

# Fidelity 101:

How to develop, validate and use fidelity measures to  
inform implementation in child welfare

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# Learning Objectives

1. Explain the clinical, administrative and empirical importance of measuring and monitoring fidelity to support implementation and evaluation.
2. Develop strategies for articulating fidelity criteria for innovative interventions.
3. Define an array of fidelity measurement methodologies used in human services and apply strategies for establishing their reliability and validity in child welfare.

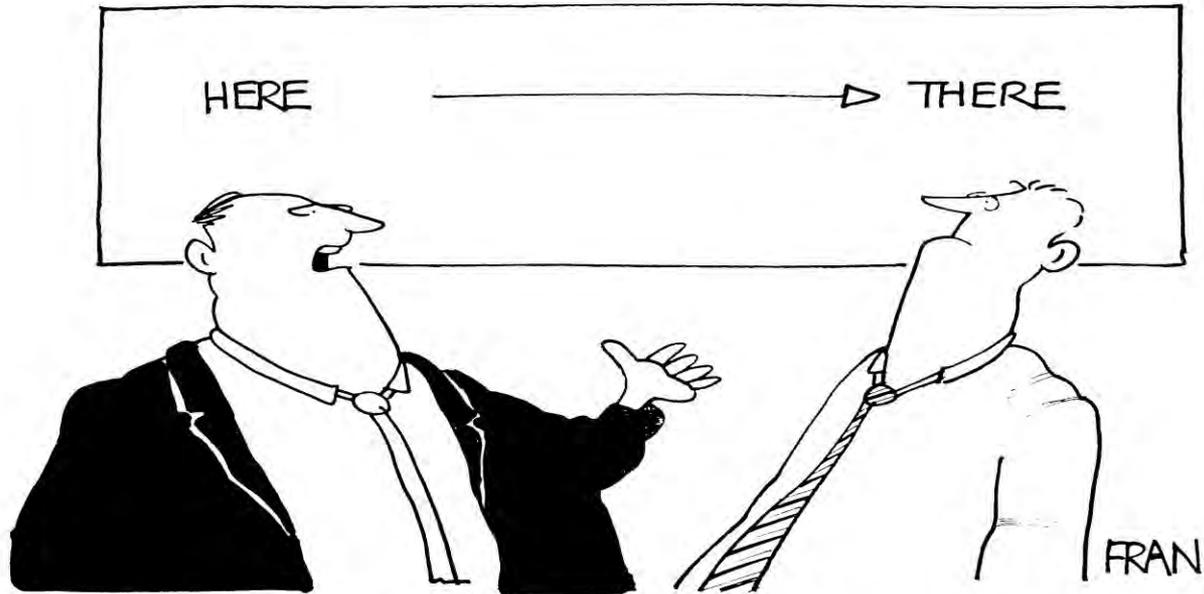
# Workshop Structure

- Define fidelity and its importance to research, evaluation and implementation
- Describe developer and evaluator strategies for defining fidelity criteria
- Describe fidelity measurement methodologies
- Provide examples of how to present fidelity data

The extent to which the delivery of an intervention adheres to the program model originally developed

## **INTERVENTION FIDELITY**

# Why is fidelity fundamental to implementation efforts?



"It's a simple model... but it works for me..."

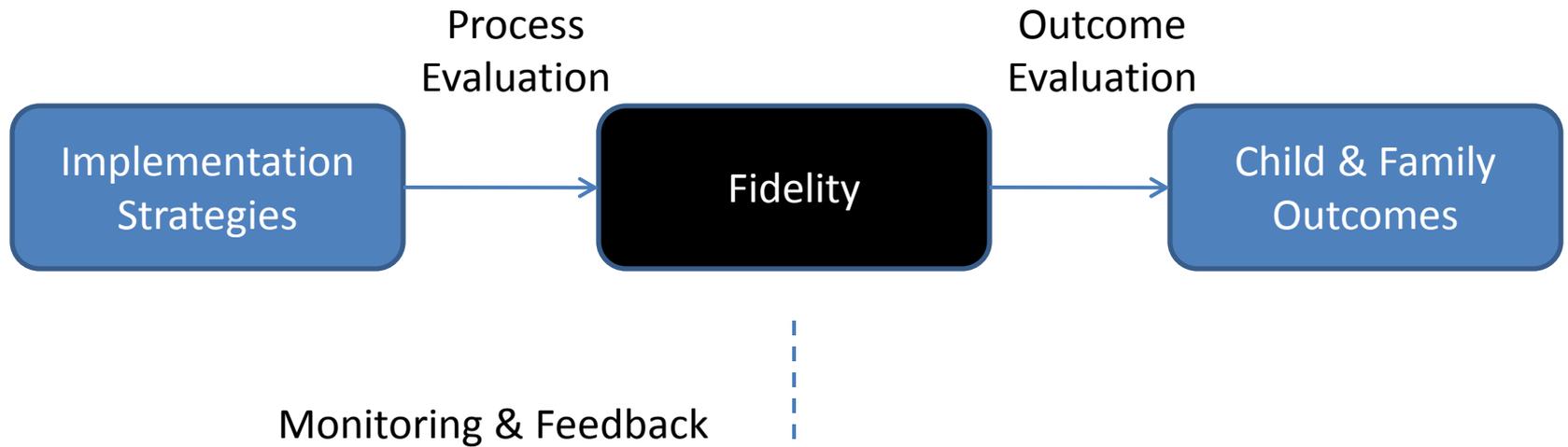
# Child Welfare Context: Realities

- Many child welfare specific functions do not have EBP (or standard fidelity criteria)
- Implementation is challenging in large bureaucratic organizations
  - Operation from within separate silos
  - The “Need to Not Know”
  - Multiple influences on intervention fidelity
- Child welfare workforce experiences high turnover; staff are constantly learning
- Never done advancing implementation

# Child Welfare Context: Opportunities

- Rigorously measuring fidelity can:
  - Support research on promising practices
  - Produce innovations to intervention models
  - Promote systematic implementation
  - Target proximal outcomes
- Evaluators can assist in measuring quality of practice for continuous improvement
- Performance assessment and feedback can be used for strategic professional development

# De-Mystifying Fidelity



# Research Rationale

- Manipulation check for IV in intervention research (Hohmann & Shear, 2002)
  - Accounts for negative or non-significant findings in experimental group
  - Ensures no “leakage”, contamination in control group (Orwin, 2000)
  - Identifies which components are most effective (Bond et al, 2000)
- Outcome of interest (DV) in implementation research (Proctor et al, 2011)

# Change-Oriented Implementation Process

- The most important aspect of implementation is clearly defining the intervention and determining what change in professional behavior you want to see
  - Implementation activities are a means to an end
  - Proximal success of implementation = desired practice and decision making
- Measuring progress toward fidelity concentrates attention on professional behavior and quality practice
  - Informs implementation activities (e.g., training, coaching, decision support tools)
  - Structures feedback for practitioners. Positive feedback makes you feel good. Critical feedback indicates where you need to focus.

# Integrated Evaluation

- To support implementation, evaluation needs to be present throughout (Kaye, Summit poster)
  - Evaluator is an **implementer** with expertise in measurement, analysis and reporting
- Using fidelity as an IV and DV requires sound methodology (Schoenwald et al, 2011)
  - Effective – psychometrically sound
  - Efficient – feasible for use in standard practice

# **DEFINING FIDELITY CRITERIA**

# Good Fidelity Criteria

- Structure and process (Mowbray et al., 2008)
  - Framework for service delivery
  - Way in which services are delivered
- Integrity and differentiation (Bond et al., 2000)
  - Adherence to defined activities/behaviors
  - Competence of practitioners
  - Dose of intervention (i.e., frequency, duration)
  - Distinguishing feature of the intervention

# Fidelity Criteria: Developer Perspective

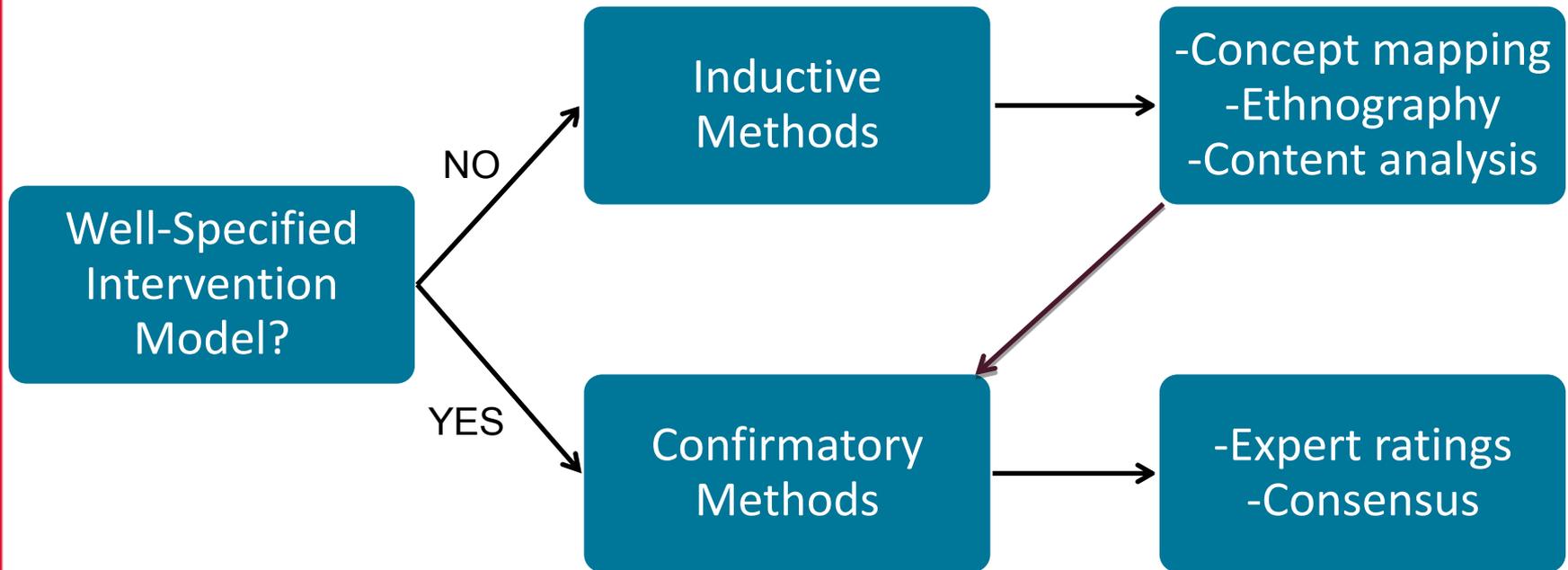
1. Start with the end result for intervention
2. Define Purpose for Specific Intervention Components
3. Base intervention design on:
  - Specific desired practice objectives that you are trying to achieve for families
  - Conceptual framework and process
  - Decision making criteria
4. Establish standards for practice
5. Define practice standards in measurable terms

# Example: Information Collection

# Fidelity Criteria: Evaluator Perspective

- Programs and practices will have varying levels of specificity before implementing
  - Intervention manual
  - Curricula, policies, practice standards
  - Underlying values and principles
  - Administrative directive
- Evaluators must work with implementers to define core components and operationalize fidelity criteria

# Fidelity Criteria: Evaluator Perspective



See Bond et al. (2000) for more about inductive and confirmatory methods

# Operationalizing Fidelity

	Unique and Essential	Essential but not Unique	Compatible	Prohibited (reverse coded)
Core component				

# MEASURING FIDELITY

# Methods for Assessing Fidelity

Method	Description
Site visit	Intervention experts conduct structured interviews
Structured observation	Intervention experts code practitioners during live observation and provide feedback, or trained coders rate audio/video recordings
Multi-informant methods	Feedback collected from multiple stakeholders, including youth, families, providers, case files, supervisory review
Self report checklists	Practitioners complete checklists to describe whether key intervention activities were completed
Secondary data analysis	Researchers analyze existing administrative data
Supervisory review	Supervisors rate practitioners on adherence or competence
Case file review	Intervention experts or trained researchers code case files/progress notes
Key informant survey	Agency representative reports for a unit or organization

# Methods for Establishing Reliability/Validity

(see Caslyn (2000) & Schoenwald (2011) for more information)

Property	Method
Content validity	Items are reviewed by experts, clients, practitioners to test whether the measure assesses all relevant fidelity criteria.
Convergent validity	Fidelity data are collected through different methods. Data are tested for correlation between fidelity scores obtained through both methods.
Discriminant validity	Fidelity data are collected and combined with other measures of program quality. Data are tested for differences between fidelity and non-fidelity measures.
Criterion validity	Fidelity data are collected across sites with known differences in fidelity. Data are tested for differences between groups.
Predictive validity	Fidelity data and outcome data are collected from the same program. Data are tested for correlations between fidelity and outcomes.
Internal consistency	Many observations are collected using the same fidelity measure. Data are analyzed using confirmatory factor analysis, internal consistency coefficient, or cluster analysis.
Test-retest	The same raters complete the fidelity measure based on the same observation multiple times within a short period of time. Data are tested for consistency between first and second administration.
Inter-rater	Multiple raters complete the fidelity measure based on the same observation at the same point in time. Data are tested for consistency across raters.

# Ideas for Institutionalizing Fidelity Measurement

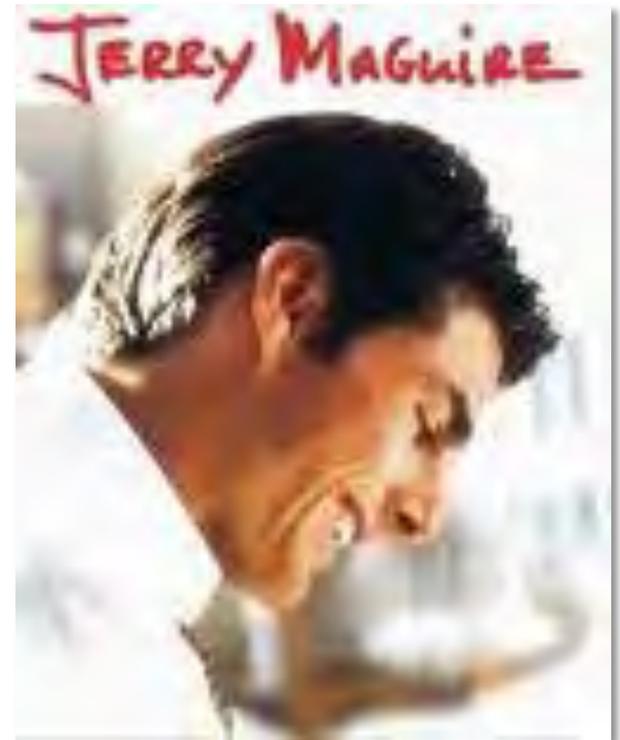
<b>Fidelity Assessment Method</b>	<b>Existing Child Welfare Activity</b>
Site visit	CFSR or other QA review
Structured observation	Supervision Performance review
Stakeholder reports	Satisfaction survey
Self report	Checklist/reminder
Secondary data analysis	SACWIS

# **INFORMING IMPLEMENTATION**

# Integrating Evaluation and Implementation: The Implementer Perspective

- Timely feedback
- Collaboration
- Foundational understanding of the intervention model
- Practical feedback with common language
- Quantitative and qualitative data that informs progress
- Analysis that informs implications for adapting implementation activities

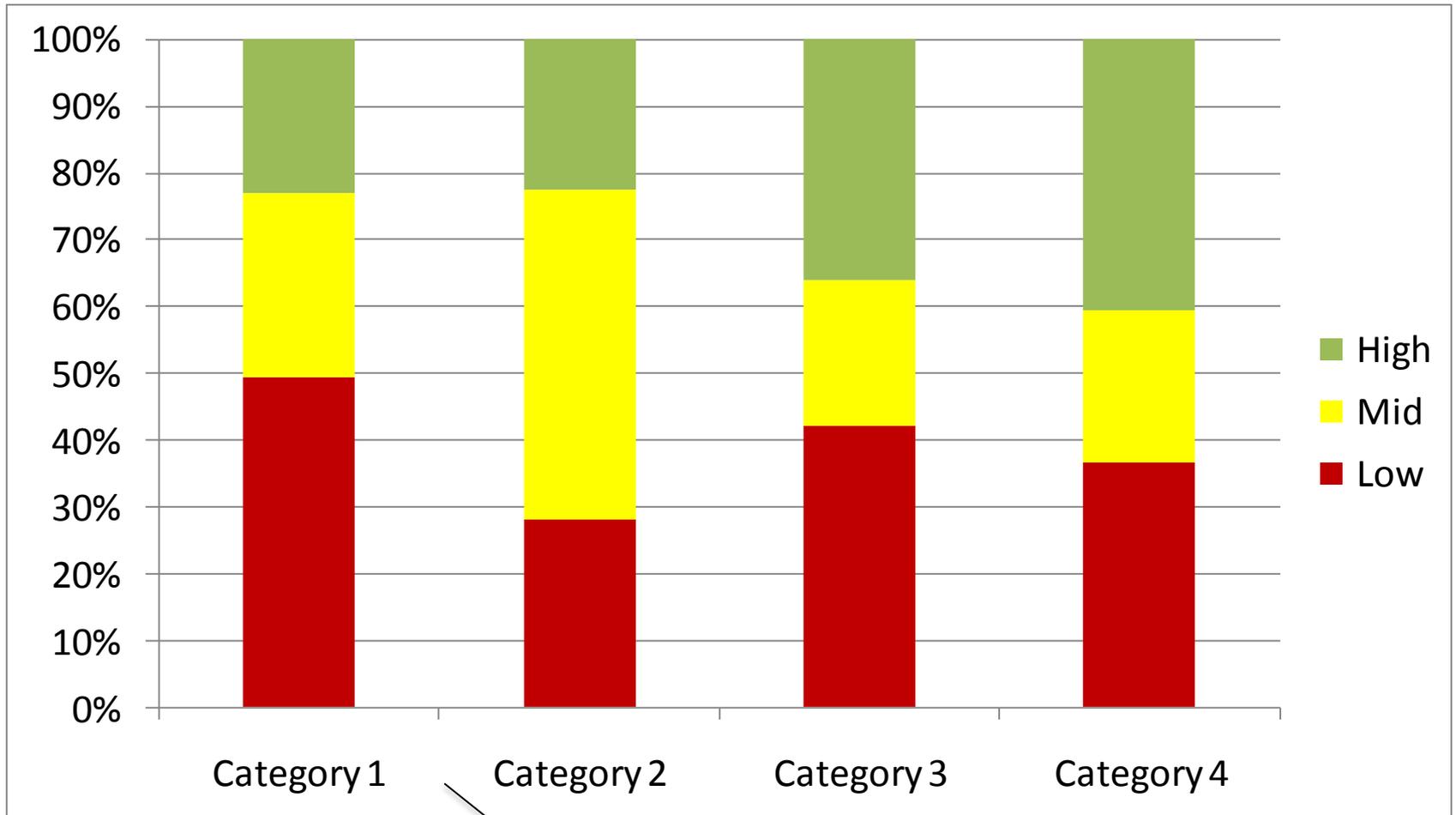
*“Help me help you”*



# Tips for Evaluators

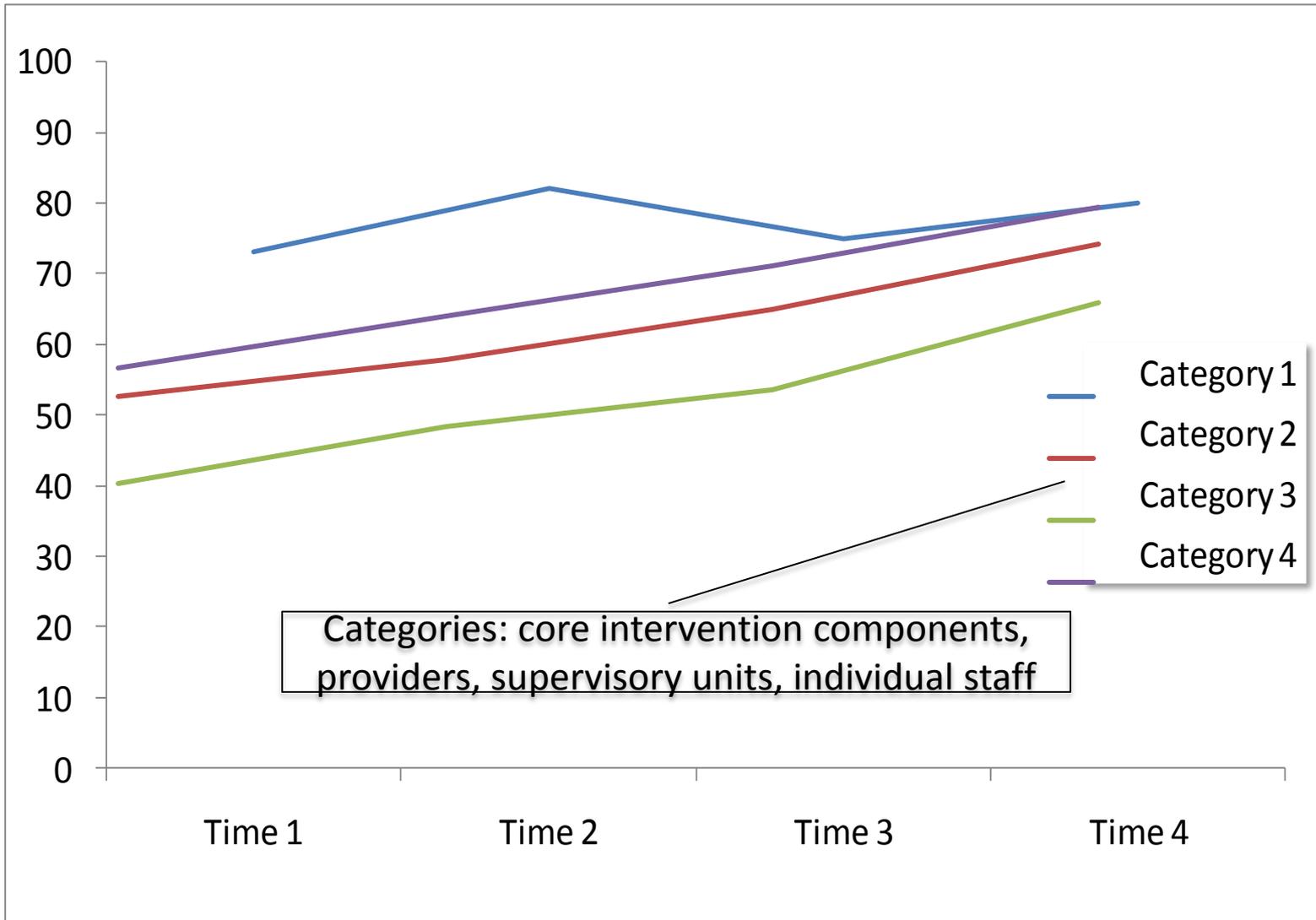
- Identify data priorities with developers, implementation teams, decision makers
  - Establish clear reporting/feedback loops
    - Who, what, when, how, why
  - Field test report formats for clarity and utility
  - Partner when presenting data
    - Work together to make data **actionable**
  - Be prepared for 5 stages of grief
    - Denial, Anger, Bargaining, Depression, Acceptance
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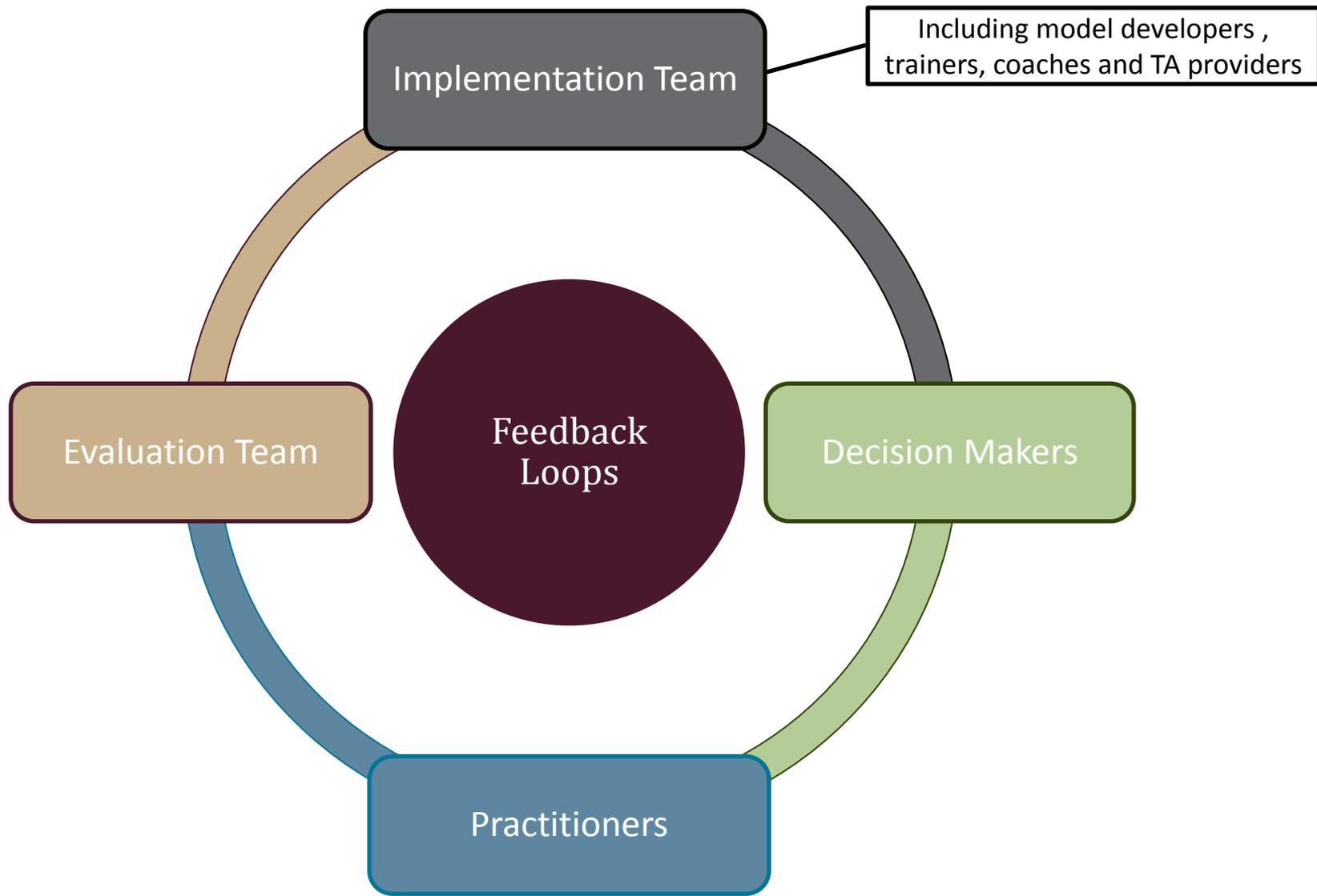
# Example Fidelity Chart



Categories: core intervention components, provider, supervisory units, individual staff

# Example Time Series Fidelity Data





# For more information

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