Using Systems Thinking in Evaluating a Complex System Intervention: QIC-EC Cross-Site Evaluation

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Learning Objective

Understand how evaluation methodologies based on systems thinking support interventions in complex social systems
What is a System?

A system is an interconnected set of elements that is coherently organized in a way that achieves something.
What is Systems Thinking?

• A way of understanding reality that emphasizes both a system’s parts AND the relationships among the system’s parts

• Concerned with how a defined system relates to a larger functioning whole

• Focuses on seeing patterns, structures, and underlying paradigms/perspectives
What is a Complex Adaptive System?

- Consists of many diverse and autonomous interrelated and interdependent components or parts linked through many (dense) interconnections

- Exhibits properties that emerge from the interaction of their parts and which cannot be predicted from the properties of the parts

Social systems are complex adaptive systems.
How Are Complex Systems Changed?

• Complex systems can be understood by looking at boundaries, relationships, perspectives/paradigms, and dynamics.

• Boundaries, relationships, perspectives/paradigms, and dynamics provide leverage points to change systems.
In Social Systems:

- **Boundaries** are open/permeable, often movable.
- **Relationships** include many networks, also hierarchies.
- **Perspectives/Paradigms** shape system structures and patterns.
- **Dynamics** include a mix of controlled and self-organizing dynamics.
Protective Factors (Paradigm)

- Social Connections
- Knowledge of Parenting and Child Development
- Concrete Support in Times of Need
- Nurturing and Attachment
- Parental Resilience
- Social and Emotional Competence of Children
QIC-EC Core Areas of the Social Ecology

Centers for Disease Control and Prevention, 2007
Relationships

• Collaborations are an essential part of QIC-EC research designs.

• Networks are the basic structure of collaborations.
QIC-EC  Overall Research Question

How and to what extent do collaborative interventions that are designed to increase protective factors and decrease risk factors in core areas of the social ecology result in increased likelihood of optimal child development, increased family strengths, and decreased likelihood of child maltreatment within families of young children at high risk for child maltreatment?
Reflections

Clarifying Questions?
QIC-EC Cross-Site Analysis Framework

Intervention

Collaborative Interventions
As implemented by:
- Project Dulce (MA)
- Family Networks Project (SC)
- Fostering Hope (OR)
- Strong Start Study (CO)
- QIC-EC

Moderating Variables

- Caregiver Characteristics (BIF)
- Child Characteristics (BIF)
- Support Network Characteristics
- Neighborhood Characteristics (BIF)
- Community Characteristics
- Organization/Policy/Social Norms Characteristics

Caregiver Outcomes

- Increased Likelihood of Optimal Child Development (PSI, AAPI)
- Increased Family Strength (SRFI, SNM, BIF)
- Decreased Likelihood of Child Maltreatment
  - Increased Protective Factors (CAPF)
  - Decreased Risk Factors (PSI)
The QIC-EC as a Complex System

• Diverse interventions across four very different sites

• Interventions working at multiple levels of the social ecology

• Collaborative partnerships
  - Within and across levels of the social ecology
  - Focused on change at various levels of the social ecology

*How can the cross-site evaluation help to make meaning within this complex system?*
QIC-EC Cross-Site “Meaning Making” Framework

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**Support for Building Protective Factors (PFIA)**
- Caregiver/Child services
- Neighborhood services
- Organizations/Programs
  - Policy, norms, infrastructure
  - Learning/Capacity Building
- Social Norms
  - Local
  - State
- Collaborations (PCA, PARTNER)
- Building Capacity
- Building Supportive Social Norms
- Changing/Advocating in Local & State Policy
- Partnership Network

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- Income
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- Substance abuse
- Domestic violence
- Gender
- Education level
- Marital status
- Employed # in household
- Language

**Child Characteristics (BIF)**
- Age
- Gender
- Ethnicity/Race
  - Child Health
  - Daily routine

**Support Network Characteristics**
- Perceived support

**Neighborhood Characteristics (BIF)**
- Urban, Suburban, Rural
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**Community Characteristics**
- Income level
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### Caregiver Outcomes

**Increased Likelihood of Optimal Child Development (PSI, AAPI)**
- Parental Self Efficacy
- Parent’s Child Rearing Attitudes

**Increased Family Strength (SRFI, SNM, BIF)**
- Family Functioning
- Family Cohesion
- Perceived Support
- Housing Stability and Food Security
- Home Maintenance & Safety

**Decreased Likelihood of Child Maltreatment**

**Increased Protective Factors (CAPF)**
- Parental resilience
- Social supports
- Concrete support in need
- Knowledge of parenting/child development
- Social emotional competence of child
- Nurturing & attachment

**Decreased Risk Factors (PSI)**
- Parenting stress
  - Isolation
- Everyday stress
Cross-site Evaluation as Meaning Making

• System Boundaries
  - What are the levers of change within levels?
  - How is change leveraged across boundaries?
# QIC-EC Cross-Site “Meaning Making” Framework

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**InSights**

A Support Network for Learning and Change

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Cross-site Evaluation as Meaning Making

- System Boundaries
  - What are the levers of change within levels?
  - How is change leveraged across boundaries?

- System Relationships
  - What can we learn about how collaborative relationships leverage changes in the system?
### QIC-EC Cross-Site “Meaning Making” Framework

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*InSites: A Support Network for Learning and Change*
Cross-site Evaluation as Meaning Making

• **System Boundaries:**
  - What are the levers of change within levels?
  - How is change leveraged across boundaries?

• **System Relationships**
  - What can we learn about how collaborative relationships leverage changes in the system?

• **System Perspectives**
  - How can the system work to align perspectives (e.g. around the protective factors)?
QIC-EC Cross-Site “Meaning Making” Framework

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• **System Dynamics**
  - How do shifts in parts of the system affect the dynamics of the overall social ecology?
  - How can this be used to leverage changes in CAN?
### QIC-EC Cross-Site “Meaning Making” Framework

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[InSites: A Support Network for Learning and Change]
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**Code**  | **Instrument Name**
---|---
PFIAProtective Factors Intervention Assessment
BIFBackground Information Form
PSIParenting Stress Index
AAPIAdult-Adolescent Parenting Inventory
SRFISelf-Report Family Inventory
BFIBackground Information Form
SNMSocial Network Mapping
CAPFCaregiver’s Assessment of Protective Factors
Link Between Data Collection and Meaning Making

Data Collection (Interviews and focus groups)

Qualitative Data Synthesis
Multiple data points (e.g. monthly site calls, site visits)

Quantitative Data Analysis
Rubric

Interpretation

Meaning Making
Protective Factors Intervention Assessment (PFIA) Rubric Characteristics

As you move to higher levels of the PFIA rubric there is:

• increased initiation by caregivers in requesting information and assistance targeted to their needs/interests;

• increased initiation by caregivers regarding action to address the particular protective factor with service provider support when desired by the caregivers;

• increased levels of caregiver self-reflection;

• increased levels of trust between the service provider and caregivers
Questions for Providers

• In what ways do you or others in the organization gather information on each protective factor?

• In what ways do you, as a provider, collaborate with a caregiver to build and sustain the protective factor in the caregiver’s own life?
Partnership Collaboration Assessment (PCA) Rubric Characteristics

As you move to higher levels of the PCA rubric there is:

- increased levels of collaboration among partner organizations and between the partnership and the community;
- increased levels of coherence in plans to address the specified areas;
- increasingly targeted information and services in response to changing community conditions;
- increased levels of trust for collaborative efforts.
Website for Partner Survey

http://www.partnertool.net
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Decreased Risk Factors (PSI)

InSites
A Support Network for Learning and Change

As implemented by:
Application of Session to Your Work

• How can attention to boundaries, relationships, perspectives, and dynamics in your evaluation provide greater understanding of how to bring about change in systems?
Learning Objective Achieved?

Understand how evaluation methodologies based on systems thinking support interventions in complex social systems
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Traditional Evaluation Framework

1. Design Evaluation
2. Collect Data
3. Make Meaning from Data
4. Shape Practice

The cycle moves from Design Evaluation to Collect Data, then Make Meaning from Data, and finally Shape Practice, before returning to Design Evaluation.
System-Oriented Evaluation

Design Evaluation

SHAPE PRACTICE

Make Meaning from Data

Collect Data
Moving from a Traditional to a Systems-Oriented Evaluation

SHAPE

PRACTICE

Design Evaluation
Make Meaning from Data
Collect Data
Shape Practice

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