

# THE PLACE OF PROCESS EVALUATION IN PILOT STUDIES

**KAREEN NOUR, PH.D.**

RESEARCHER

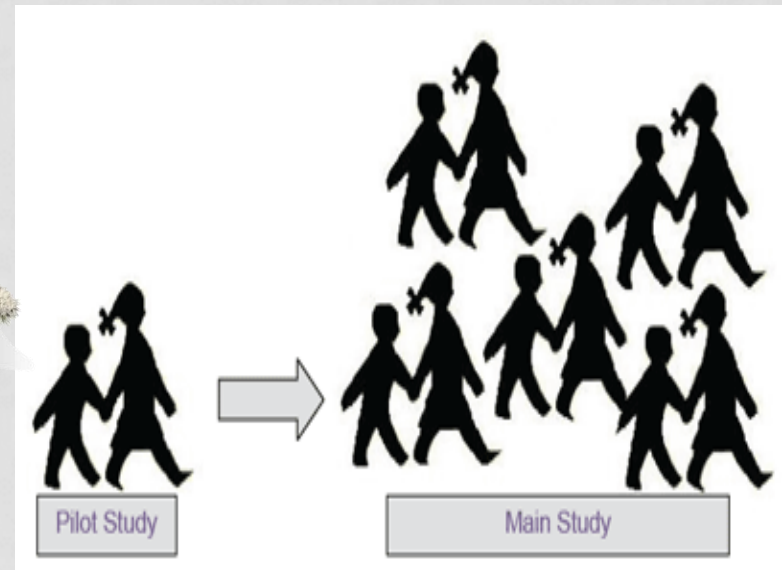
DIRECTION DE SANTÉ PUBLIQUE DE LA MONTÉRÉGIE

CLINICAL ADJOINED PROFESSOR

SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF MONTRÉAL

QUÉBEC, CANADA

# A GOOD MARRIAGE ?



# THREE MAIN QUESTIONS

- What are the process evaluation objectives in a pilot study?
- What methodology is to be used?
- What are the process evaluation advantages and limits in pilot study?

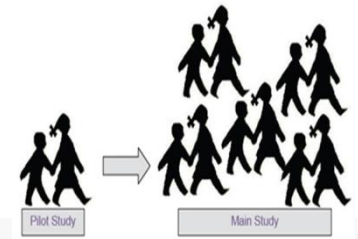
## **The question:**

Pilot study and process evaluation;  
A good marriage ?

# TO FIND THE ANSWER....

- Define pilot study in a population health context
- Define process evaluation in a population health context
- Explore objectives, methods and limits of process evaluation in pilot studies
- Explore the feasibility of conducting pilot study in various contexts in which intersectorial partners are involved

# PILOT STUDIES



- A research study conducted before the intended study (large-scale, expensive)
  - executed as planned for the intended study, but on a smaller scale : it reduces the likelihood of making a Type I or Type II error
- An initial step in exploring a novel intervention or an innovative application of an intervention

# OBJECTIVES

## RESEARCH POINT OF VIEW...



---

To test the research process and/ or protocol

---

To identify variables or indicators

---

To develop or test the efficacy of the research's tools

---

To estimate statistical parameters for analysis

# OBJECTIVES

## INTERVENTION POINT OF VIEW....



---

To test intervention activities or strategies and identify the components that are most important to facilitate the intervention

---

To test methodological changes in the implementation, training or administration of clinical tools

---

To explore how a theory is articulated in an intervention

---

To contrast context effects or to test different intervention modalities (in terms of feasibility, recruitment, inclusion, participation, etc.)

---

To explore how intervention protocol is followed by professionals and clients

# PROCESS EVALUATION



- Determines whether program activities have been implemented as intended and resulted in certain outputs
- Can be done periodically throughout the life of a program
- Explores the activities and output components of the logic model



# OBJECTIVES OF PROCESS EVALUATION



1. To analyse program modification
2. To analyse contextual and functional factors linked to program
3. To analyse variation influence in the implementation
4. To analyse influence of interaction between context and program outcomes (*variations in the outcomes after start of the program*)

# RESEARCH IN A REGIONAL PUBLIC HEALTH DEPARTMENT



## **Geographically :**

- south shore of Montreal
- combination of urban, semi-urban, and rural territories
- population: 1 367 808
- area: 9000 km<sup>2</sup>

## **Orientation of public health services :**

- national : MSSS and PNSP
- regional and local : PAR
  - research and evaluation mandate

# WHY PROCESS EVALUATION IN PILOT STUDIES



In public health,

- Pilot studies when:
  - we want to evaluate in depth an innovation, a new program
  - recruitment and evaluation of a large number of participants is impossible because of too large territories
  - budget is limited
  - it is not necessary: a small territory represents well a larger one
- Process evaluation when:
  - we want to evaluate the implementation of an already proven intervention
  - we notice differences in the outcomes for the same intervention and we want to know why

# WHAT METHODOLOGY IS TO BE USED



The choice of the research strategy depends on the process evaluation theoretical approach and on the availability of resources

# MOST SUITABLE FOR PROCESS EVALUATION...IN PILOT STUDIES



## Case studies

- One or small number of analytical units
  - Explanatory power depends on the depth of the analysis, not on the number of units
- 4 possibilities :
  - **Single** or **multiple** cases
  - **One level** (holistic) or **several levels** (individual and organizational processes)
- Judgment on the explanatory value depends on the degree of similarity between field reality and the case studied

# MOST SUITABLE FOR PROCESS EVALUATION...IN PILOT STUDIES



- Both qualitative and quantitative data
  - Existing follow-up forms or files (paper or electronic)
  - Individual questionnaires or forms for collecting information
  - Group discussion
  - Content analysis
  - Observations

# OBJECTIVES OF PROCESS EVALUATION...IN PILOT STUDIES

1. To analyse program modification
2. To analyse contextual and functional factors linked to the program
3. To analyse variation influence in the implementation
4. To analyse influence of interaction between context and program outcomes

# 1. ANALYSE PROGRAM MODIFICATION

## **Why?**

- To explain how a program has adapted over time to the context and how the format, nature and scope have evolved

## **For whom?**

- Administrators, practitioners



# DIMENSIONS AND SUB-DIMENSIONS PERFORMANCE APPRECIATION (MSSS)

## Adaptation to the needs

**Adaptation to the needs:** organization ability to adjust to client needs

**Sustainability:** capacity, in terms of human, material, financial, information, and technology resources to meet the present and future needs of the clientele

**Security:** ability to minimize the risks associated with interventions, care or community services for client, staff and population

**Responsiveness:** ability to adapt to the expectations, values and the rights of clients

## Production

**Volume of care and services:** care volume and services provided

**Productivity:** optimization of services production based on available resources

**Accessibility:** ability to provide care and services required, at the right place and time

**Relevance:** translates the adequacy of need and service continuity

**Standards:** ability to provide care and services required, in an integrated and coordinated way

**Quality:** mapping of the care standards on several dimensions

## Goal

**Efficiency:** ability to improve health and well-being;

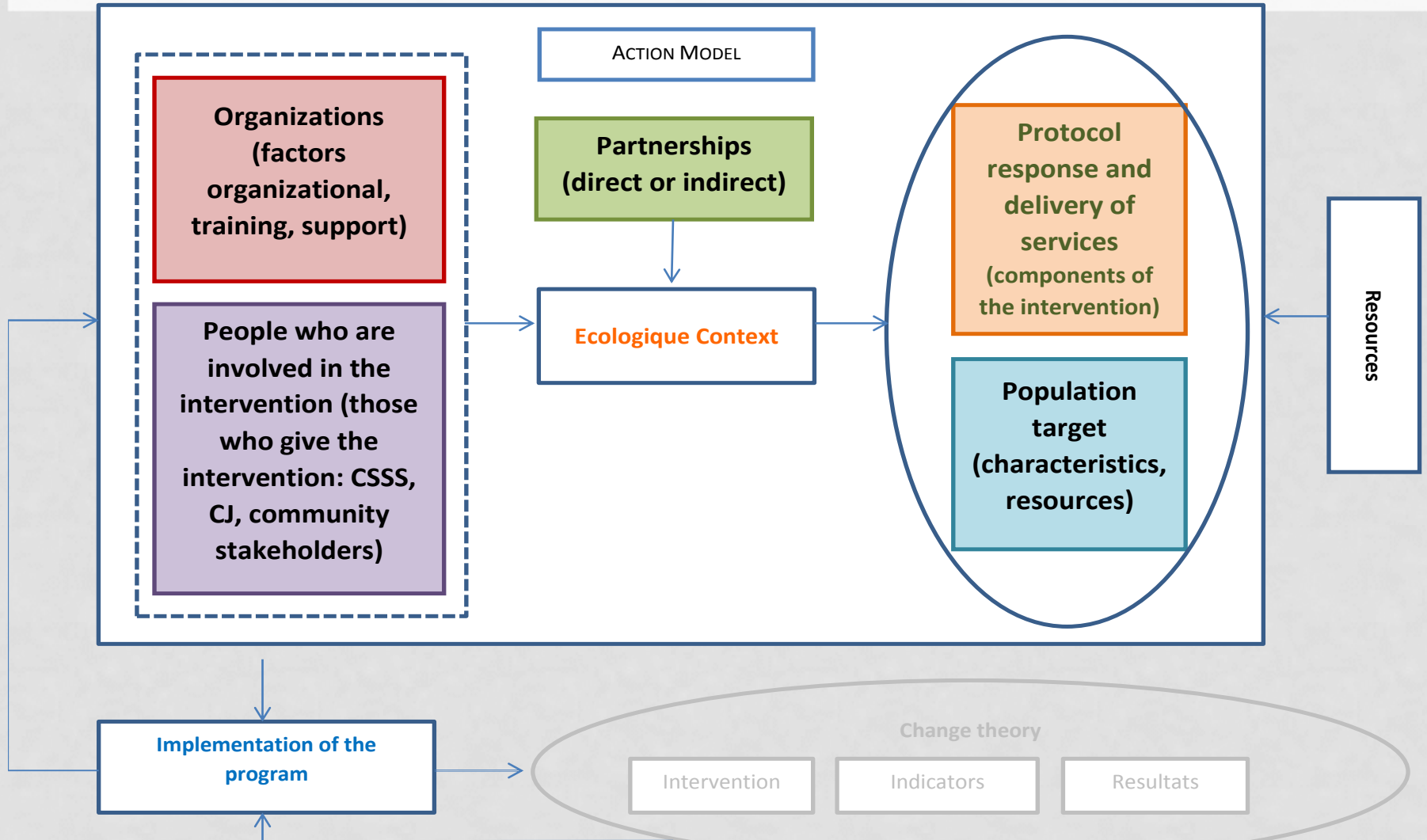
**Efficiency:** ability to optimized available resources (human, material, financial, technological and informational)

**Equity of access:** ability to provide care and services without regard to personal characteristics not related to needs, such as income, education, place of residence, etc.

## Values maintenance

ability to meet client expectations

# CHEN EVALUATION MODEL





# EXAMPLE

## BETTER TOGETHER

### Implementation process

Protocol response and services delivery + People involved in the intervention

- regional level involvement appreciated, but incomplete
- necessary practice changes

### Target population

- parents satisfied
- good participation

### Partnership

- partnerships based on common interests
- partners actively implicated
- open communication based on trust
- program and partnership seen positively

### Organizations

- facilitators and barriers
  - motivation and collaboration of partners
  - management involvement
  - knowledge about mandates, role and services
  - financial issues

## 2. ANALYSE CONTEXTUAL AND FUNCTIONAL FACTORS LINKED TO THE PROGRAM

### Why?

- To verify if the program is implemented according to what was expected : functional dimensions (e.g. number of visits, type of information provided), organizational dimensions (e.g. intensity, effort).
- To explore the influence of organizational and contextual factors on the program outcome

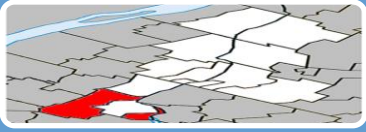
### For whom?

- Administrators, practitioners





# KEY VARIABLES IN IMPLEMENTATION EVALUATION : CONTEXTUAL



## environmental

- proportion of the target population on the territory, territory area, population density, region type (rural or urban), etc.



## political

- law or regulations that modulate accessibility to services, other national programs currently in place addressing this issue, etc.



## cultural

- past, present or planned involvement of the milieu in this type of project, involvement/satisfaction with respect to project, etc.



## organizational

- organization size, number of practitioners, management type, organizational structure, etc.



## personal

- interests of the partners involved, etc.

# EXAMPLE

## OPTIMIZATION OF PRENATAL MEETINGS IN MONTÉRÉGIE



## FUNCTIONNAL

- coverage
- duration
- frequency
- content

- **coverage:** 20% of local health care centers offer prenatal meetings specific to vulnerable clientele; universal clientele: 22 participants\group
- **duration:** 120 minutes/meeting
- **frequency:** 3 meetings/series
- **content:** breastfeeding, labor and delivery, newborn care and birthing

## CONTEXTUEL

- structural
- individual
- organisational

- **structural:** physical environment, financial and human resources, time, type and number of practitioners
- **individual:** skills, interest, commitment to the participant, motivation, adaptability and organizational openness
- **organizational :** sharing a vision and common values, manager's support and collaboration



# 3. ANALYSE VARIATION INFLUENCE IN THE IMPLEMENTATION

## Why?

- To explain the contribution of each program component to the outcome
- To explore the progress of a person throughout the program and his/her personal change process

## For whom?

- Administrators (program monitoring), practitioners, target clientele

# INDICATORS

Knowledge

Attitude

Self-efficacy

Empowerment

Therapeutic  
alliance

Program  
compliance

Satisfaction  
with services  
offered

Etc.

# EXEMPLE

## EVALUATION MENTAL HEALTH SERVICES

### Specialised mental health services for elderly

- Specialized team in mental health
- Holistic approach: multidisciplinary team
- Services organisation : clientele followed by mental health team and NOT by the elderly\loss of autonomy team

Centre intégré  
universitaire de santé  
et de services sociaux  
du Centre-Ouest-  
de-l'Île-de-Montréal

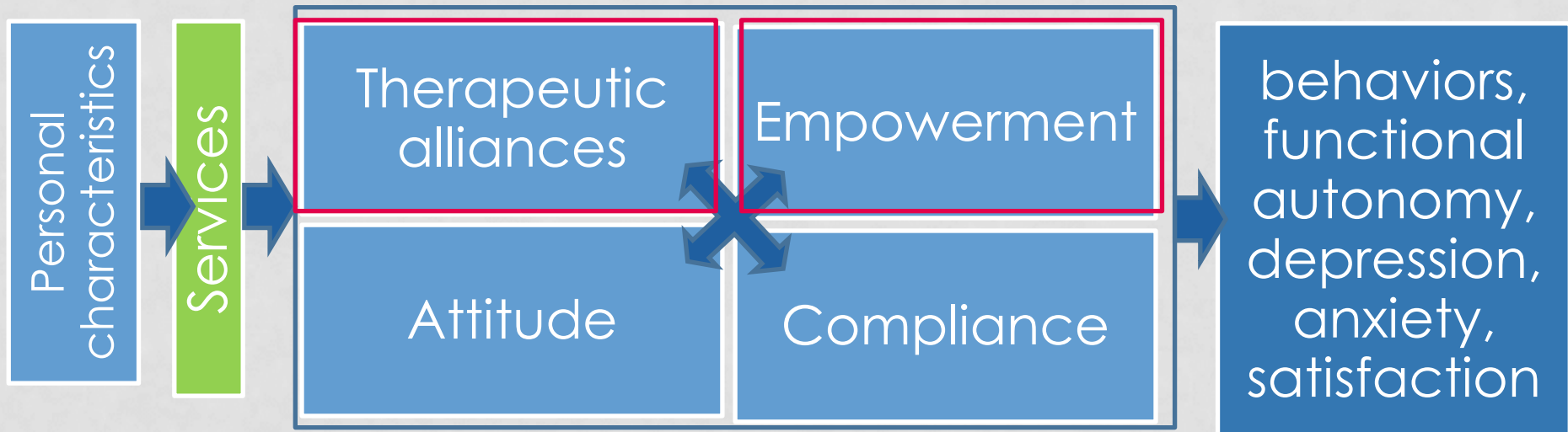
Québec   
CSSS Cavendish

### Process evaluation

- Conceptual model of mechanism of change (for mental health services)



# BISHOP AND VINGILIS MODEL



# WHAT ARE THE PROCESS EVALUATION ADVANTAGES IN PILOT STUDY?



- Can reduce the proportion of failed trials and allow research funds to be spent on projects for which feasibility has been demonstrated and quantified
- Provides an opportunity to implement and examine the feasibility of a new program
- In public health : increases the chance of participation of intersectorial partners afraid of studies
- For the health care system: allows a more in-depth evaluation of a innovation

# WHAT ARE THE PROCESS EVALUATION LIMITS IN PILOT STUDY?

- It is not a preliminary test of the intervention's hypothesis
  - limited state of knowledge about the methods
  - small sample size
- Critical limitations of interpretation: It does not provide deep information regarding the population effect

# AN GOOD MARRIAGE ?

