenge professional, institutional and policy silos

**5**

- Intelligence Partnership
- National and local workshops
- The performance deliver framework

# 5 PILLARS OF EFFECTIVE ENVIRONMENTAL HEALTH POLICY



# Ecological Public Health

**‘ERA of ECOLOGICAL PUBLIC HEALTH’  
offers both opportunity and challenge but  
what is it?**

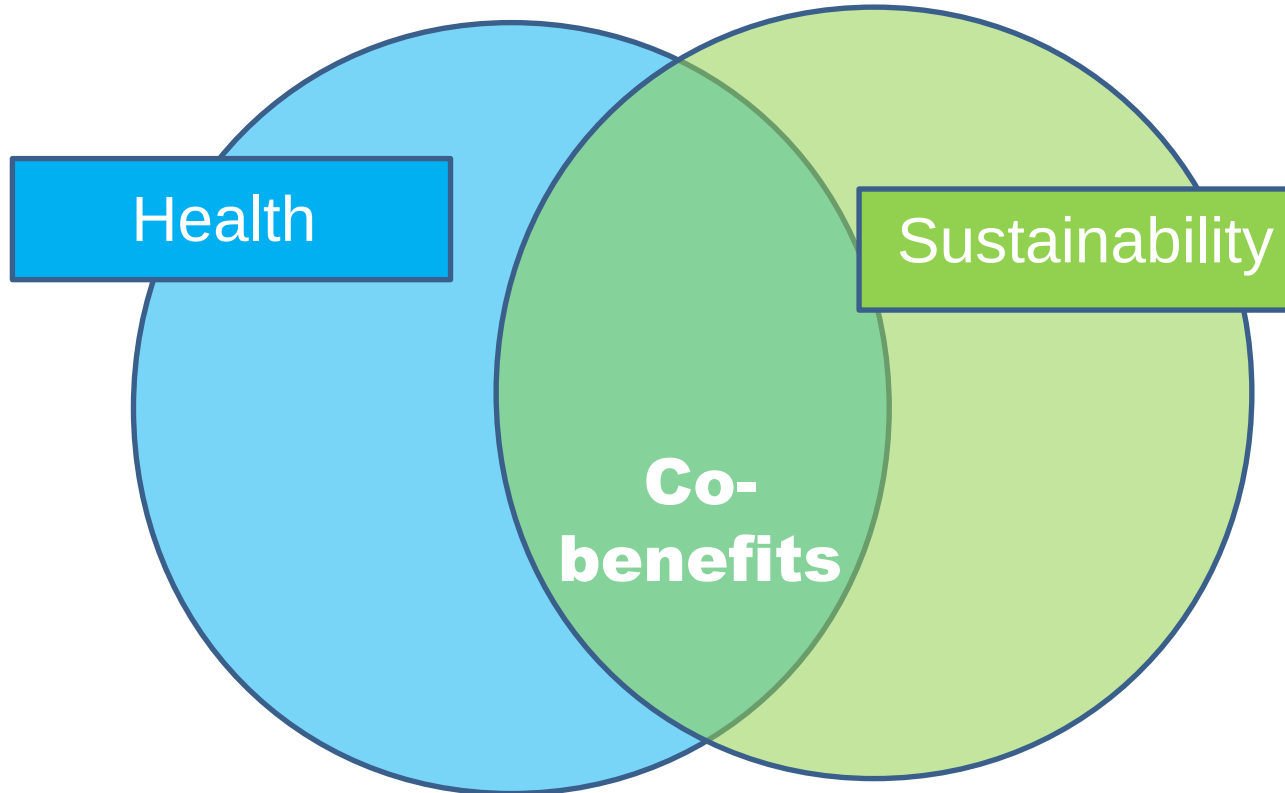
# An ecological approach implies we must:

*“..comprehend the composite interactions between the physical, physiological, social and cognitive worlds that determine health outcomes in order to intervene, alter or ameliorate the population’s health by shaping society and framing public and private choices to deliver sustainable planetary, economic, societal and human health”*

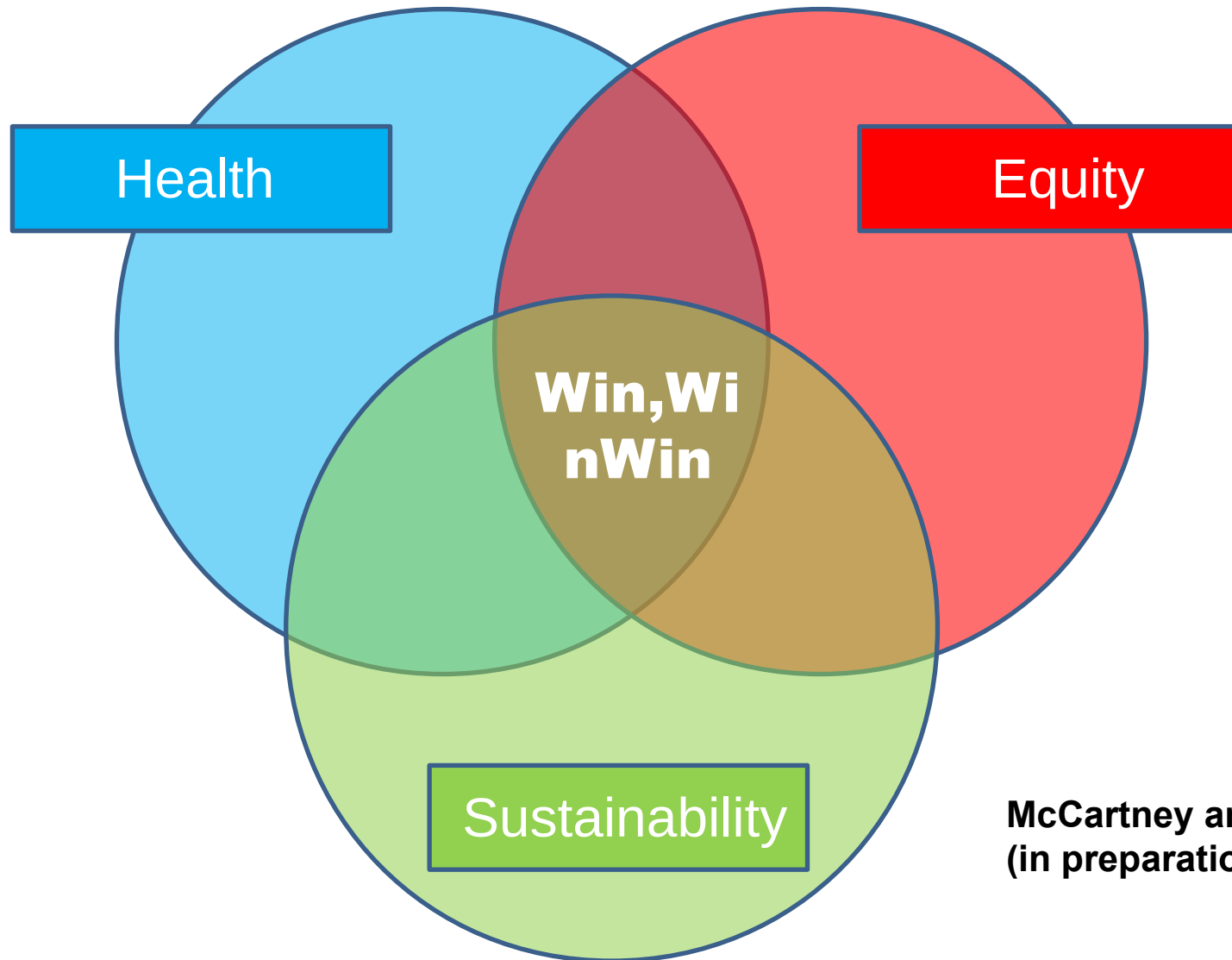
Source: Lang and Rayner – Expert submission to Foresight obesity project (published in Obesity Reviews, January 2007)



# COBENEFITS



# SUPER POLICIES FOR AN ECOLOGICAL ERA



**McCartney and Morris  
(in preparation 2011)**

# Conclusions/Reflections

- GPBH has made an impact in Scotland and generated interest elsewhere
- 
- Holistic issue framing using mDPSEEA has been central to our approach and how it has been delivered
- It tool for use within a coherent modern strategic approach but is not, of itself a or a policy or a strategy

If you do more of the same,  
you'll get more of the same!

## USEFUL LINKS

<http://www.edphis.org/>

The EDPHiS Research Consortium Website

<http://>

[www.scotland.gov.uk/Topics/Health/good-places-better-health/Recommendations](http://www.scotland.gov.uk/Topics/Health/good-places-better-health/Recommendations)

1. Good Places Better Health for Scotland's Children

2. Evidence Reviews for the 4 Health Outcomes

- Childhood Asthma
- Childhood Unintentional Injury
- Childhood Obesity
- Childhood Mental Health

<http://www.scotland.gov.uk/Topics/Health/good-places-better-health/Documents>

GPBH Methodology Report

Mind Maps

**What is needed to deliver places that provide good health to children?**