

# Producing Knowledge Syntheses that are Both Rigorous and Relevant to Policy-Makers

A training workshop

By Florence Morestin, M.Sc.

(Thanks to F.-P. Gauvin for co-designing previous versions of this workshop)

The Ontario Public Health Convention

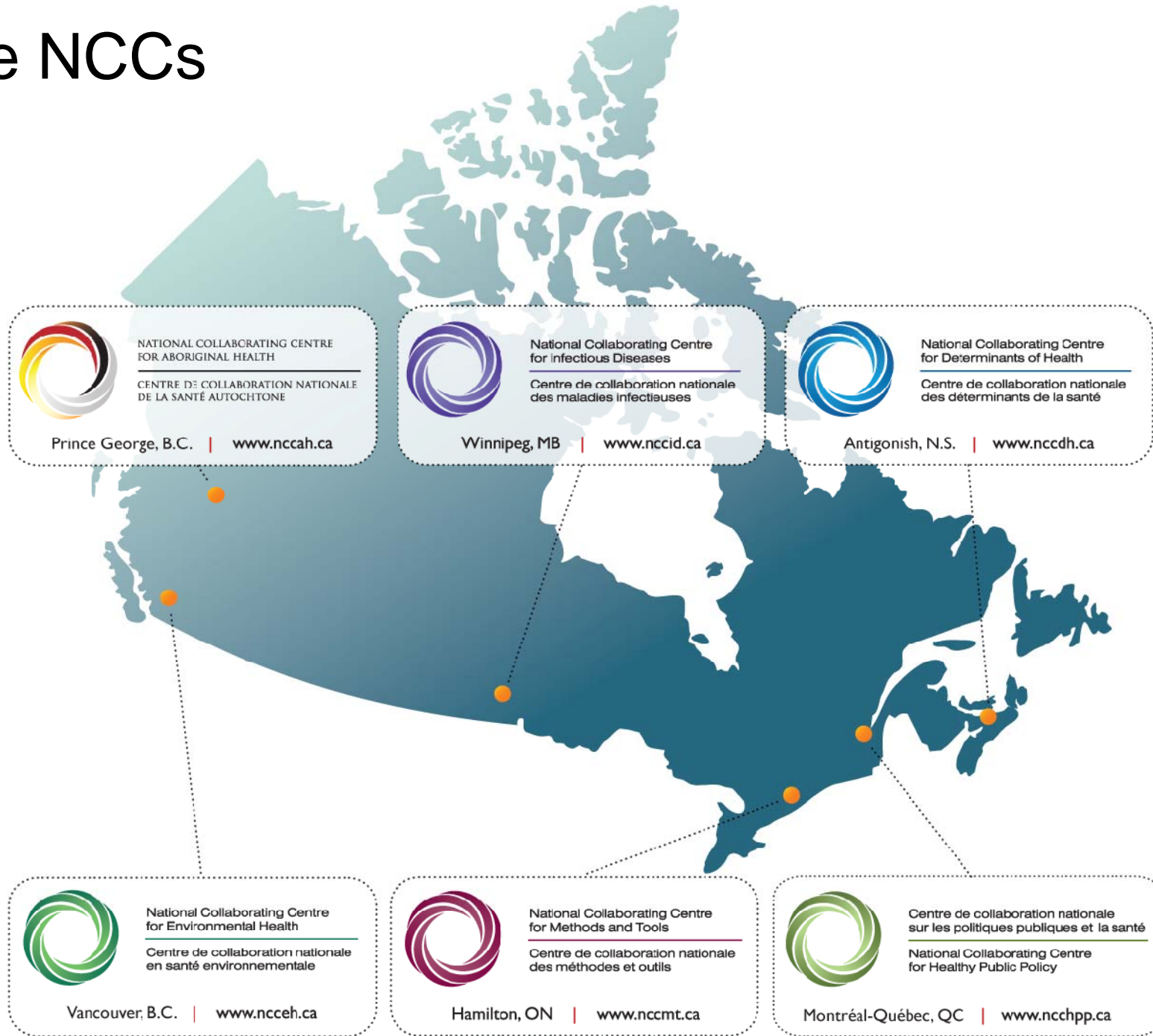
Toronto, April 3, 2012



Centre de collaboration nationale  
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# The NCCs





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## NCCHPP [[www.ncchpp.ca](http://www.ncchpp.ca)]

- One of the six National Collaborating Centres for Public Health funded by the Public Health Agency of Canada
- Supports public health actors in their efforts to promote healthy public policies

## Topics

- Health impact assessment
- Strategies to influence policy-making
- Knowledge translation methods

Imagine the following scenario...

The government wants to act to combat obesity  
and is asking the following question:

**What are the most effective policies for  
addressing obesity?**

You have been asked to produce a knowledge  
synthesis to inform their decision...

In 2005, the NCCHPP was given a dual mandate

1. Produce a **knowledge synthesis** aimed at identifying **policy options that seem to be effective** at addressing obesity
2. Document **the methodological issues** associated with this exercise

But what exactly is a  
“public policy”?

# The quest for a definition



- No agreed upon definition
- NCCHPP: “A **strategic action** led by a **public authority** in order to limit or increase the presence of certain **phenomena within the population**”
  - Focus on action; but a public policy can also be:
    - **Intentional non-action**
    - A **statement** that defines a public problem and formulates a response in terms of objectives and actions[These aspects of public policies will not be the subject of a knowledge synthesis]
  - Public authority:
    - Vs. other kinds of policies, e.g.: corporate policy
    - Government (legislative or executive authority) at federal, provincial, regional or municipal level



But what exactly is a  
"knowledge synthesis"?

# Definition by CIHR (2010)

“The contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic. A synthesis must be reproducible and transparent in its methods, using quantitative and/or qualitative methods”

# Different types of syntheses (CIHR, 2010)

- Systematic reviews (e.g.: Cochrane Collaboration)
- Meta-analyses
- Narrative syntheses
- Scoping reviews
- Realist syntheses
- Practice guidelines

# Why a specific method applicable to public policies?

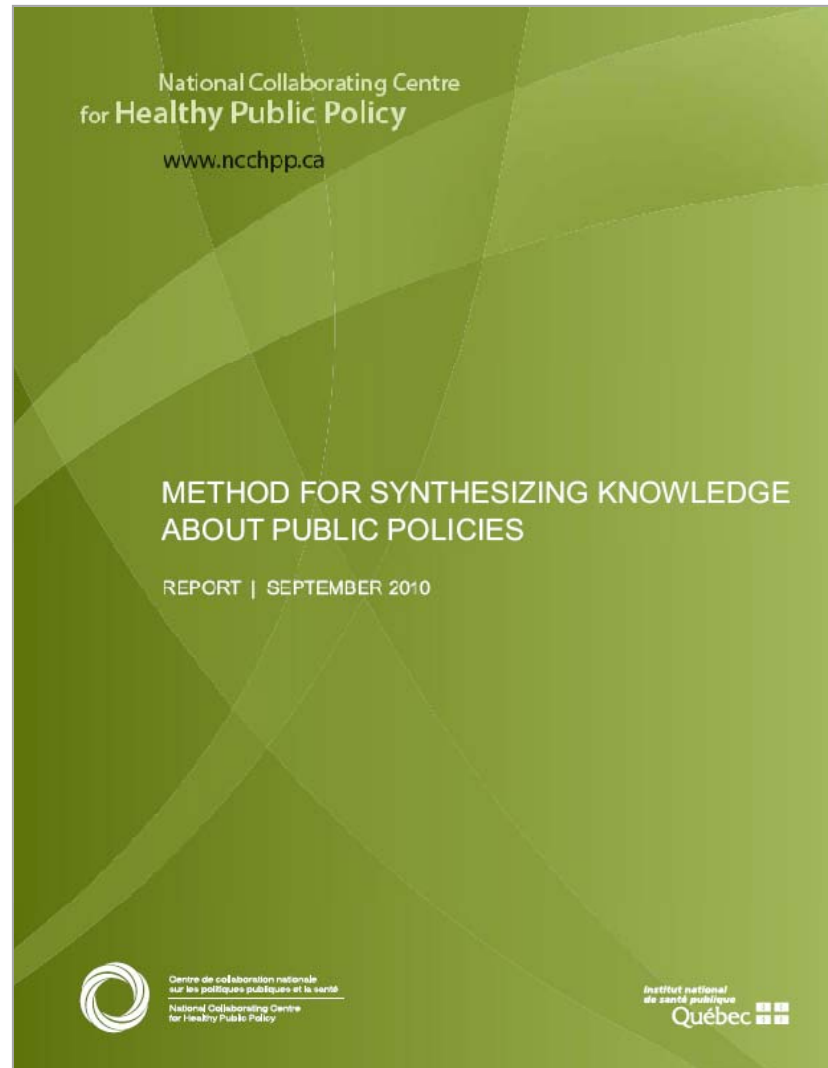
- **A policy is not a simple intervention**
  - The decision maker is a public authority who is accountable
  - Applied at the population level
- **Beyond effectiveness**
  - Policy makers are interested in implementation issues
- **Beyond the literature**
  - Sometimes few studies have been published
  - Need to contextualize the data

# Five principles guiding our reflection

1. Methodological rigour
2. Political relevance
3. Broadened conception of evidence
4. Flexibility – The best is the enemy of the good
5. “Honest broker” (Pielke, 2007)

# Some sources of inspiration

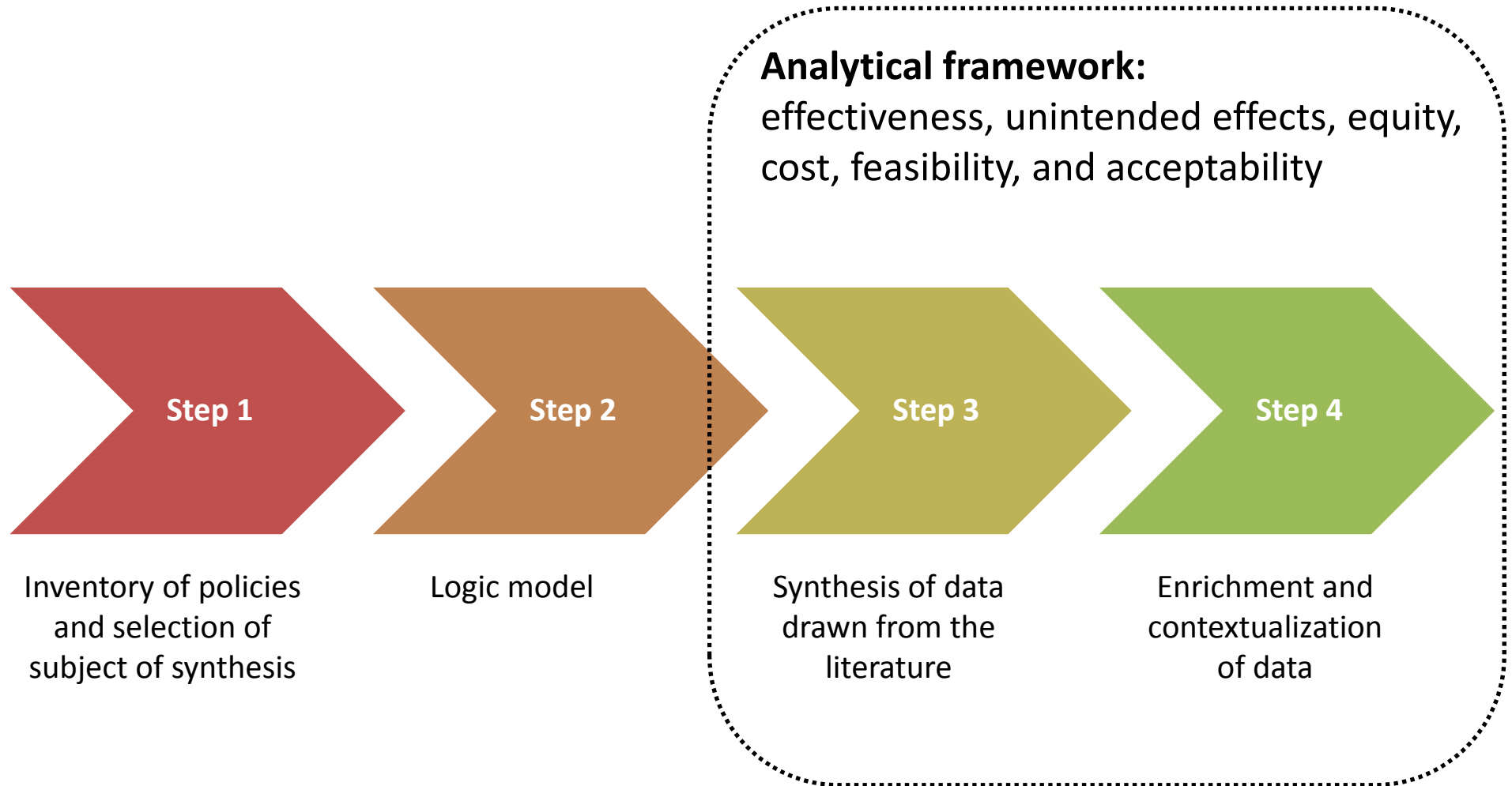




Available at:

[http://www.ncchpp.ca/docs/MethodPP\\_EN.pdf](http://www.ncchpp.ca/docs/MethodPP_EN.pdf)

# A synthesis in four steps





# Agenda

- Step 2 – Logic model
    - Exercise
  - Step 3 – Literature review
- Break 3:00 – 3:30
- Analytical framework
    - Exercise
  - Step 4 – Deliberative processes
  - Conclusion – Different uses of the method



# Step 1.

Inventory of options and choice of policy

See:

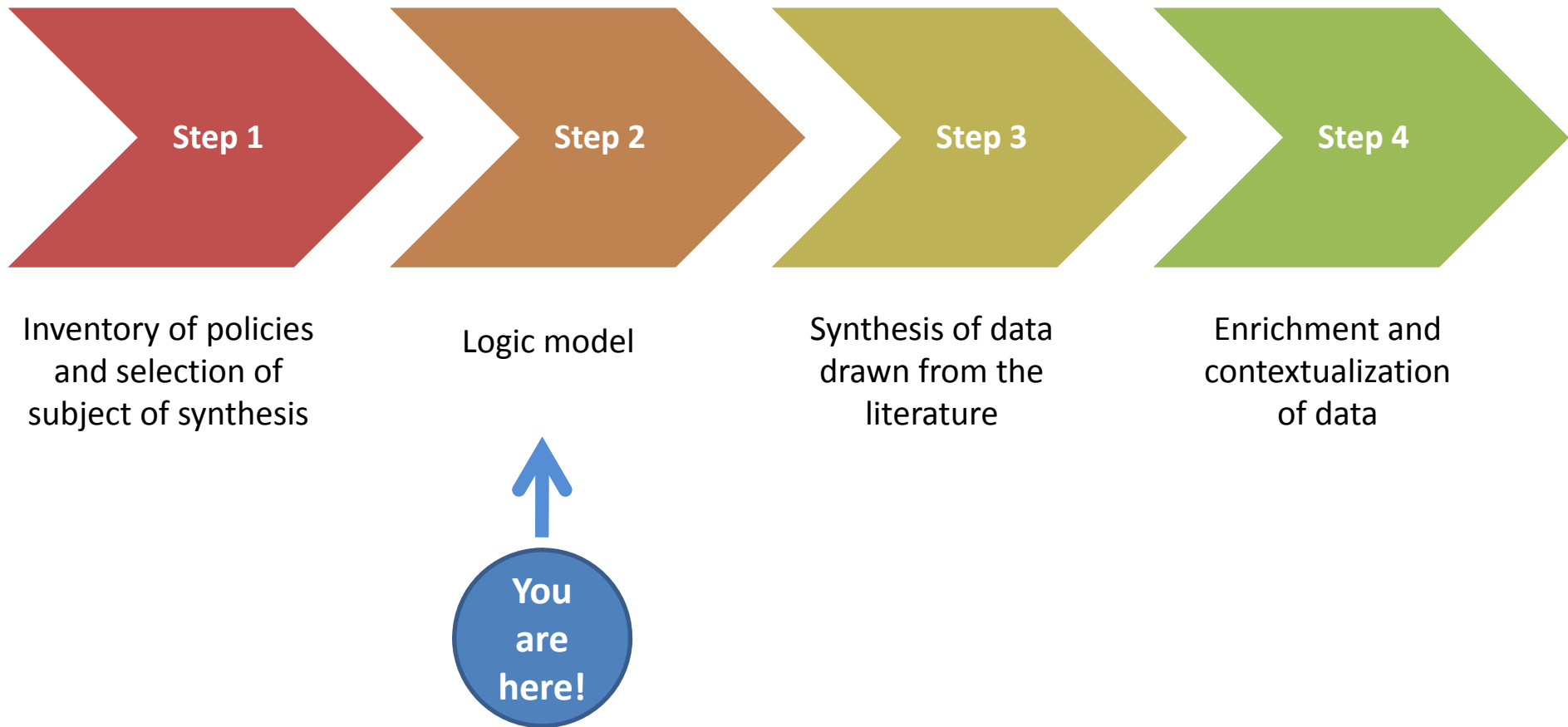
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# **Step 2.**

The logic model

# A synthesis in four steps



- Prior to data collection
- How many of you have heard of logic models?
- How many have used one?
- Many terms...
  - logic model, theoretical model, theory of change, conceptual framework, logical framework, etc....and they are assigned different meanings  
e.g., logic models for Ontario Public Health Standards
- We do not wish to enter into these debates  
What is important = understanding the proposed way of proceeding

Usually:

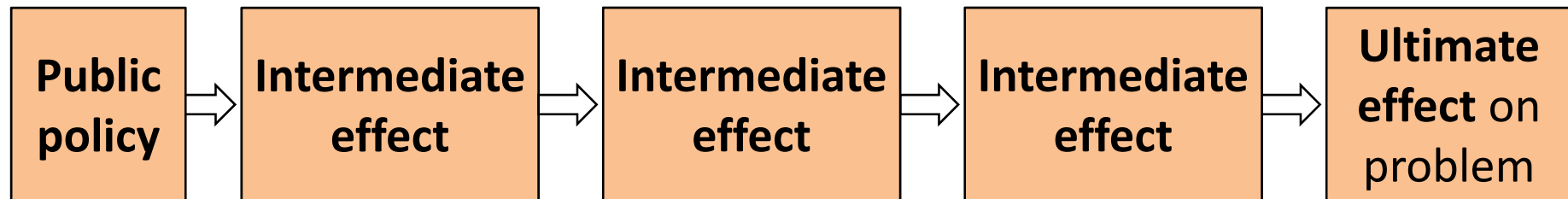
- A public policy is proposed as a means of obtaining a desired effect
- But the intervention logic (mechanism of action) is not made explicit



# Detail the intervention logic

Deconstruct the chain of expected effects between the public policy and the problem targeted

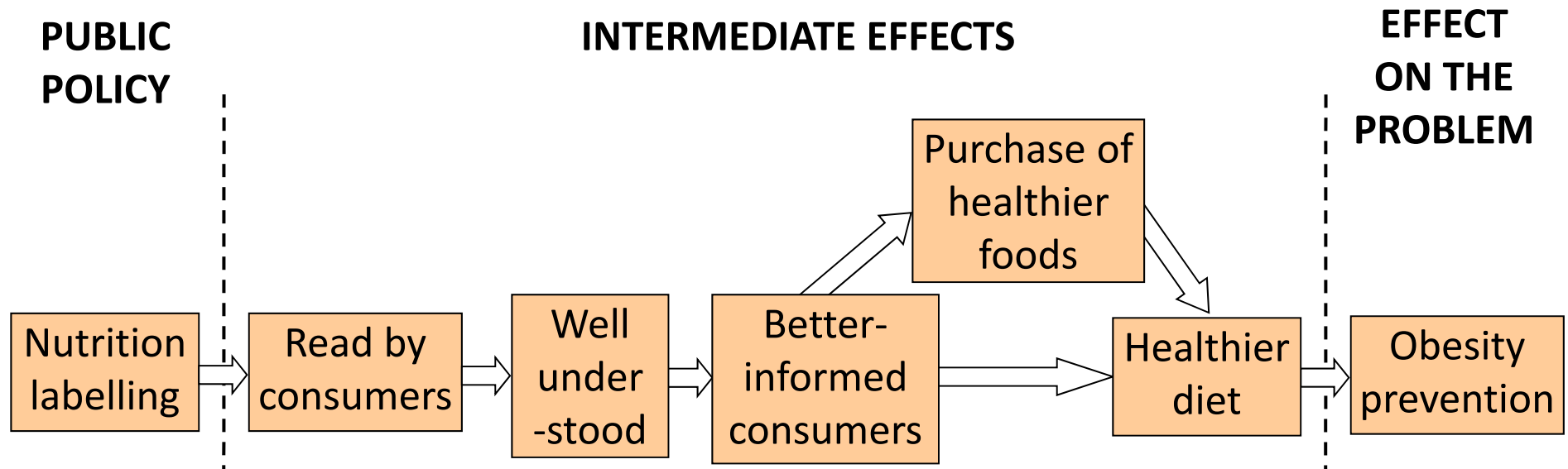
(Champagne et al., 2009; Weiss, 1998)



Champagne, F., Brousselle, A., Hartz, Z., & Contandriopoulos, A.-P. (2009). Modéliser les interventions. In A. Brousselle, F. Champagne, A.-P. Contandriopoulos, & Z. Hartz (Eds.), *L'évaluation : concepts et méthodes* (pp. 57-70). Montréal: Les Presses de l'Université de Montréal.

Weiss, C. H. (1998). *Evaluation: Methods for Studying Programs and Policies (Second edition)*. Upper Saddle River: Prentice Hall.

# Example: Nutrition labelling



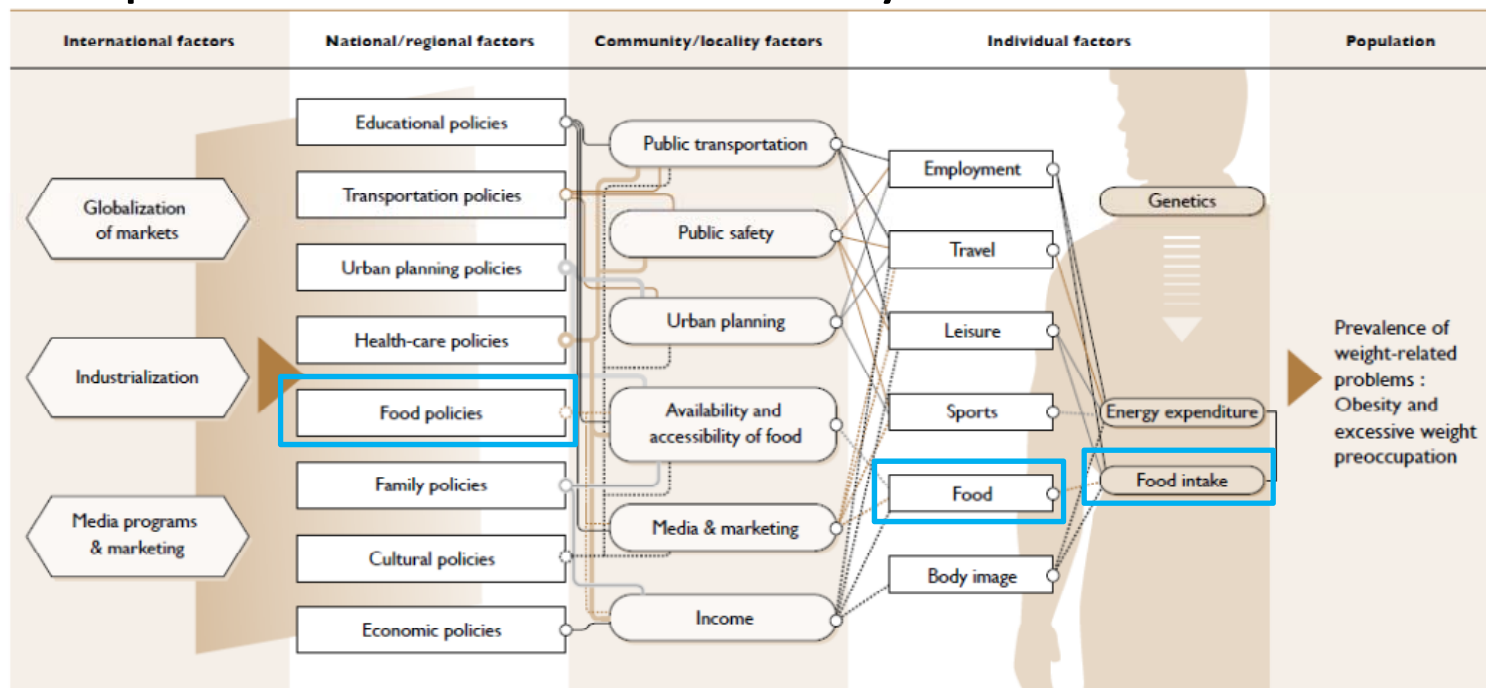


# The logic model is not...

... *a causal model*:

- Does not represent *all* the causes of the targeted problem, only those targeted by the policy under study

Example: Causal web for obesity



Source: Groupe de travail provincial sur la problématique du poids (inspired by work carried out by the International Obesity Task Force), 2004, p. 12

# The logic model is not...

... *proof of causality*:

- It represents the *theory* of how the public policy should produce its intended effects
- Data collection will indicate whether this proves true in reality

# Contribution of logic model

## 1. Define the subject of the knowledge synthesis

- Too complex a model = confusion among several policies?

E.g.: Improving food environments in schools

⇒ a *family* of different types of policies

- To be able to manage the data gathered:

Narrow down the subject of study until there is a single mechanism of action

## 2. Plausibility of the intervention logic?

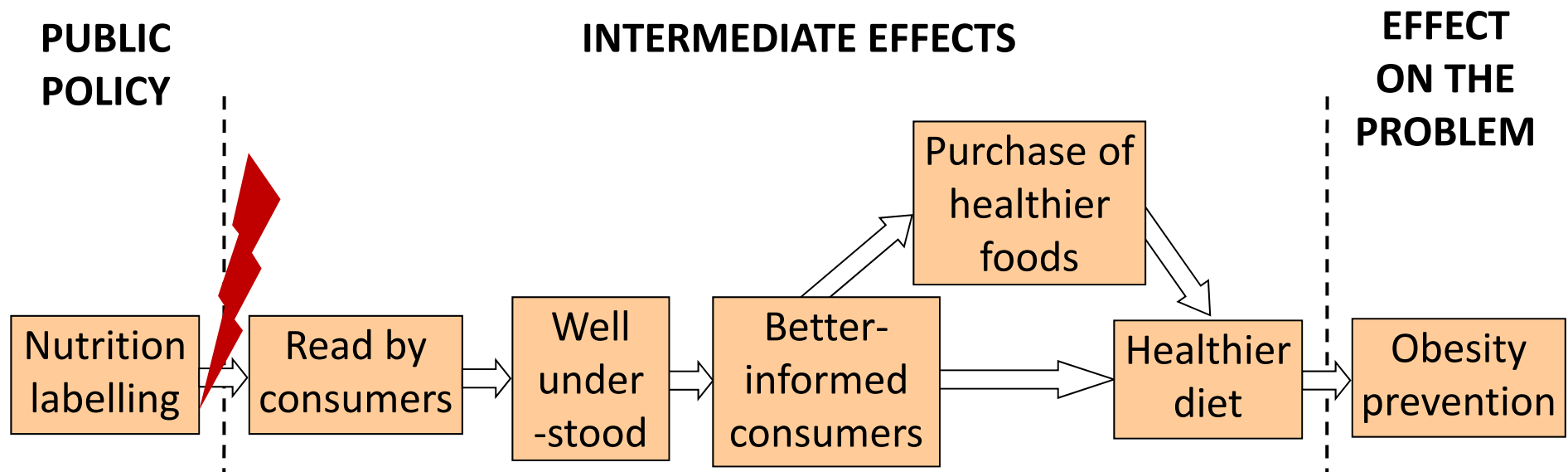
 If plausibility is weak: not worth pursuing

## 3. Examine effectiveness step by step

Identify what is more or less likely to succeed (effectiveness gaps), to be verified during data collection

 If there is a significant gap upstream: not worth pursuing

# Example: Nutrition labelling



In a population whose majority is illiterate, this public policy would be ineffective from the start.

# Contribution of logic model (cont'd)

## 4. Guide data collection

- Relevant intermediate effects to document
- Interesting, because data on ultimate effects of public policies are scarce

## 5. Strengthen the assumption of causality

As opposed to simply correlating policy and ultimate effect

## 6. Structure the synthesis (the report)

- In the chapter synthesizing the effectiveness data: a sub-section for each intermediate effect
- Useful as a guide to decision making and action



# Constructing a logic model

- Reflection based on:
  - knowledge gathered during preliminary exploration of the literature
  - (as needed) consultation with experts
  - simple reasoning
- On one side, name the policy under study
- On the other, name the ultimate effect sought
- Identify the logical steps that lead from one to the other  
**“if... then”**
- Suggestion: Start by noting the “last” intermediate effect
  - Generally the most well-known in the field of public health  
e.g.: food intake => obesity  
smoking => lung cancer



## Constructing a logic model (cont'd)

- Variable number of steps
- One path or many
- **== Simplicity ==**
  - Key to establishing an appropriate level of precision: will additional detail be helpful to you when you plan your data collection?



## Constructing a logic model (cont'd)

- **No "right answer"**
- Tool to guide reflection
- **Iterative construction**
  - Prior to data collection
  - During: rework model based on data found



# Exercise

## The logic model

# Energy drinks

(Dubé et al., 2010; Plamondon, 2011)

- Consumption observed among young people in high school or college
- Health risks:
  - **Caffeine** (main active ingredient):
    - Excessive consumption => undesirable effects ranging from nausea to heart arrhythmia
    - Addiction / withdrawal symptoms
    - Children and adolescents: group sensitive to the effects of caffeine
  - **Association with alcohol**: masks feelings of drunkenness  
=> may lead to greater consumption of alcohol and at-risk behaviour
  - **Sugar** (regular consumption): negative impact on dental health and body weight

# Energy drinks

(Dubé et al., 2010; Plamondon, 2011)

## Marketing practices:

- Sold along with other sugary drinks
- “Beneficial” effects over-emphasized / undesirable effects eclipsed
- Themes that attract young people

Imagine the following scenario...

You are called to a meeting.

You are informed that the Minister of Health is concerned about the consumption of energy drinks by young people.



The government is weighing the idea of **banning the sale of energy drinks to those under 18 years old**

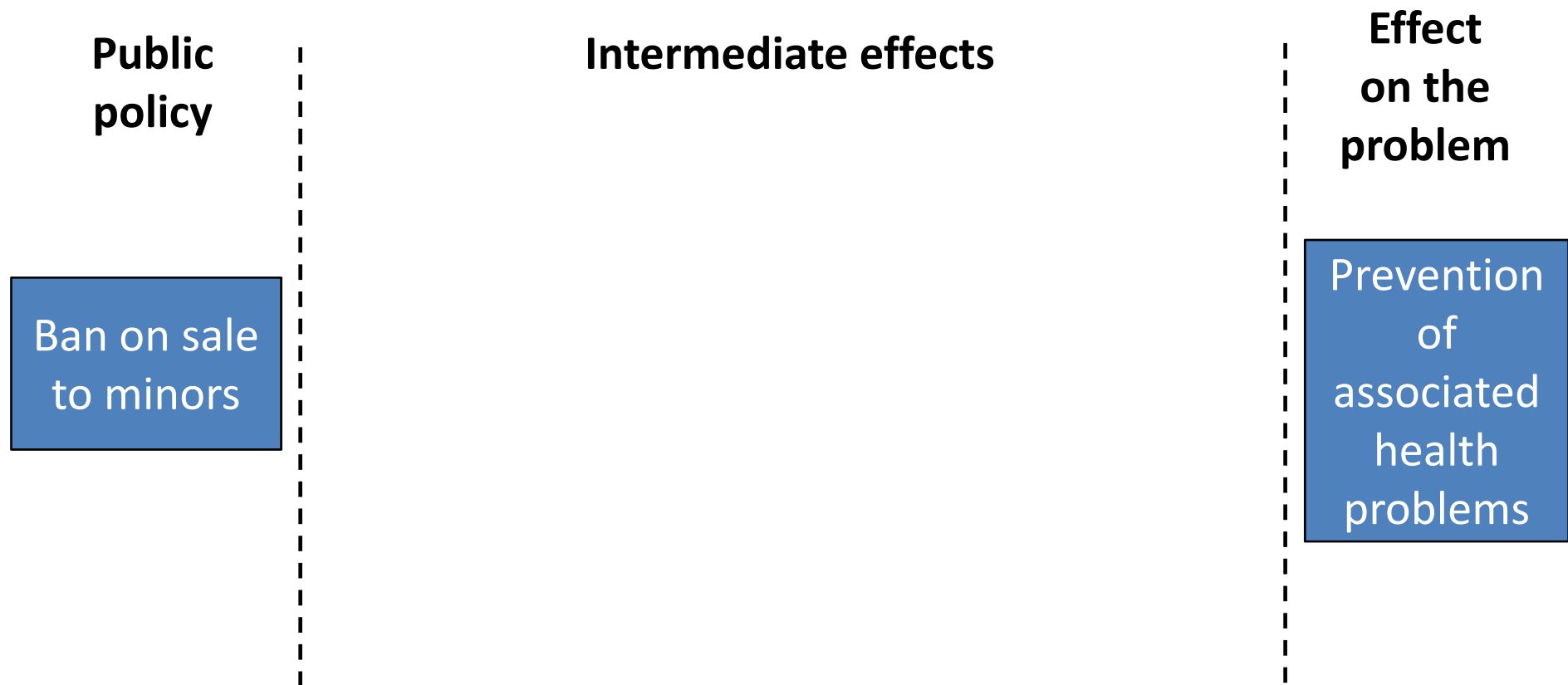
## Your mission

Produce a **knowledge synthesis** to inform the government about this option



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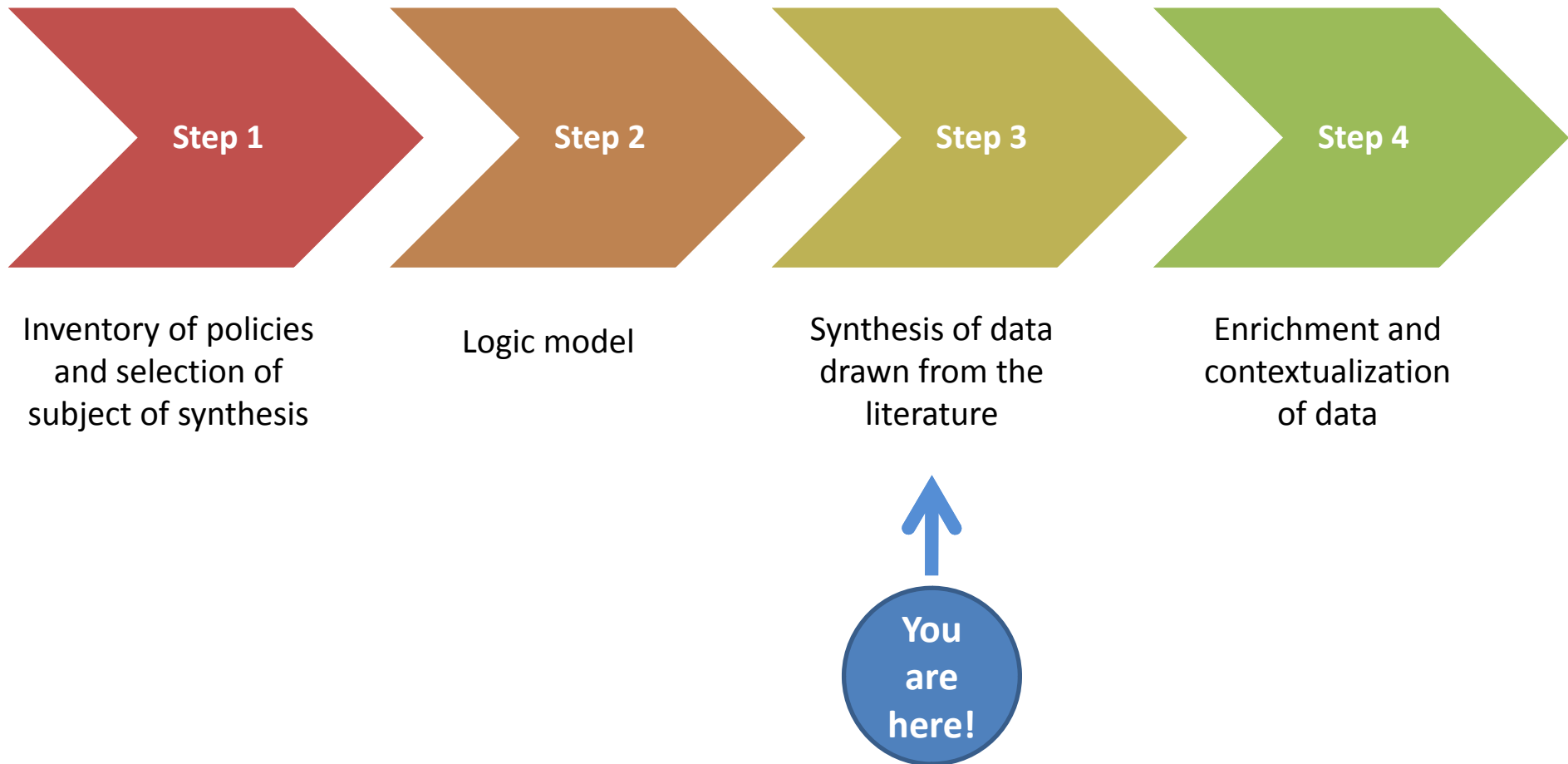
# Exercise: Construct the logic model for the banning of energy drink sales to minors



## **Step 3.**

Collection and analysis  
of data drawn from the literature

# A synthesis in four steps





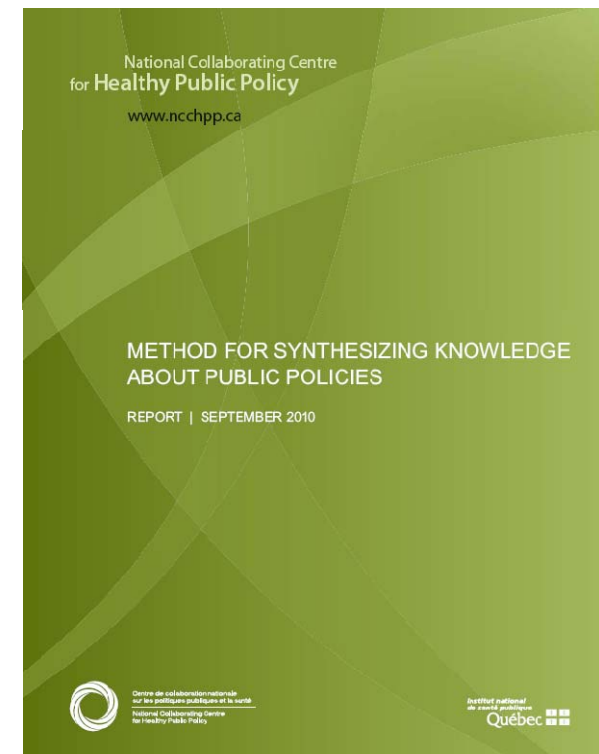
Dual challenge:

A literature review that is **rigorous** and **adapted to public policies**

Not a systematic review

= *SIMPLE OVERVIEW* =

Details: consult the document



# The documentary search

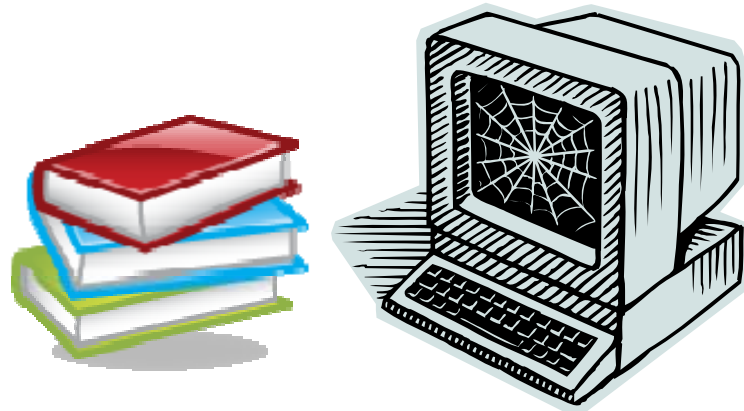
## RIGOROUSNESS

**Describe the process**  
(record): transparency  
and reproducibility

**Inclusion and  
exclusion criteria**

e.g.: content, countries, period,  
language

No convenience sampling



## ADAPTATION for public policies (PPs)

**Openness:** Do not document only  
effectiveness, policy makers need more

**Scientific** literature: several disciplines  
e.g.: public health, political science,  
sociology, anthropology, economics,  
ethics, law...

*List of databases*

**AND grey** literature

Websites of organizations interested in the  
targeted health problem; in particular:

- Governments and NGOs
- Public health and other relevant sectors
- Your province, Canada and international

# Appraisal of the quality of data



## RIGOROUSNESS

- Describe the principal **characteristics** of the documents selected  
e.g.: type, source, study design, authors' affiliations, potential sources of bias

## ADAPTATION for PPs

- The hierarchy of evidence excludes relevant evidence regarding PPs
- Sort documents according to their **relevance** (contribution to the knowledge synthesis)

# Data extraction

## RIGOROUSNESS

### Extraction tables

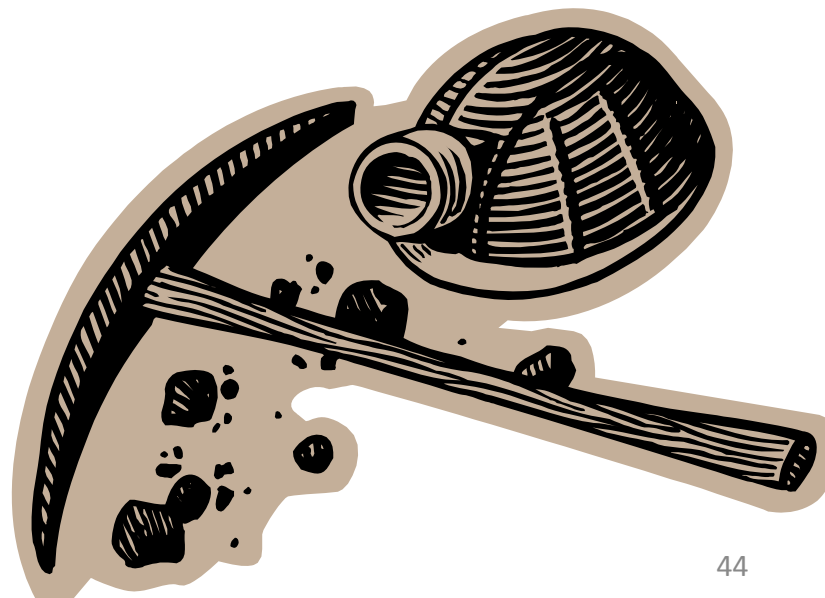
- One for scientific (peer-reviewed) lit.
- One for grey lit.

⇒ A rough criterion for classification, but helps orient readers re.: “quality” of data

## ADAPTATION for PPs

### Type of **data to extract**

Refer to analytical framework:  
Effectiveness + 5 other dimensions



# Data synthesis

## ADAPTATION for PPs

### RIGOROUSNESS

- Use **all** the data extracted  
No cherry picking
- **Distinguish** data from scientific lit. / grey lit.

### Narrative synthesis

**Thematic:** themes = dimensions of the analytical framework



# Limited resources? A few shortcuts

**Automatic documentary searches** in PubMed, by topic.

OPHS website: [http://www.health.gov.on.ca/english/providers/program/pubhealth/oph\\_standards/ophs/litss.html](http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/litss.html)


E.g.: Built environment interventions to reduce tobacco smoking

 PubMed = one database among others...

## **Limit the number of documents to be analyzed**

- Existing literature reviews + documents published subsequently



- *See list of alternative resources*

 – An existing review will never cover *all* the aspects that interest us

- Can be complemented by deliberative processes

# Limited resources? A few shortcuts (cont'd)

## Limit the number of documents to be analyzed (continued)

- Narrow the **inclusion criteria**
  - In particular, by country, time period
- Begin reading + **saturation** criterion
  -  – To avoid bias: Read documents in a neutral order, e.g., reverse chronological order and, alphabetically, by author
- **Ignore the grey literature (Warning !!!)**
  - Suggested in rapid review methods
  -  – But results in loss of much relevant data
  - Can deliberative processes compensate for this?

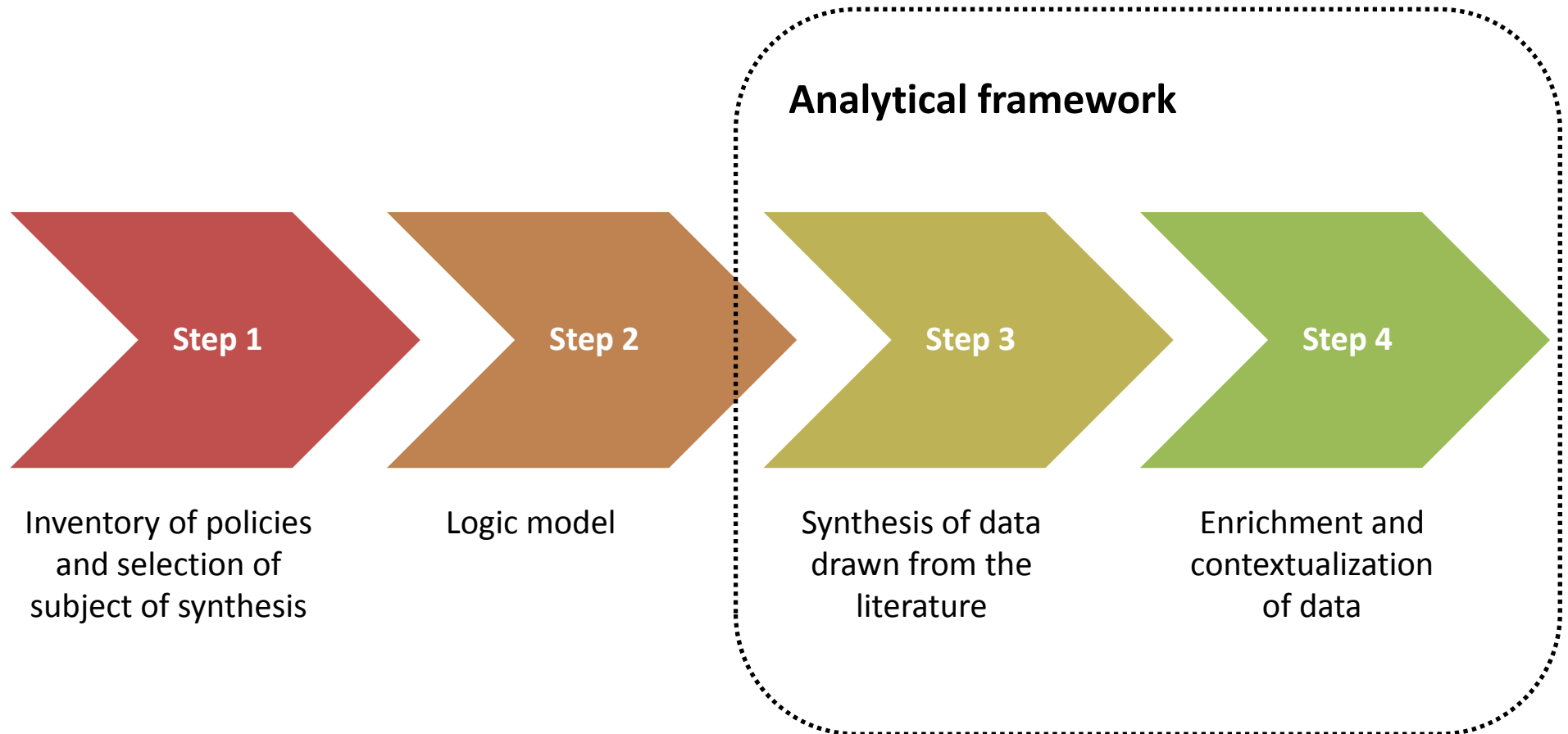
# Shortcuts - Warnings

- The result is always **less optimal** than with a full literature review
- Remain **transparent** about the process followed
- Indicate the **limitations** and **biases** introduced



# **A framework for analyzing public policies**

# A synthesis in four steps



# A framework for guiding data collection

What do we want to know about the policy under study?

- Whether it is **effective** => Classic focus in public health
    - + Specific features since public policies are applied at the population level
  - Policy makers also want to know about the **implementation issues**
    - Per se (e.g.: amount of resources necessary)
    - Because these issues have an impact on the chances of a public policy succeeding
- In short: Gather all the data required to make an informed decision and to plan an implementation strategy

# The NCCHPP's analytical framework

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

Major sources of inspiration: Salamon, 2002; Swinburn et al., 2005

List of elements to consider for each dimension

Salamon, M. L. (2002). The New Governance and the Tools of Public Action: An Introduction. In L.M. Salamon (Ed.), *The Tools of Government: A Guide to the New Governance* (pp. 1-47). New York: Oxford University Press.

Swinburn, B., Gill, T., & Kumanyika, S. (2005). Obesity prevention: A proposed framework for translating evidence into action. *Obesity Reviews*, 6, 23-33.

# Effectiveness

Remains the most important dimension of the analysis

- Effectiveness of the policy under study at addressing the targeted problem
  - Do not overlook failures: neutral or negative effects
- Intermediate effects
- Plausibility of the intervention logic
- Impact of context on effectiveness
- Distribution of effects over time

	Effectiveness
Effects	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

# Unintended effects

- Unrelated to the objective pursued
- Effects in all sorts of areas

Health (aspects other than the targeted problem), economic, political, environmental, tied to social relations, etc.

- Positive or negative

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

# Equity

Watch out for policies that improve the overall average but increase inequalities

- Differential effects of the policy under study on various groups

(defined by age, gender, geographic or socio-economic environment, ethnicity, etc...)

- Effects on social inequalities in health

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

The government is weighing the idea of **banning the sale of energy drinks to those under 18 years old**

Produce a **policy analysis** to inform the government about this option

**Part one: Effects**

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability



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# Cost

- Costs related to implementation and gains
  - for the government
  - for other actors
- Distribution over time
  - One-time or recurrent costs
  - Immediate or deferred costs
  - Short or long-term investments
- Visibility
- Cost compared to that of other potential policies
  - Cost-effectiveness

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

# Feasibility

- Availability of resources (human, material, "technological" ...)
- Conformity with all relevant legislation
- Existence of pilot programs
- Can the policy be administered by pre-existing mechanisms?

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
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	Acceptability

# Feasibility (cont'd)

- Is the authority promoting the policy also the one applying it?
- Number of actors involved in implementing the policy
- To what extent are their activities being guided by the policy's promoters?
  - System of incentives and sanctions
- Quality of the cooperation among actors
- Ability of opponents to interfere

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

# Acceptability

- How stakeholders view the policy under study
- Influenced by their knowledge, beliefs, values, interests, etc.
- Acceptability influences the adoption, implementation and potential for success of a policy
- Policy makers are subject to various forms of pressure that they wish to anticipate

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
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# Acceptability (cont'd)

**First:** identify relevant stakeholders / actors:

Groups directly targeted by the policy, the wider public, gov't ministries, municipalities, other policy makers, professionals from the relevant public sectors, funding agencies, industry, the media, political organizations, etc.

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
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	Acceptability

**Second:** For each actor concerned:

- Acceptability of acting on the problem
- Acceptability of the policy under study:
  - Assessment of its effectiveness, unintended effects, equity, cost, and feasibility
  - Assessment of the degree of coercion involved (information vs. incentives vs. regulation)

# Acceptability (cont'd)

**Second:**(Continued) For each actor concerned:

- Acceptability of the conditions for adoption and implementation of a policy
  - Perceived legitimacy of decision-making process
  - Perceived legitimacy and abilities of the actors involved in implementation
  - Acceptability of planned accountability measures
- Possible evolution of acceptability over time?

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
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# Using the analytical framework

- To guide data collection (literature & deliberative processes)
  - List of key questions
  - List is indicative; answers to everything rarely found
- Structuring
  - Extraction table & structure of report

Reference	Characteristics of document	Status	Effectiveness	Unintended effects	Equity	Cost	Feasibility	Acceptability

## Using the analytical framework (cont'd)

- Outside the context of a knowledge synthesis:  
summarize informal or expert knowledge  
possessed about a policy  
=> Analysis of situation, assists reflection  
(individual or group)



The government is weighing the idea of **banning the sale of energy drinks to those under 18 years old**

Produce a **policy analysis** to inform the government about this option

### **Part two: Implementation**

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability



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# **Step 4.**

Enrichment and contextualization

# A synthesis in four steps



Inventory of policies  
and selection of  
subject of synthesis

Logic model

Synthesis of data  
drawn from the  
literature

Enrichment and  
contextualization  
of data



- You have completed your literature review
- But you are still concerned about certain things

For example...

**Certain issues are not identified or addressed in the literature?**

**Transferability to your own context?**

A deliberative process can enrich and contextualize your literature review



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# How does it work in practice?

1. A **meeting** (by invitation) of a group of **10-20 key informants**

Able to bring forward **knowledge** about the **expected effects** or the issues surrounding the potential **application** of the public policy under study in their own context

E.g.: Experts, professionals, decision makers, civil society actors

From public health and other relevant sectors

2. The objective is to **identify and clarify issues**

NOT to get to a consensus, nor to formulate recommendations

3. Send participants a **summary of the literature review** a few weeks prior to the meeting

# How does it work in practice? (cont'd)

4. The day of the meeting: The participants critically examine the problem, the proposed policy and its implications

A facilitator ensures that the **discussion is organized around the six dimensions** of the analytical framework (guide = list of key questions)

Chatham House Rule: “When a meeting, or part thereof, is held under the Chatham House Rule, participants are **free to use the information** received, but **neither the identity nor the affiliation of the speaker(s)**, nor that of any other participant **may be revealed.**”

5. Ideally, exchanges are **recorded**
6. Recordings are transcribed, a **thematic analysis and synthesis** is produced and transmitted to the participants

## The benefits expected from deliberation

Better  
document  
certain issues

Increase the  
relevance of  
the synthesis  
to policy  
makers

Knowledge  
translation\*



# What are the risks (real or perceived)?

- **Scientific**
  - Can be perceived as a threat to the scientific objectivity of the knowledge synthesis
- **Political**
  - Some policy makers may not welcome the creation of a space for deliberation on certain politically sensitive issues
- **Project management**
  - Organizing deliberative processes takes time and resources
- **Deliberation**
  - Deliberations are driven by complex group dynamics

# Example: Our knowledge synthesis of nutrition labelling

- 3 deliberative processes, in British Columbia and in Ontario
- Participants involved in the fight against obesity, from the public, non-profit and academic sectors (public health, agri-food, education, physical activity, children's services)

## Advantages

- Literature included little Canadian data
- Deliberation brought to light knowledge that was not found in the literature, including:
  - Suggested avenues for the implementation of new labelling policies in Canada
  - Overview of the standpoint of concerned actors in Canada (those addressing obesity, population, industry)

After the 4 steps...



Integrating the different kinds of  
knowledge gathered

# Structure of the knowledge synthesis document

- Transparent description of the process
- Logic model of the policy under study
- Synthesis of data drawn from the:

- Scientific literature
- Grey literature
- Deliberative processes



On the 6 dimensions  
of the analytical  
framework

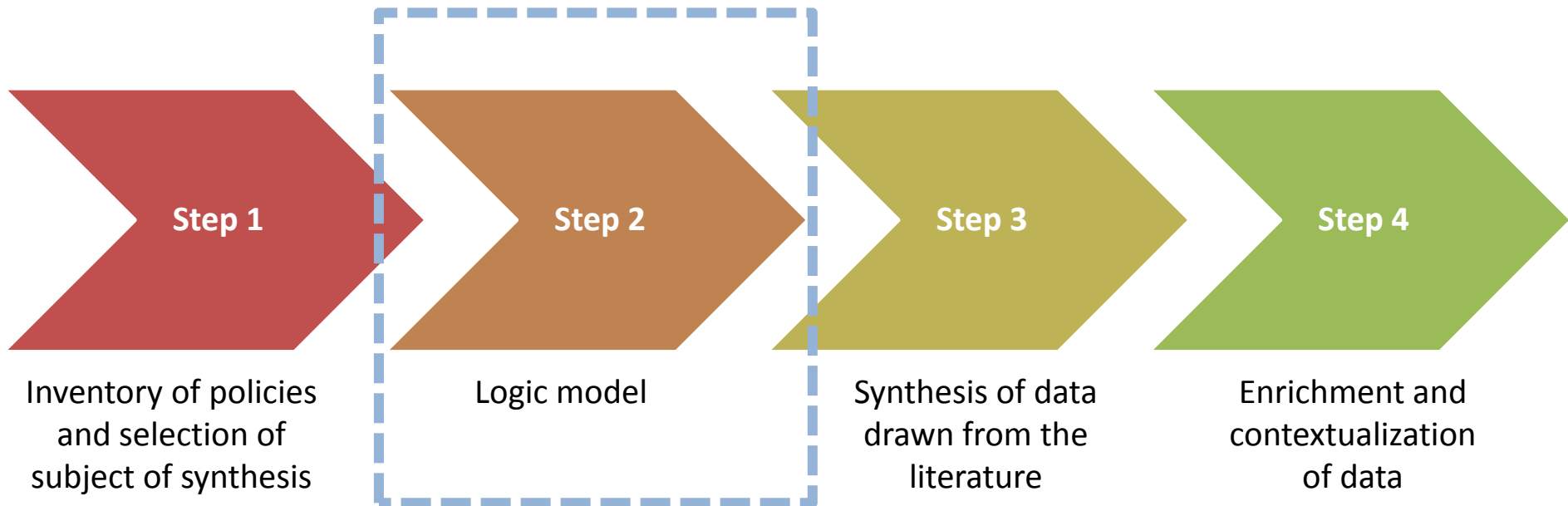
# Use of the method

- The whole is more than the sum of its parts
- But sometimes you may want to use only parts of the method



Scenario  
1

You want to reflect on the potential effectiveness of a policy option.

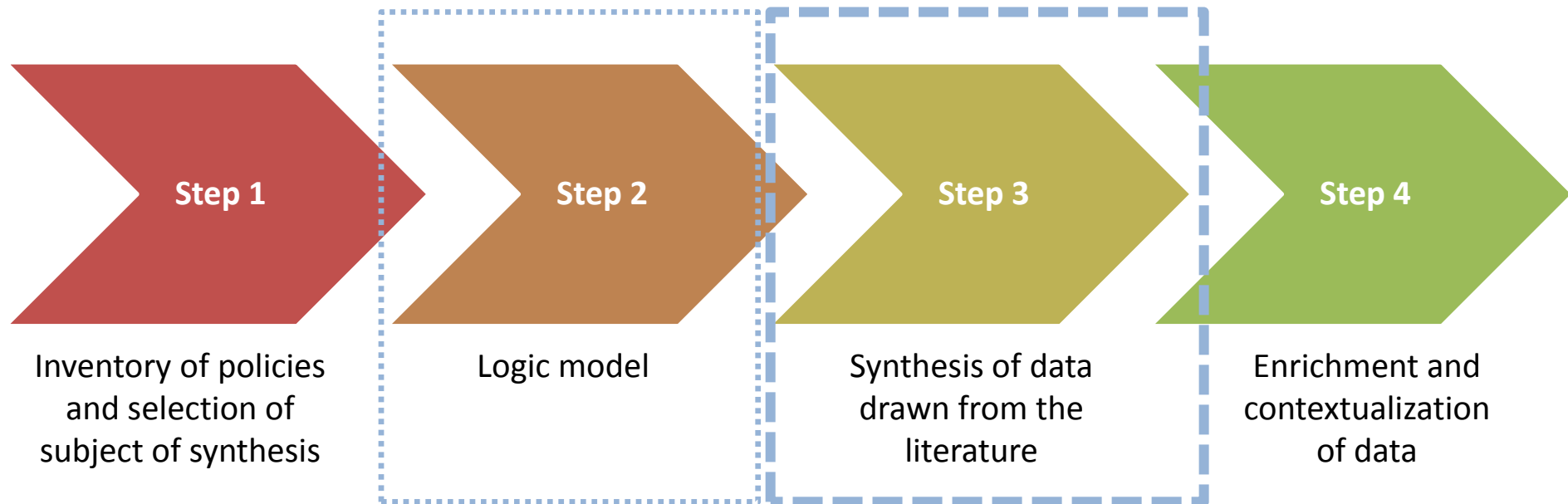


# More scenarios – Logic model

- For communication purposes, you seek to represent simply the way a public policy works (intervention logic)
- You wish to facilitate a discussion among various stakeholders about a public policy
  - Joint construction of the logic model

Scenario  
2

You are asked to produce a literature review on a given public policy.  
You are looking for an adapted approach.

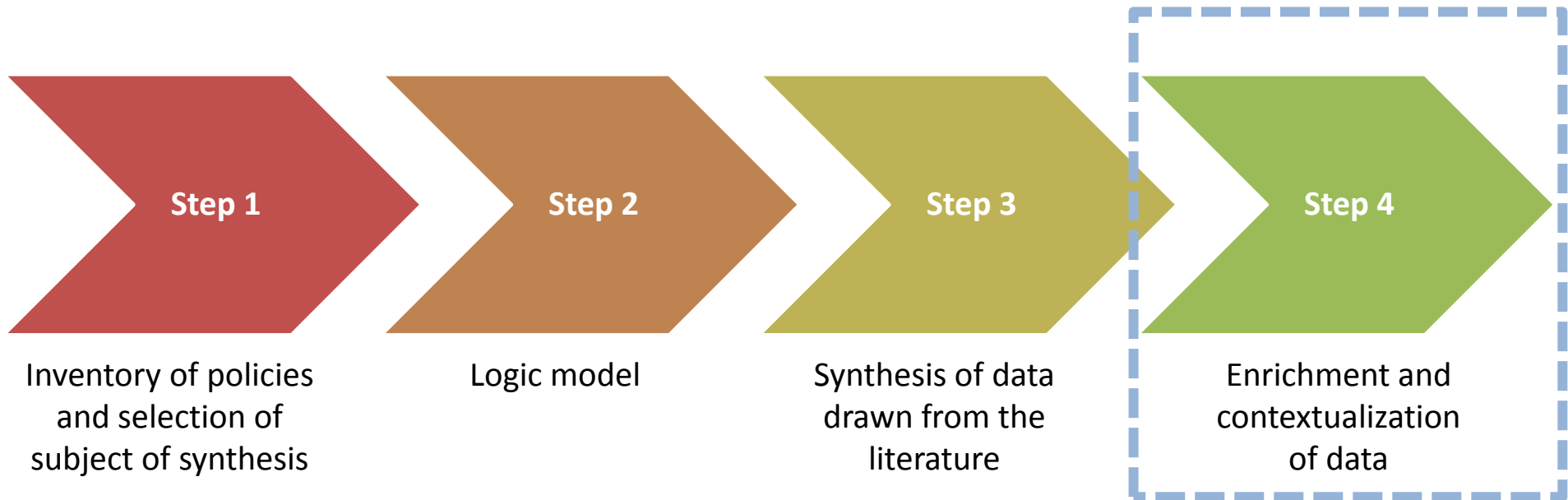




Scenario  
3

A high-quality literature review is released. Although it was produced elsewhere, it is relevant to policy issues in your region / province / country.

You are interested in contextualizing the results of that literature review.



Scenario  
4

You are looking for a framework with which to conduct a policy analysis.

Effects	Effectiveness
	Unintended effects
	Equity
Implementation	Cost
	Feasibility
	Acceptability

- List of recap questions
- Analyze *all* or *some* of the dimensions

National Collaborating Centre  
for **Healthy Public Policy**

www.ncchpp.ca

METHOD FOR SYNTHESIZING KNOWLEDGE  
ABOUT PUBLIC POLICIES

PRELIMINARY VERSION | SEPTEMBER 2010

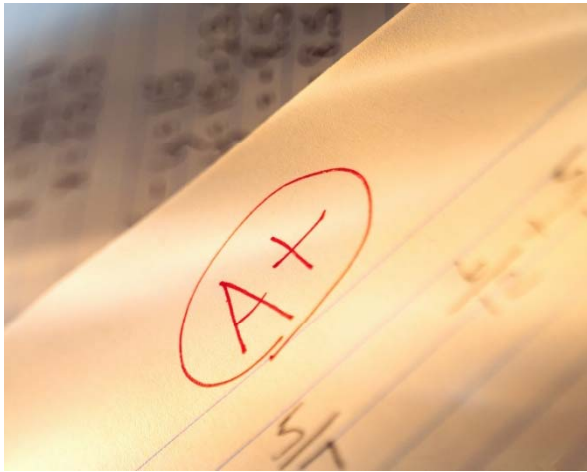


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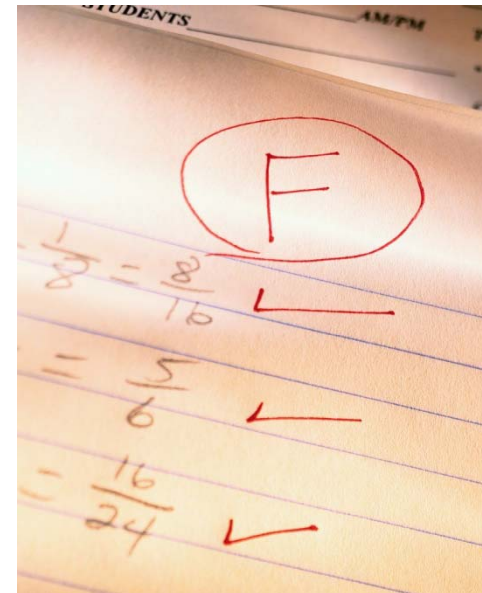
Available at:

[http://www.ncchpp.ca/docs/MethodPP\\_EN.pdf](http://www.ncchpp.ca/docs/MethodPP_EN.pdf)



## Evaluation

- Questionnaire in your folder
- Follow-up after 3 months



# If you want more...

- Visit the **NCCHPP's booth** to learn more about all our activities (Lower concourse)
- Joint session with CPHI at CPHA conference (Edmonton, June 11-14)
  - “Using **deliberative processes** to inform the development and application of knowledge syntheses”



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**Québec** 

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