



THE ONTARIO
TOBACCO
RESEARCH
UNIT

UNITÉ
DE RECHERCHE
SUR LE TABAC
DE L'ONTARIO

Evaluating the Complex Workshop CES, Ontario October 5th, 2011

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Agenda – 1st Half

- Complex vs Complicated
- Single complex interventions vs Complex comprehensive strategies
- Reasons for complex strategies
- Why evaluate complex strategies?
- Why not evaluate complex strategies
- Econometric
- Partial solution – cluster evaluation
- Partial solution – thematic evaluation

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Agenda – 2nd Half

- Comprehensive ‘solution’ – quantified logic models
- Comprehensive ‘solution’ – Australia
- Comprehensive ‘solution’ – Intervention path contribution analysis
- Remaining Challenges and the need to under-promise
- **Plenary discussion of promises and challenges**

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Simple, Complicated, Complex

Glouberman & Zimmerman, 2002

The simple task; building a bridge. This is an engineering task and can be planned and executed in traditional blue-print format, and the evaluation afterwards is also a relatively simple task where handbooks and manuals can be followed.

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The complicated task; sending a rocket to the moon.

Although an engineering task, this requires more and higher levels of expertise, there are no blue-prints available. But rockets are similar and having done it once increases the chances of success next time, and the outcome is highly certain.

The complex task; raising a child. Raising one child

provides experience but no assurance of success next time. The outcome and criteria of success are variable and differ and you would never know for certain. Every child is unique and there are no generally valid checklists either for the task or for an evaluation.

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	Simple	Complicated	Complex
What	Discrete, standardized intervention	multiple components, which only work in conjunction with other interventions	Non standardized and changing, adaptive, and emergent in response to changing needs
Who	Single organization	Multiple identifiable organizations in predictable ways	Multiple organizations with emergent and unpredictable roles
How	Pretty much the same everywhere	Differently in different situations which can be clearly identified	Results sensitive to initial conditions as well as to context

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Systems Sciences Perspective

Non-linearity

Feedback loops

Synergy

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Non-linearity (Uphoff, 1992)

- The distance between causes and effects can be long in time, and sometimes short,
- There are usually several causes for any change that occurs
- There is no proportional relationship between the size of causes and effects
- Change occurs through qualitative leaps and bounds, and is not incremental and proportional

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Feedback Loops

Feedback loops can be positive (amplifying deviation from an equilibrium state) or negative (reducing deviation, bringing the system back towards the original equilibrium state)

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Synergy

- CDC, Health Canada, IOM, others promote comprehensive strategies and the expectations for synergy
- Empirical evidence is sparse
- Modeling – multiply coefficients?

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Reasons for Complex Strategies

- harness a variety of policies, programs and projects to addressing different aspects of big problems for a variety of population groups
- understanding that no one program intervention can address all needs
- there is no single right intervention for all.

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Why Evaluate Complex Strategies?

1

- Accountability Reaction

2

- Results-based Management

3

- Evidence informed Policymaking

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Why Evaluate Complex Strategies 2

- Inform policy choices about allocation of resources and interventions:
 - How much of what, when?
 - What to do with more resources?
 - What to cut when resources decrease?
 - Identify intervention gaps for general population and for sub-population groups (see next slide)

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Identifying gaps for sub-populations

SFOS examples:

- In 10 out of 36 PHUs, smoking prevalence steady at around 30% for past 10 years
- People with high school education or less, smoking prevalence steady at around 30% for past 7 years
- Young adult male smokers, prevalence steady at over 33%

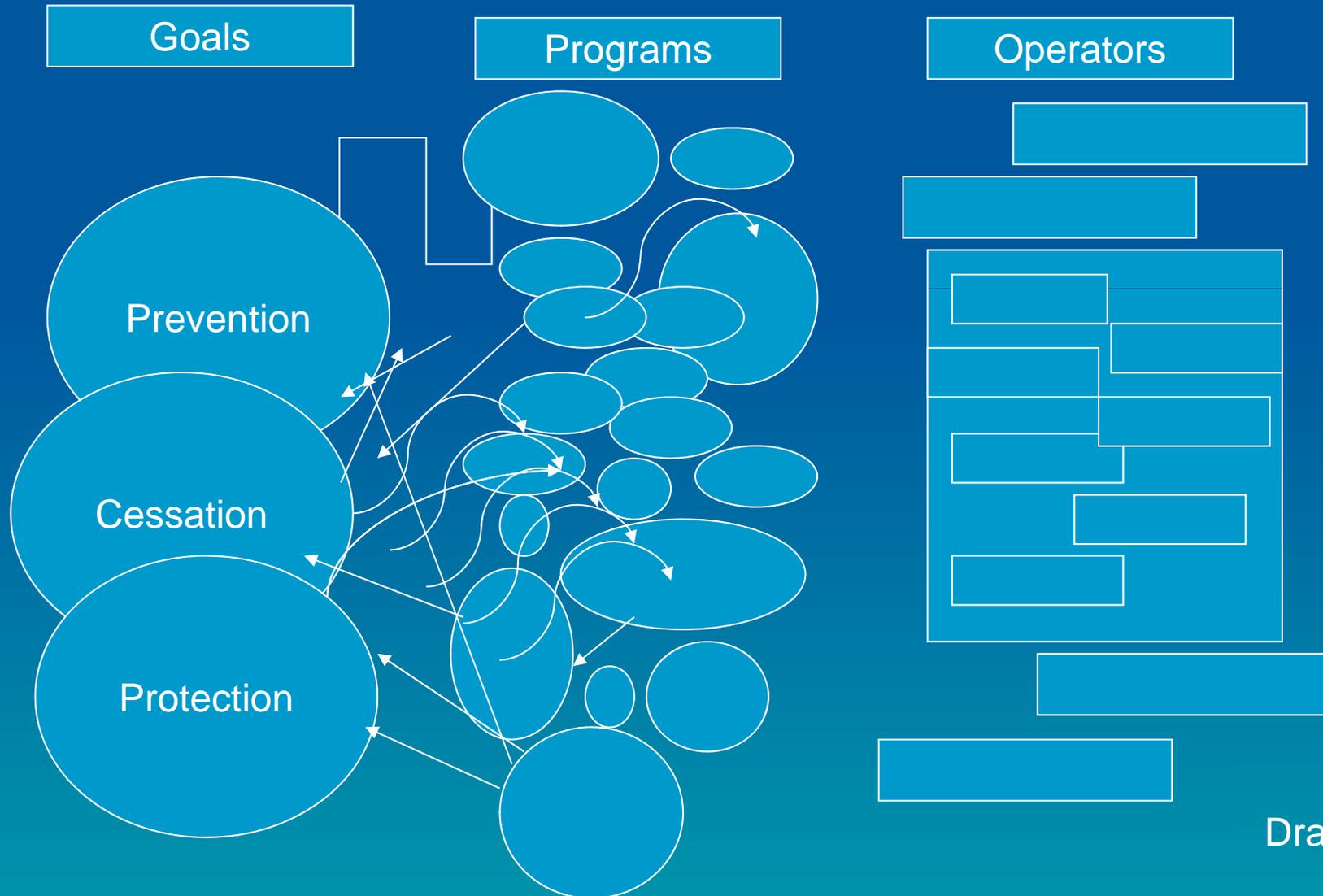
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Why not evaluate complex strategies

- Evaluability Assessment:
 - Theory of change? Likelihood of activities leading to desired outcomes
 - Measurability: Can change be measured and attributed to the intervention(s)?
 - Intended user: people with desire and authority to make needed changes as identified in the evaluation

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Strategy Complexity



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Complexity Puzzle

Mixes

Interactions

Synergies

Loops

Sub-populations

Multiple locations

Multiple players

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CSE Challenges

- Program evaluators generally trained in evaluating single program interventions
- Determining population level outcomes (paucity of good data)
- Obtaining data on inputs, activities and outputs
- Daunting task of obtaining quality evaluative information about a multitude of interventions – i.e. determining program effectiveness at the micro-level

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And the biggest challenges of all?

Attributing population level outcomes to micro-level interventions

Determining the relative contribution of each micro-level intervention to changes in macro-level outcomes – especially when interactions and synergies are expected

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Econometric Studies

- Correlational studies
- Across jurisdictions (countries or states)
 - Tobacco prices and demand
 - Advertising restrictions and demand
 - Intervention spending and uptake

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Econometric - Challenges

- Secular trends
- Controlling for environmental effects (e.g. TI advertising)
- Controlling for other interventions
- Considering implementation issues (compliance, contraband)
- Black Box, problem of averages
- Single, not synergies, feedback loops,

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Econometric Modeling

Uses correlation and regression analyses of fluctuations in interventions on fluctuations in population level outcomes in order to determine the relative contribution of each intervention to changes in outcome.

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Is anything missing?

Econometric studies looking at the correlations between, for example, cigarette price and per capita cigarette consumption seem relatively common in cross-country comparisons of tobacco control programs.

- correlations between tobacco advertising restrictions, price, income, and tobacco consumption in OECD countries between 1960 and 1986.
- similar econometric analysis at the state-level examined the relationship between state tobacco control smoking and youth smoking prevalence.

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Critique of classic approaches

- Black box focus on final outcomes
- Lack of attention to synergies
 - What mixes?
 - In what sequence?
- Lack of attention to feedback loops
- Lack of attention to multiplier effects
- Little evidence to inform strategy development

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Approaches that help:

- Cluster Evaluations
- Thematic Evaluations
- Complex Evaluation Strategy
- Contribution Stories vs Attribution

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Cluster Evaluation

Clusters consist of multiple forms of intervention across multiple sites.

Cluster evaluation learns from variation and draws upon experiences of individual projects to make broader recommendations.

Exploratory process that seeks to explain what worked and why. Does not provide rigorous estimates of program effectiveness.

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Thematic Evaluation

Identify themes which are relevant to policy and evaluate the diverse interventions and programs against these themes.

Look across multiple interventions and often across multiple regions and countries.

define 'themes' in terms of sectors or policy areas (e.g. agriculture, education, environment) OR in terms of cross-cutting (or horizontal) issues (e.g. gender, sustainable development)

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Complex Evaluation Strategy

- Performance measurement system
- Strategic investment of program evaluation resources
- Evaluation support and quality assurance
- Macro-level surveillance of outcomes using key indicators

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Quantified Intervention – Path Logic Models

An innovative technique for helping understand if and how complex strategies are meeting their goals.

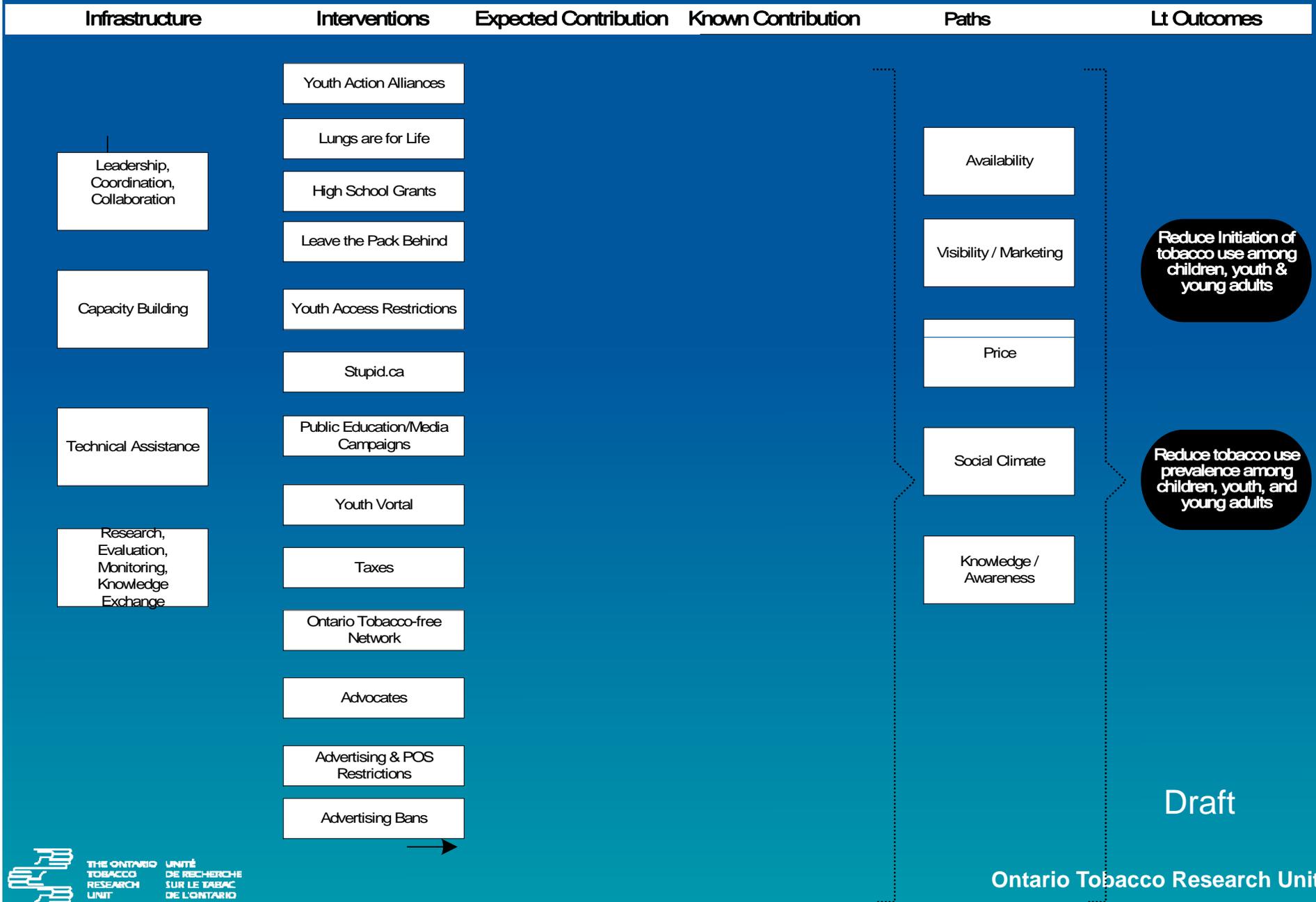
Helps ‘tell the story’ to policymakers

Useful for identifying needs for further evaluative information

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PREVENTION LOGIC MODEL

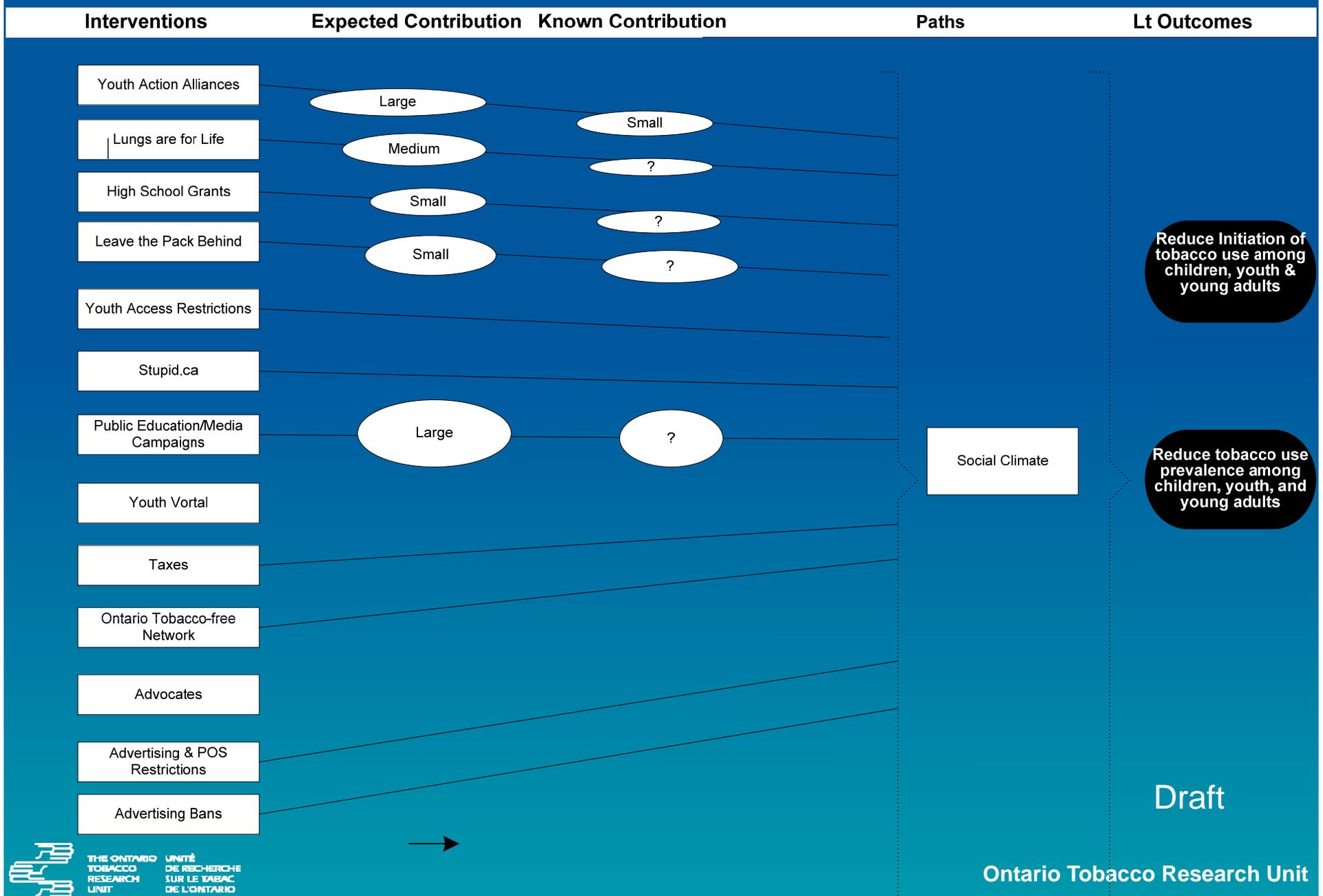
Strategy goal: To prevent smoking initiation and regular use among Ontario's children, youth, & young adults in order to eliminate tobacco-related illness and death



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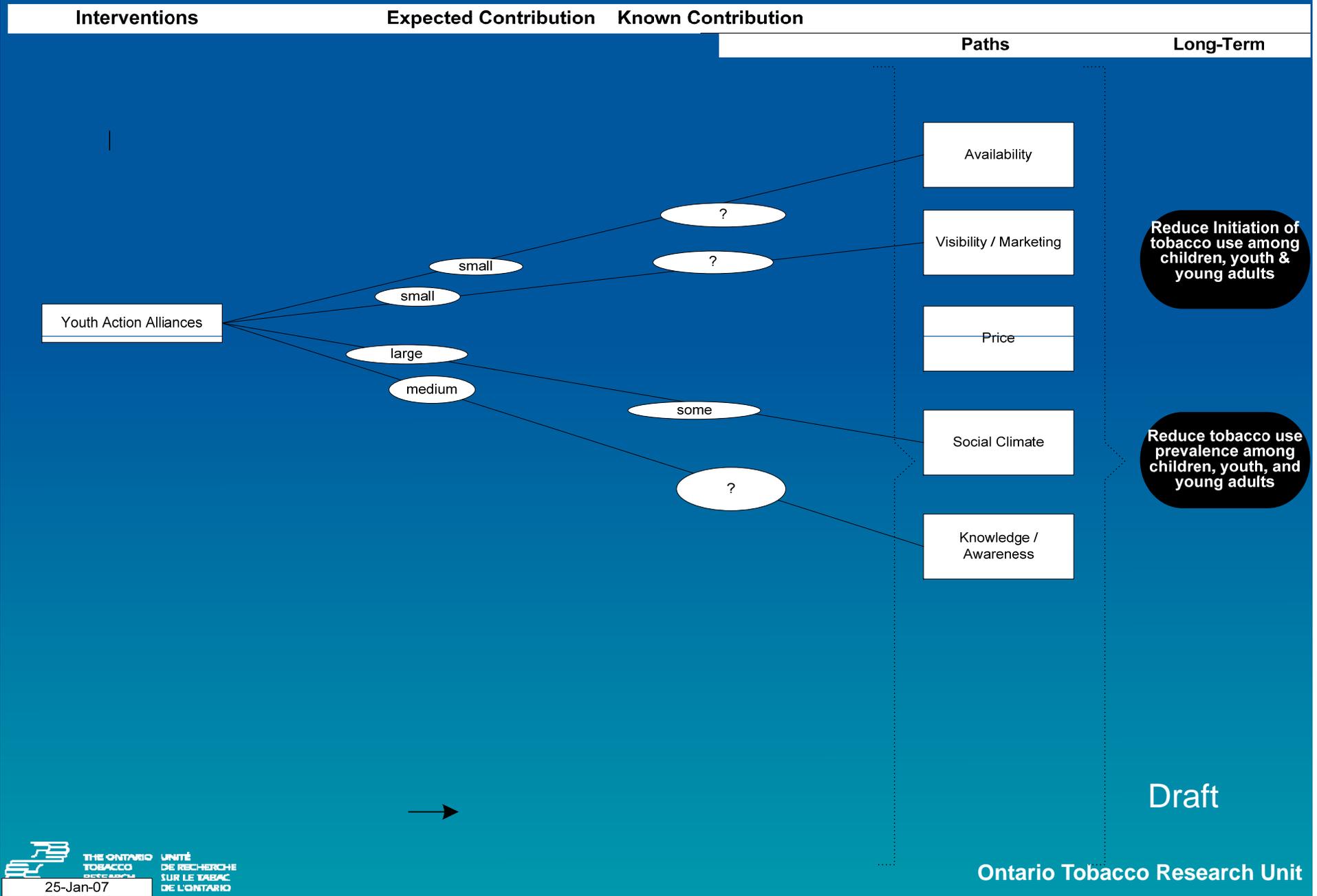
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Comprehensive & Integrated Evaluation Approach

In each goal area, use information from literature, performance measurement, program evaluation and surveillance

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Evaluating the Smoke-Free Ontario



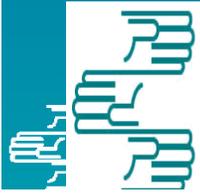
Complex scope to set. Complex. Their support makes measurable.

Context:

The Smoke-Free Ontario Strategy is a complex construct that includes several province-wide policy initiatives and numerous program interventions delivered through 36 Public Health Units and 20 non-governmental organizations. The primary evaluation clients are interested in learning about the overall effectiveness of the strategy in meeting such outcome objectives as decreased cigarette consumption and smoking prevalence. Moreover, the clients want to understand which aspects of the Strategy are more successful in what contexts.

Implications:

A mix of evaluation approaches is needed to provide stakeholders with knowledge for learning about needed changes in order to maximize performance. Approaches range from micro-level ongoing performance measurement to macro-level surveillance and include innovative mezzo level assessments of sub-strategies and strategy components. Central coordination of Smoke-Free Ontario Strategy Evaluation efforts using a collaborative learning approach shows promising signs of having positive impact on learning for better practice and policy. This approach provides a useful model for other strategies in Public Health and other areas.



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