UNDERSTANDING PROGRAM THEORIES

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CONTENTS OF THIS CLASS

- Developing program theories
- The multiple theories in program theory
- Examples of theory-based evaluations
- Conclusions: Why program theory is important

WHY DO WE NEED POLICY PROGRAMS?

Policy programs are designed to change situations from what they would otherwise be.

Programs are 'theory incarnate' (Pawson): «if we implement this program, then things will go like that»

MARKET FAILURES
Private actors generating social costs or underproducing social benefits
(e.g., pollution, tax evasion, underinvestment in R&D, unhealthy consumption).

INSTITUTIONAL FAILURES
Organisations lacking coordination, capacity, or incentives
(e.g., fragmented services, outdated technology, understaffed public agencies).

INDIVIDUAL CAPABILITY FAILURES
People may lack information, skills, or resources to act differently
(e.g., limited training, unemployment, poor health, financial constraints).

…And all other situations where we fail to produce socially desirable outcomes…

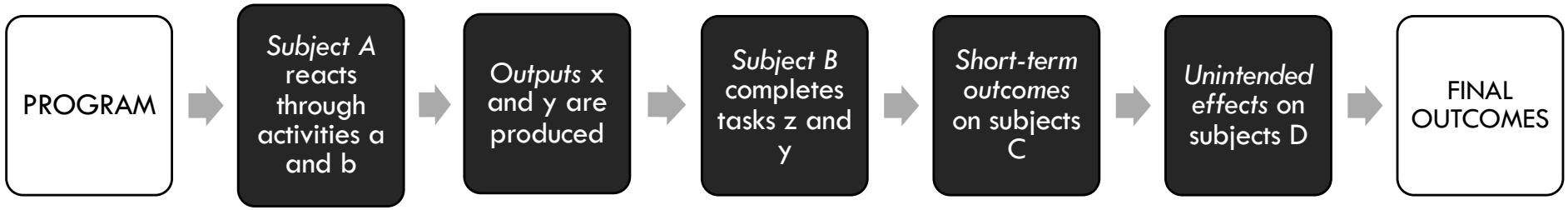
DEVELOPING PROGRAM THEORIES

PROGRAM THEORY: WHAT IS IT?

A program theory is an explicit *theory or model* of *why and how* an intervention (its activities, staff, tools, resources) contributes to a set of specific *outcomes* through a series of *intermediate results*.

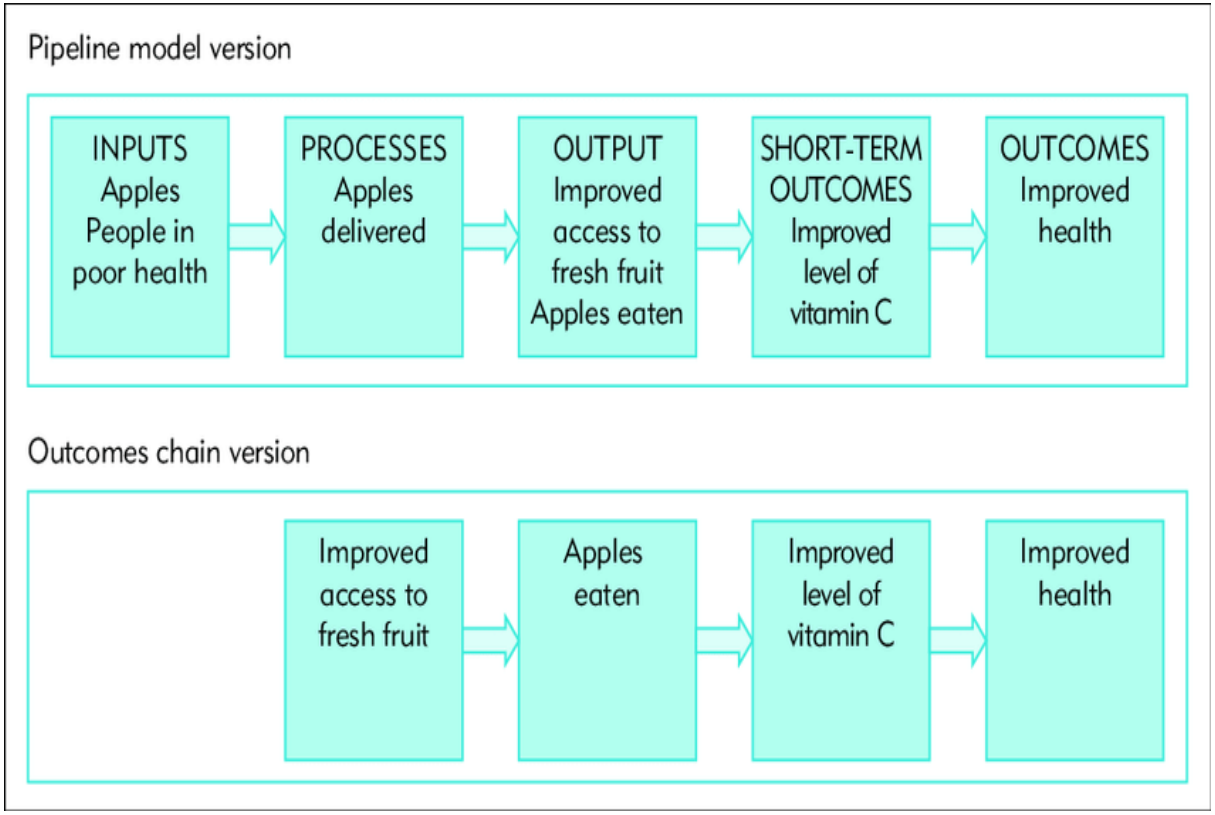
From the black box program model…

…to a hypothetical program theory:



Funnell and Rogers (2011) Purposeful Program Theory, Jossey Bass

EXAMPLE 1: ONE APPLE A DAY – DISTRIBUTION IN SCHOOLS

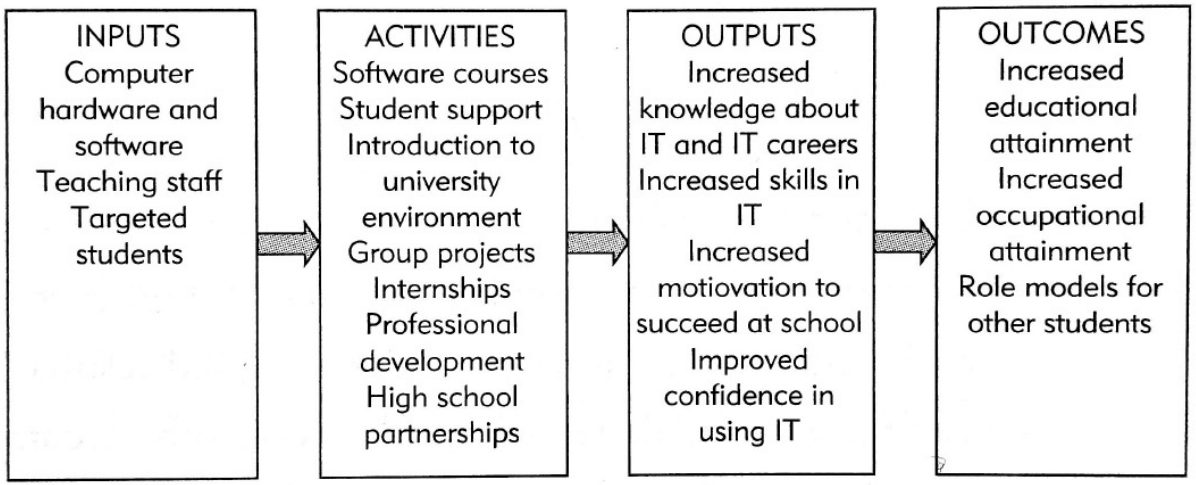


ALTERNATIVE THEORIES?

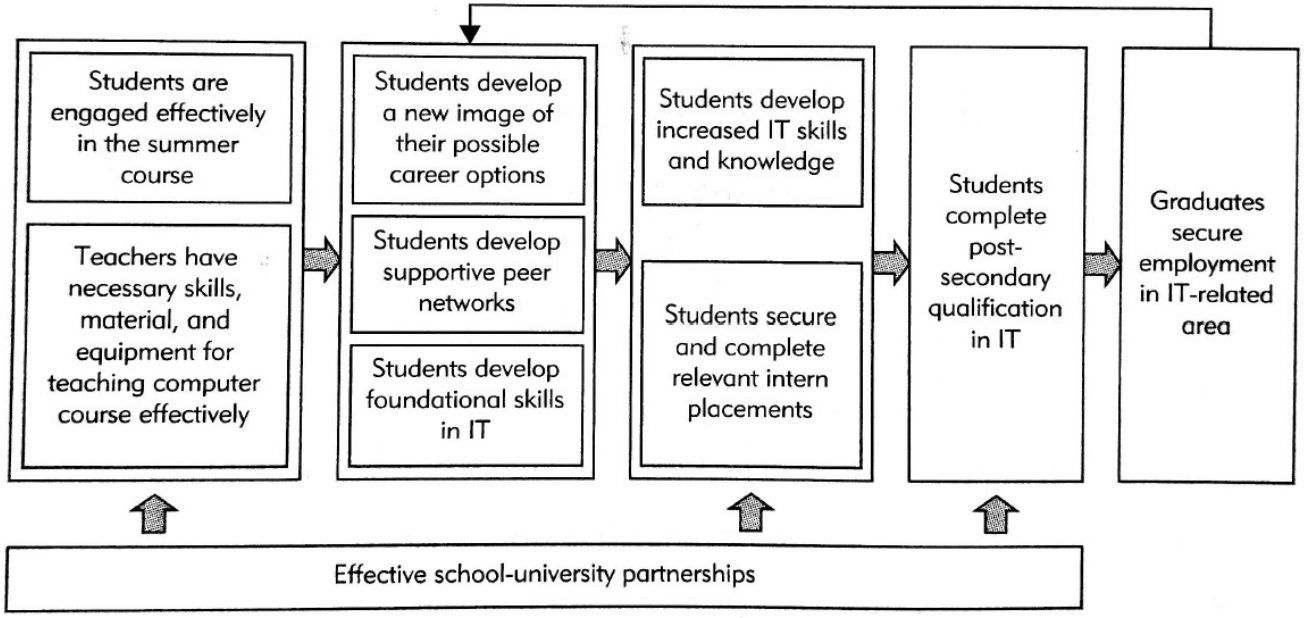
- Routinization
- Crowding out
- Parental memo

AND WHO MAY INFLUENCE OUTCOMES?

- Teachers who are expected to…
- Principals who will…
- Children who should…
- Parents who might…



A) Pipeline logic model of the computer skill project



B) Outcome chain logic model of the computer skill project

Funnell and Rogers (2011)

EXAMPLE 2: COMPUTER SKILL PROJECT

Pawson, R. (2002). *Does Megan's Law Work?: A Theory-driven Systematic Review*. London, England: ESRC UK Centre for Evidence Based Policy and Practice.

EXAMPLE 3: MEGAN'S LAW IN MICHIGAN

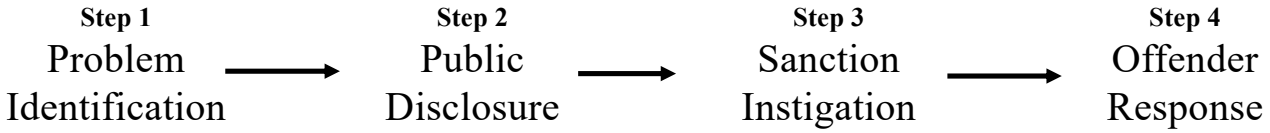
Design: Establishment of a public web register of sexual criminals reporting what they did and where they live + (optional) notification to the community

Expected outcome: Reduction of sexual assaults

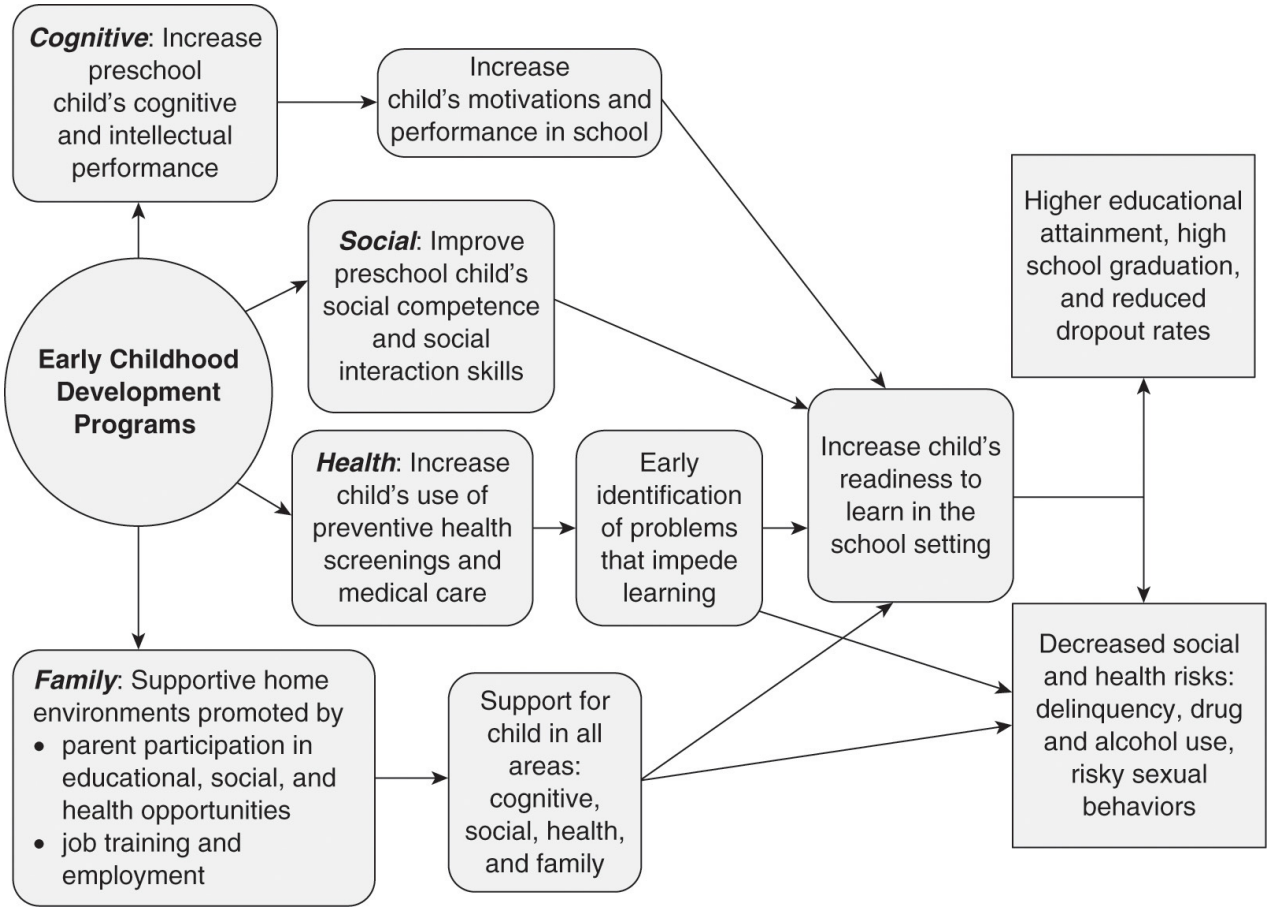
- Who should change behaviour?

- What conditions lead to the outcome?

- What is the theory underlying the program?



EXAMPLE 4:
A CHILDHOOD DEVELOPMENT PROGRAM



A multi-activity program involving children and families with training, subsidies and support.

McDavid, Huse, Hawthorn, 2019, Program Evaluation and Performance Measurement: An Introduction to Practice - Third Edition, Sage.

https://www.aes.asn.au/images/images-old/stories/files/conferences/2004/TH12%20List,%20D.pdf
List 2004 Combining program logic with scenario networks, Australasian Evaluation Society 2004

EXAMPLE 5: SUPPORTING RADIO FOR DEMOCRACY (LIST 2004)

An international body funds a program to support radic talkback live programs on politics.

Expectations:

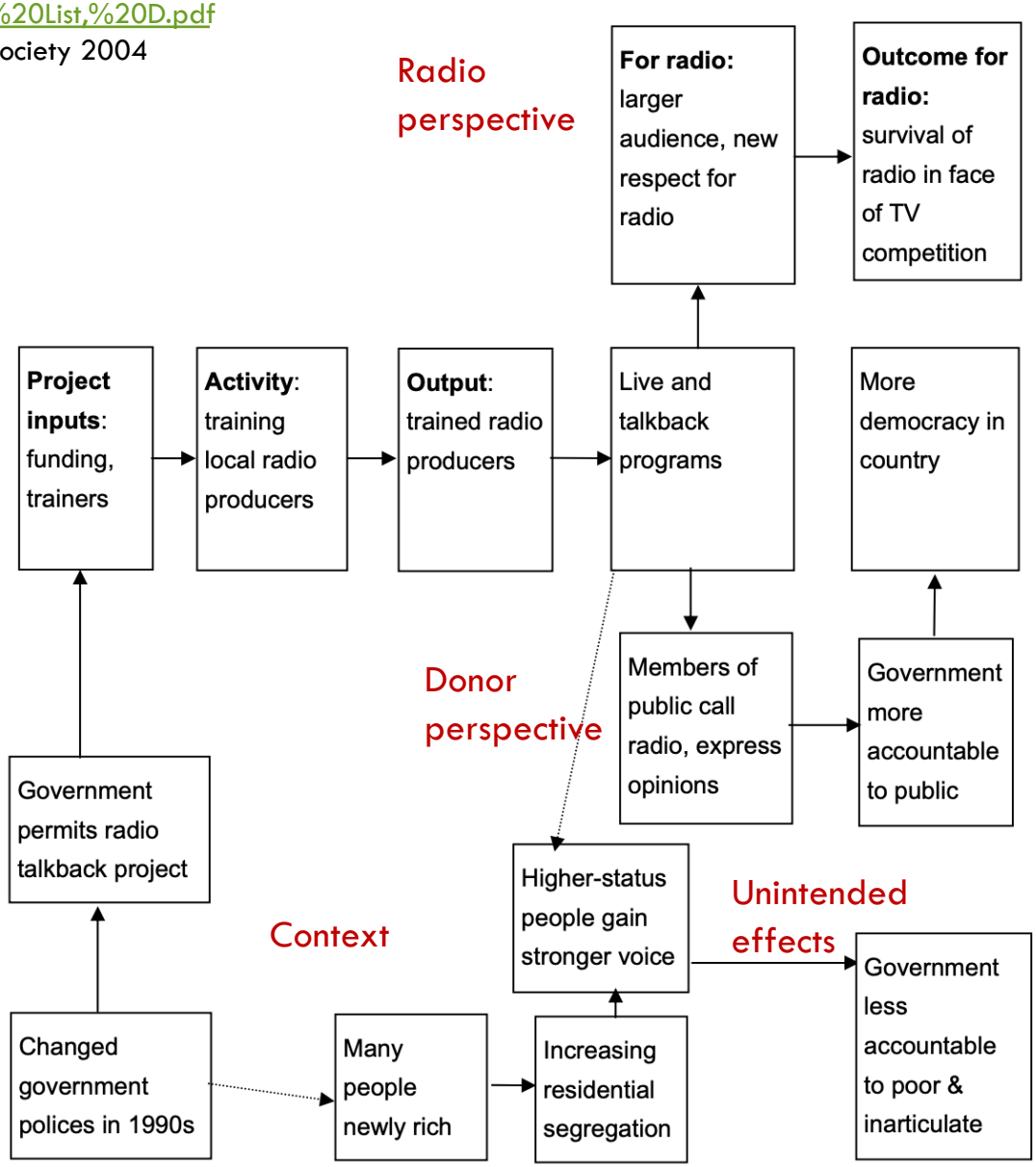
1. Citizens listen to the talkback programs, and hear others questioning or criticizing government or business.

2. They come to accept the principle that actions affecting all citizens are accountable to all citizens.

3. This emboldens some of the listeners to take part in talkback programs themselves.

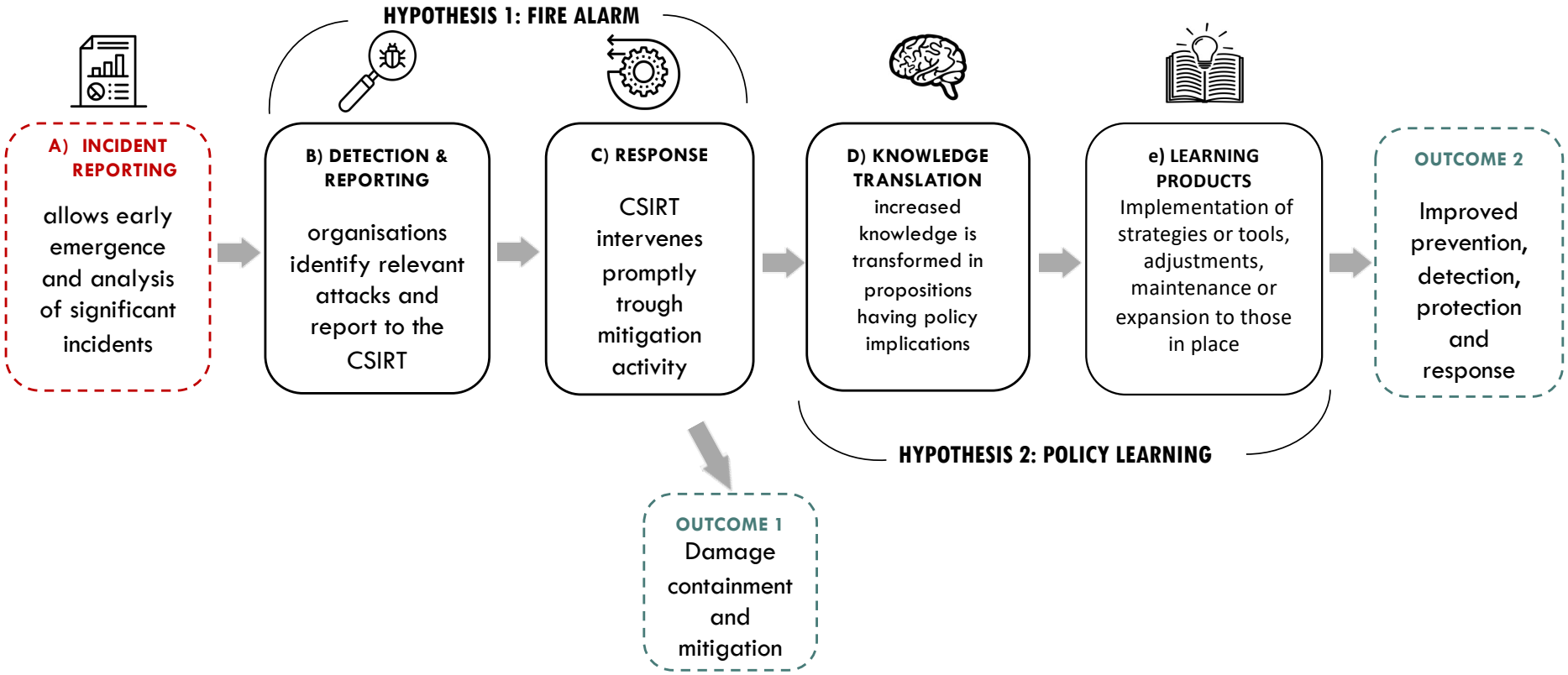
4. Officials would know about the program, and perhaps think twice about going ahead with some project of dubious democratic merit.

5. Elected representatives would take up some of the themes mentioned on the programs, in an attempt to be returned to office in the next election.



Simone Busetti, Francesco Maria Scanni, (2025) Evaluating incident reporting in cybersecurity. From threat detection to policy learning, *Government Information Quarterly*, 42(1)

EXAMPLE 6: BUSETTI SCANNI 2025



TIPS ON DEVELOPING PROGRAM THEORIES

HOW TO WORK ON YOUR THEORIES:

- ✓ Use deduction: Make if-then hypotheses and question how you get to your outcomes
- ✓ Do your research (past cases, literature, program documents)
- ✓ Talk to people (exploratory interviews, stakeholder workshops)
- ✓ It is always an iterative process from hypothesis to evidence

NOT JUST A LIST OF ACTIVITIES AND PROCEDURES

- ✓ Work on *causal connections* between steps, elements, and actions
- ✓ Be explicit about how design details, activities and other factors *contribute* to results and how (not all of them matter!): what is it about them?
- ✓ Ensure *productive continuity* from the program to the outcomes
- ✓ Include *program and non-program* factors
- ✓ Consider which *actors* are involved and how they will react.
- ✓ Consider unintended, countering and differential effects

EXERCISE IN CLASS

Consider a policy that aims to increase students' performance by increasing teachers' salaries.

Elaborate on a possible program theory:

1) using the pipeline model: input, activities/processes, outputs, short-term outcomes, outcomes;

2) using the outcome chain model;

3) using a causal process model (e.g. design details with causal powers, actors with preferences and capacities engaging in activities, contextual factors, intended and unintended outcomes…)

THE MULTIPLE THEORIES IN PROGRAM THEORY: PROBLEM, CHANGE, ACTION!

1. PROBLEM THEORY, OR SITUATION ANALYSIS

How do we understand the social processes that give rise to the problem?

Problem theory consists of the body of empirically tested understanding of the social problem that underlies the design of the program in question. It identifies the nature and extent of the problems and opportunities to be addressed by the program. It describes the various features of the problem: who is affected, the size of the problem, its progress over time, causes and consequences.

- It is mainly a matter for designers, but evaluators may question the relevance of the program
- There is almost perfect path dependency from problem theory to program design
- Problem theory is the result of research and data elaboration, but may be affected by the social construction of target population

A SITUATION ANALYSIS FOR OLDER UNEMPLOYED

FUNNELL & ROGERS 2011 PURPOSEFUL PROGRAM THEORY, JOSSEY BASS

THE PROBLEM

Long-term unemployment of people over the age of forty-five. Research shows that the longer people are out of work, the harder it is for them to get a job. Over 45-year-olds have a higher risk of long-term unemployment. Further, they have a higher risk of job loss when they find one.

THE CONSEQUENCES

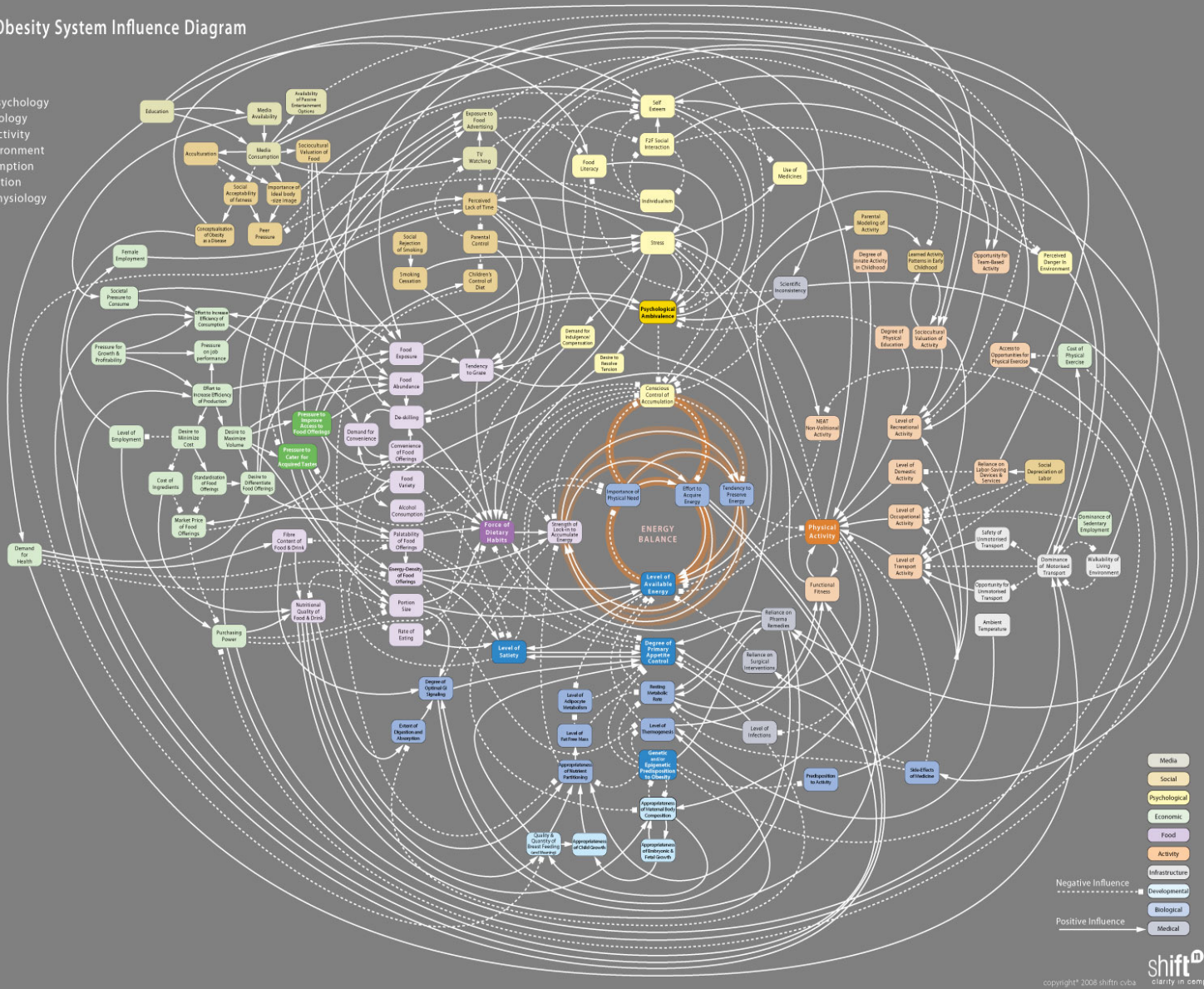
Poorer health, social and economic disadvantage for the individual and the family, increased costs in welfare

CAUSES, CONTRIBUTING FACTORS, OPPORTUNITIES

- Fewer contacts with the labor market and fewer opportunities to find jobs
- Reduced skill levels
- Loss of confidence
- Ageing health issues
- Welfare benefits not encouraging job search
- Specificities of the job market may increase difficulties in finding a job

shiftn Obesity System Influence Diagram

Full Map
Clusters
Core Loop
Individual Psychology
Social Psychology
Individual Activity
Activity Environment
Food Consumption
Food Production
Individual Physiology
Physiology

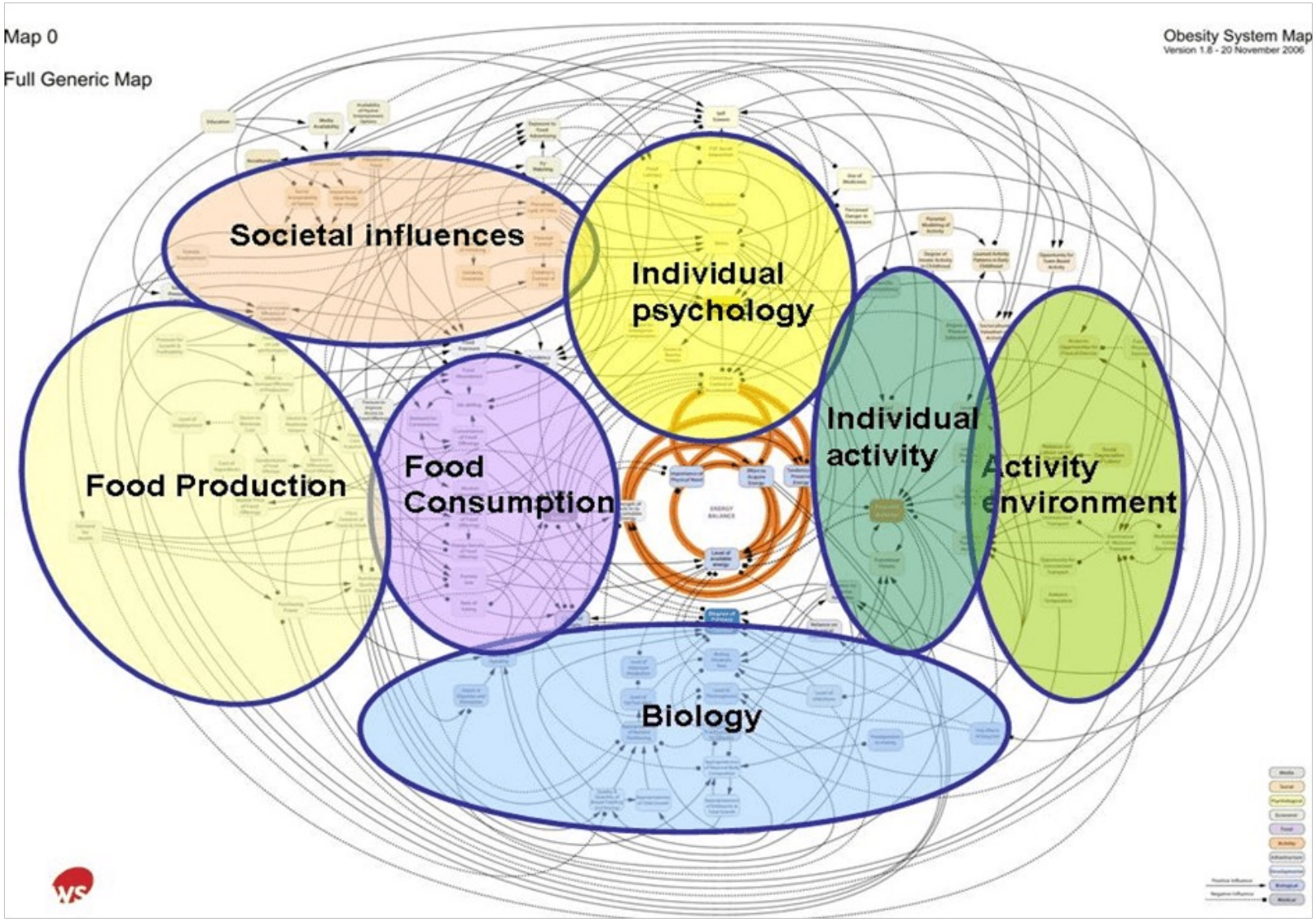


shiftn clarity in complexity

Map 0

Full Generic Map

Obesity System Map
Version 1.8 - 20 November 2006



2. THEORY OF CHANGE (TOC), AND MECHANISMS

By which mechanisms does the program change the problematic situation?

TOC refers to the central mechanisms by which change comes about for individuals, groups, and communities.

The same program may include different mechanisms working jointly or in sequence (e.g. one about their engagement with the program, and another about changing their behaviours)

Problem theory and theory of change are intertwined, but the translation is not automatic:

- People sleeping in the streets: Homeless, psychologically distressed, economically fragile… Each definition calls for a set of solutions, but which one?
- People are not aware of their water waste: what do you do?

An example:
Security in the car park (Pawson & Tilley 1997)

Imagine a program based on installing CCTV cameras in car parks with the objective of reducing crimes.

Why should CCTVs work?

What is the mechanisms/theory of change?

Security in the car park (Pawson & Tilley 1997)

1. '*Caught in the act*': Instant arrest
2. '*Fear of being framed*': Deterrence
3. '*Recording identification*': The police find the thieves
4. '*Nosy parker*': Increase in usage produces an adverse environment to criminals
5. '*Appeal to the cautious*': Cautious people concentrate in car parks with CCTVs
6. '*Memory jogging*': CCTVs remind drivers about the possibility of crimes
7. '*Effective deployment*': Learning from records and new police strategies

Analysing the example (1)

The programme has a ***simple goal*** and a very ***standard tool,*** but ***many mechanisms*** may be at work.

Interventions are not clinical treatments:

- rely on ***ambiguous theories***
- target ***reactive subjects***
- operate in ***non-neutral contexts***.

Analysing the example (2)

The mechanisms tell us who is supposed to react to the program:

Mechanism	**Who should react to the program?**
Caught in the act	Police and/or parking guards
You've been framed	Thieves
Recording identification	Police
Nosy parker	Drivers
Appeal to the cautious	Drivers
Memory jogging	Drivers
Effective deployment	Police

- In designing the program, it tells you whose behaviour (and what behaviour) you need to trigger and support
- In evaluating the program, this tells you whose behaviour you want to measure

A THEORY OF CHANGE FOR OLDER UNEMPLOYED

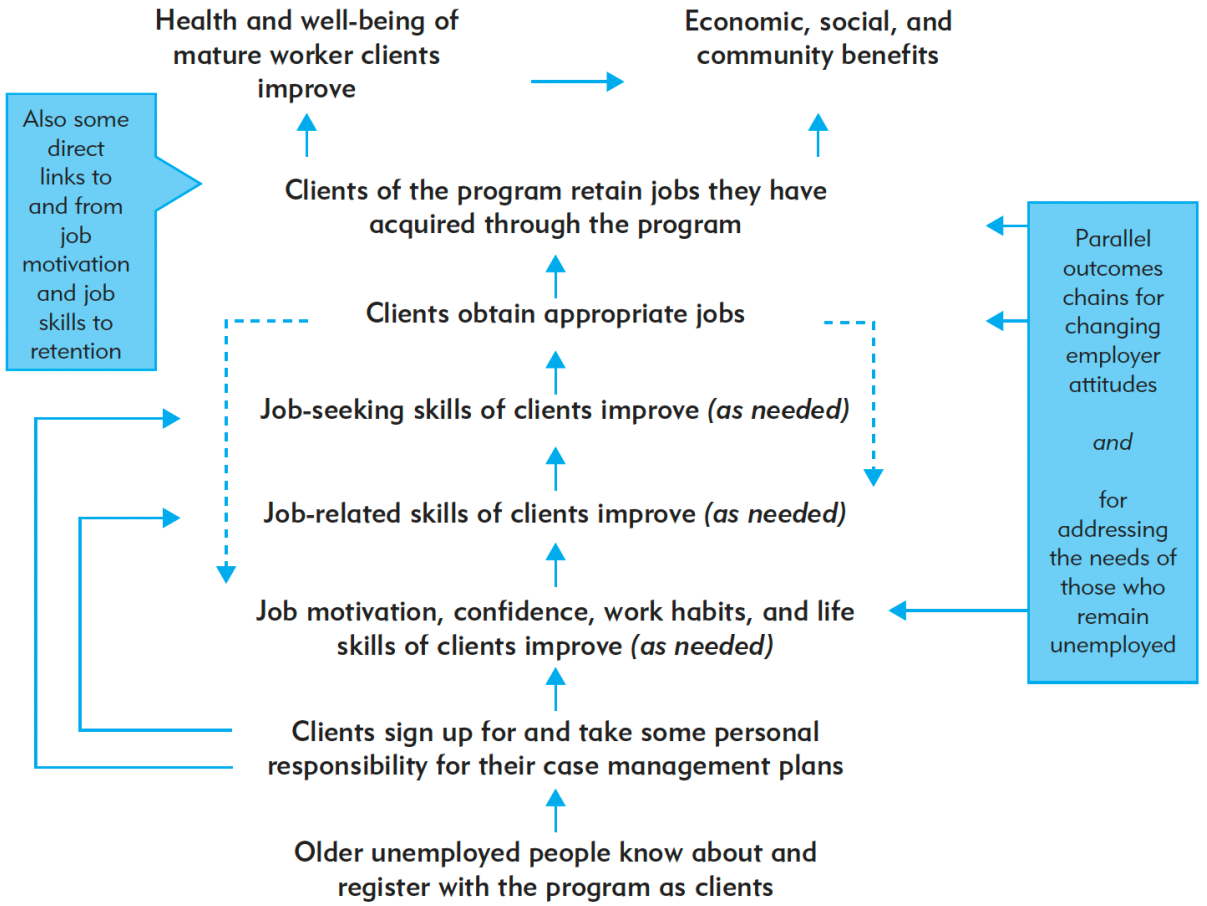
FUNNELL & ROGERS 2011 PURPOSEFUL PROGRAM THEORY, JOSSEY BASS

The program aims to assist midlife and older persons to remain in the workforce by:

- *Overcoming the separation from the labor market by helping contacts*
- *Overcoming skill deficiencies*
- *Overcoming lack of confidence and sapped morale*
- *Generating the support and cooperation of targeted employers*
- *Helping employees to overcome some of the factors that can reduce retention by incorporating follow-up support*

The program includes:

- *Case management with custom-tailored activities related to deficient skills*
- *Advocacy on a limited scale with prospective employers*



3. THEORY OF ACTION, OR IMPLEMENTATION THEORY

How do we implement the program effectively?

This explains how programs are constructed to activate the theory of change. It includes the choices and priorities regarding activities, operations, and outcomes for the program to work well.

Designed programs ≠ Implemented programs

It may include:

- Details about intermediate outcomes and target audience
- Assumptions about how the program should operate
- Assumptions about external factors and how to deal with them

An example: Security in the car park (Pawson & Tilley 1997)

Different mechanisms call for different implementation details

Mechanism	**Implementation details**
Caught in the act	Hidden cameras, constant monitoring, police nearby, funding
You've been framed	Visible cameras, visible signs outside the car park, funding
Recording identification	Hidden HD cameras, investigation capacity, person detection systems, funding
Nosy parker	Signs outside the parking lot, commercials, funding
Appeal to the cautious	Signs outside the parking lot, commercials, funding
Memory jogging	Visible cameras, signs reinforcing the message, funding
Effective deployment	Hidden HD cameras, investigation capacity, ability to tailor strategies, funding

- In designing the program, this information gives you guidelines on how to implement program tools
- In evaluating the program, it tells you what to look for and what kind of program operations are expected for the program to work well

A THEORY OF ACTION FOR OLDER UNEMPLOYED

FUNNELL & ROGERS 2011 PURPOSEFUL PROGRAM THEORY, JOSSEY BASS

SPECIFY WHAT IS EXPECTED IN TERMS OF OUTCOMES:

- *What kind of jobs should be the focus of the program? Part-time? Full-time? What do we mean by retention? For how long? Etc…*

CHECK FOR IMPLEMENTATION OPERATIONS, ENSURING:

- *Fidelity*
- *Coverage*
- *Not biased, nor creamed off*

CHECK FOR SERVICE DELIVERY AND MANAGEMENT SYSTEMS:

- *Resources*
- *Staff and training*
- *Governance arrangements*

CONSIDER EXTERNAL NON-PROGRAM FACTORS:

- *Change in employee circumstances (e.g. health, or grandchildren to care for)for example, health,*
- *Business or context factors encouraging greater use of mature age workers*
- *Receptiveness of other staff toward older workers*
- *Employer attitudes to mature-age workers*

EXAMPLES OF THEORY-BASED EVALUATIONS

Busetti 2019. A theory-based evaluation of food waste policy, in *Food Policy*
https://www.sciencedirect.com/science/article/pii/S0306919219305664

THE ITALIAN POLICY

1997-2005

VAT Exemptions (1997), VAT Deductions (1999), Partial deductions of the value of donations (2005)

2003

Good Samaritan Law155/2003

2016

Law 166/2016 against food waste:

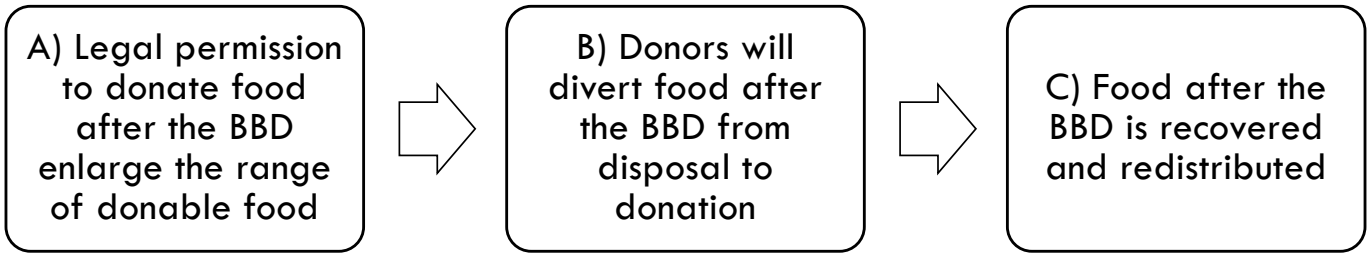
- New organisations and new items
- Waste fees discounts
- Bureaucratic simplifications
- Food after the best-before date becomes donatable

FOOD AFTER THE BEST BEFORE DATE

DESIGN FEATURES:

- BBD food can be donated to associations recovering and preparing food

Hypothesis:



A) Legal permission to donate food after the BBD enlarge the range of donable food

B) Donors will divert food after the BBD from disposal to donation

C) Food after the BBD is recovered and redistributed

PRODUCTION AND MANUFACTURING*:

	Ambient	Chilled	Frozen	Total
Internal sell-by date reached (%)	63.9	68.8	87.1	66.9
Product non-compliance (%)	16.2	5.4	1.4	12.2
Product refusals (%)	7.5	13.1	8.3	9.1
Packaging non-compliance (%)	6.8	4.0	2.1	5.7
Returns of unsold product (%)	5.6	8.7	1.1	6.1
Surplus food – Italy (1,000 tonnes per year)	118.2	51.5	11.7	181.4
	100.0%	100.0%	100.0%	100.0%

DISTRIBUTION CENTRES*:

	Retail distribution centres
Internal sell-by date reached (%)	48.7
Returns of unsold product (%)	28.1
Product non-compliance (%)	12.8
Packaging non-compliance (%)	10.4
Surplus food – Italy (1,000 tonnes per year)	73.6

*Garrone, Melacini, Perego (2014) Surplus food recovery and donations in Italy, British Food Journal, 116(9): 1460-77

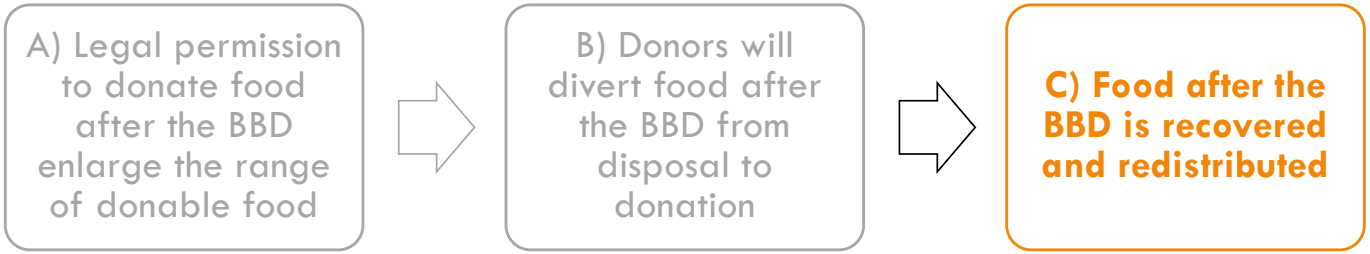
NOT ALL DONORS ARE CREATED EQUAL!

Supermarkets may provide lower-quality food:

- shelf-life game: donate as late as possible / partly shift waste costs to associations
- less recoverability

Manufacturers and producers have reputational fears:

- Reputational risks cannot be protected by the law
- Resistance to sell food after the BBD



(Recovering surplus produced by shops is difficult)

- Food banks avoid food after the BBD
- Associations preparing meals may use this food profitably

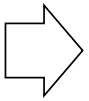
	TYPE 1 DONOR	TYPE 2 DONOR
Food Surplus characteristics	- Homogeneous surplus - No special management needed - Large quantity	- Heterogeneous surplus - Special management needed - Small quantity
Management capacity	- Adequate storage space - Adequate staff for selection, storage, and administrative procedures	- Limited storage space - Limited staff

RESULTS:

A) Legal permission to donate food after the BBD increases the range of donatable food:

- Consumers are the main producers but are not targeted by the policy

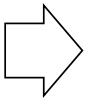
- Producers, manufacturers and retail distribution centres produce little surplus after the BBD



B) Donors will donate food after the BBD rather than disposing of it:

- Beware of retailers playing 'shelf-life games'

- Manufacturers will resist donations because of reputational risks



C) Food after the BBD is recovered and redistributed:

- Organizations preparing meals may use this food

- Organizations distributing aid packs may refuse this food

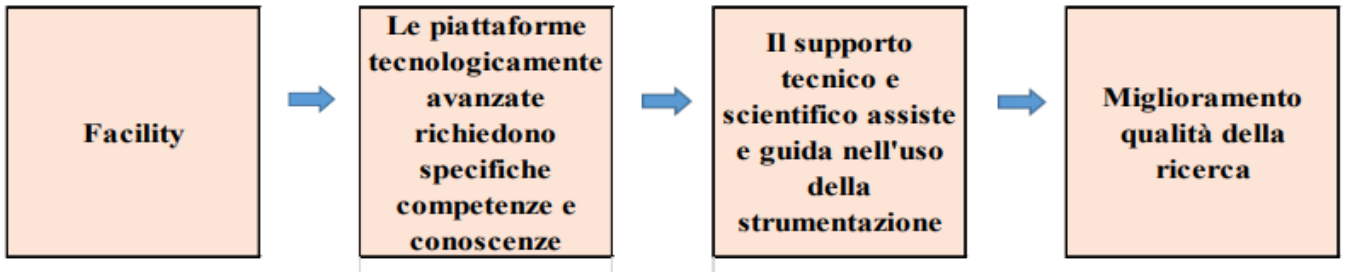
CONCLUSIONS:
WHY PROGRAM THEORY IS IMPORTANT

REFINING MEASUREMENT: UNDERSTANDING SCIENTIFIC FACILITIES (CELIN, R. 2020)

Facilities or research infrastructures: «structures, resources, services that are used by the scientific community to conduct high-quality research no matter the institutional membership»

HOW TO EVALUATE?

If we have a program theory, we multiply the things we can measure in the process (not only design and outcomes but intermediate operations, activities, outputs, and outcomes)



Celin, R. 2020, Le facility come strumento per il miglioramento della qualità della ricerca. Tesina Master Pisia

DISCRIMINATING BETWEEN THEORY FAILURE AND PROGRAM/IMPLEMENTATION FAILURE

Let's say we run a pilot project on the web register of sexual criminals, and we find no difference in outcomes between treatment and control groups.

What do we learn?

Not having an idea of the causal process, black box evaluation does not distinguish between the following situations:

THEORY FAILURE

"We are assuming that deterrence and social control can stop sexual criminals, but sexual criminals are not discouraged by information disclosure"

PROGRAM/IMPLEMENTATION FAILURE

"We are assuming that the web registers effectively register actual criminals, that people look at the register and implement forms of social controls, but it does not go like that"

LEARNING FROM AND USING EVALUATION RESULTS

Impact evaluation typically produces black-box verdicts like “we found (no) significant result on outcomes abc”

Example:

A. We found that the L36 Political Science course does not produce significant improvements in students’ analytical skills

B. We found that the L36 Political Science course produces a 3-point improvement of analytical skills on a standard test with respect to the control group

How do we use this result?

- Evaluation users rarely want answers for go/no-go situations
- Policymakers and practitioners want recommendations on possible improvements
- But recommendations need a transparent box on what can be improved and how

SCALE UP AND REPLICATION
THE TAMIL NADU PROJECT – WORLD BANK 1990

Tamil Nadu Integrated Nutrition Program

DESIGN: supplementary food for pregnant or nursing mothers and their children + nutritional advice to mothers to correct a misperception that mothers should reduce rather than increase their food intake during pregnancy.

IMPACT after experimental evaluation: SUCCESS!

Bangladesh Integrated Nutrition Program

DESIGN: TNINP

IMPACT: Failure!