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**Dartmouth Center for
IMPLEMENTATION
SCIENCE**

Measuring & Monitoring Fidelity During Implementation

Hosted by:



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Accreditation and Continuing Education (CE) Credit

In support of improving patient care, Dartmouth Health is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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Dartmouth Health designates this live activity for a maximum of *1.0 AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

American Nurses Credentialing Center (ANCC)

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Association of Social Work Boards (ASWB)

As a Jointly Accredited Organization, Dartmouth Health is approved to offer social work continuing education by the Association of Social Work Boards (ASWB) Approved Continuing Education (ACE) program. Organizations, not individual courses, are approved under this program. Regulatory boards are the final authority on courses accepted for continuing education credit. Social workers completing this course receive 1.0 general continuing education credits.

Other Learners: All other learners may claim CME-designated participation credit. Consult your professional licensing board regarding the applicability and acceptance of CME-designated participation credit for programs certified for credit by organizations accredited by Joint Accreditation for Interprofessional Education.



Learning Objectives:

1. Identify the key components of treatment integrity important for implementation research.
2. Discuss the advantages and disadvantages of various methods used to gather treatment integrity data in implementation research.
3. Describe the benefits of measuring core components and adaptations to innovations as part of treatment integrity measurement.



Continuing Education

Mobile Text-In Code: **154056**

Phone Number: **833-884-3375**

Code expires in 48 hours and is for this session only.

To receive credit for this activity, you must:

1. Have a Dartmouth Health CE for Professionals account *with your mobile number included*. Go to <https://dh.cloud-cme.com> to log in or create an account.
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3. Complete the online evaluation *within 30 days*. Upon completion of the evaluation, the credits will be reflected on your online transcript.

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Measuring and Monitoring Fidelity During Implementation

Bryce D. McLeod, PhD

Professor of Psychology, Virginia Commonwealth University

Visiting Professor, National University of Singapore



VCU

WE ARE THE UNCOMMON.

Agenda

- Definitions
- What to consider when measuring and monitoring treatment fidelity
- Adaptations
- Conclusions
- Questions

Definitions

- Treatment integrity (broad)
 - Adherence
 - Competence
 - Differentiation
 - Other components
 - Alliance/relationship, responsiveness, comprehension?
- Treatment fidelity (narrow)
 - Adherence
 - Competence

Definitions continued...

- Adherence vs. quantity
 - Is there a protocol?
 - Dosage/frequency/extensiveness

- Competence vs. quality
 - Skillfulness in delivering the 'thing'
 - Responsiveness
 - Relationship? Decision making?

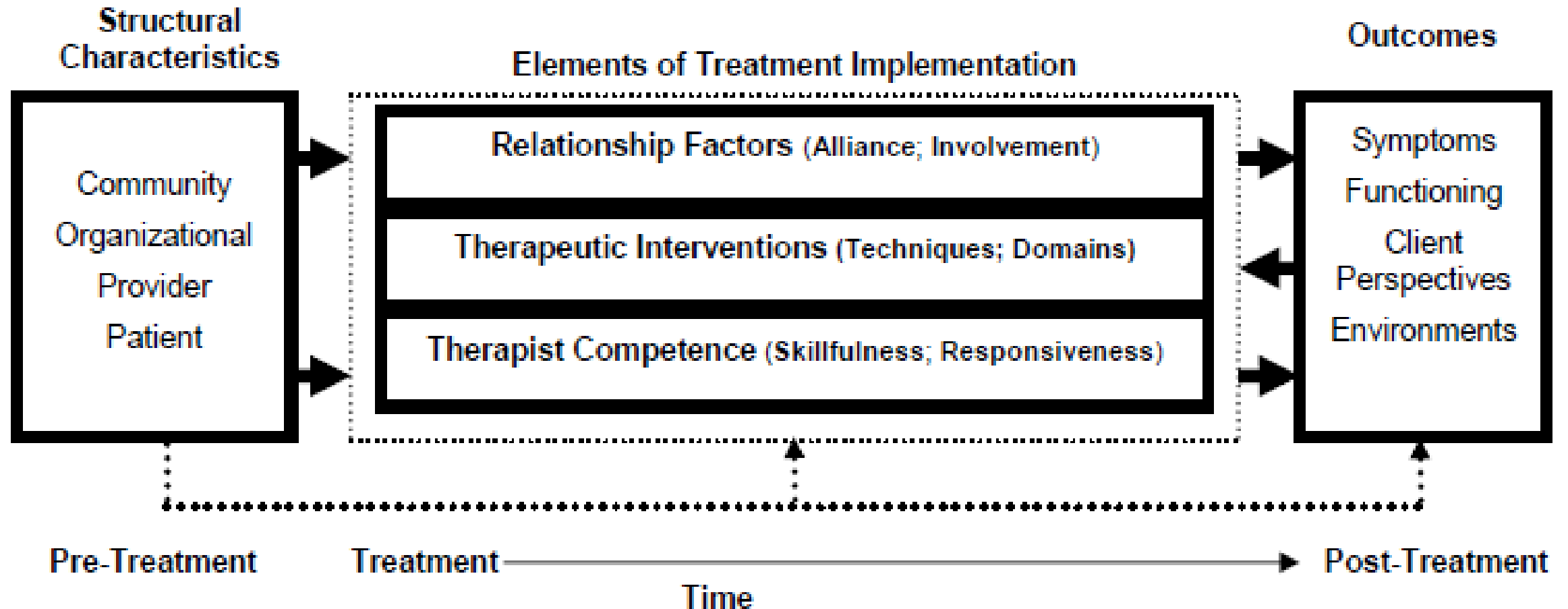
- Blending adherence and competence

Definitions continued...

- Differentiation
 - Are non-intended techniques delivered?
 - Contamination?
- Why is differentiation important?
 - Key when comparing active treatments
 - Usual care can contain techniques from evidence-based interventions
 - Variation can occur across providers and sites



Models – Quality of care



Treatment fidelity measurement

- No one-size-fits-all fidelity measure
- Design of the measure has to align with the research questions
- Psychometric properties have to support the purpose
- Plan for the future
 - Where are you on the translational pipeline?

Purpose of treatment fidelity measure?

- Manipulation of the independent variable
- Training and coaching
- Quality improvement
- Implementation or sustainment
- Scaling



Sutherland, K. S., McLeod, B. D., & Conroy, M. (2022). Developing treatment integrity measures for teacher-delivered interventions: Progress, recommendations, and future directions. *School Mental Health, 14*(1), 7-19.

Who is the end user?

- Researchers
 - Experts, grad students, undergrads
- Supervisors/Consultants/Coaches
- Practitioners
- Clients
- Electronic records



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Design considerations

- Item design – what needs to be captured
- Scoring system – what scores need to be generated
- Reporter – what training is needed, how will data be collected
- Sampling – how often do you need to collect fidelity data
- Efficiency and cost considerations

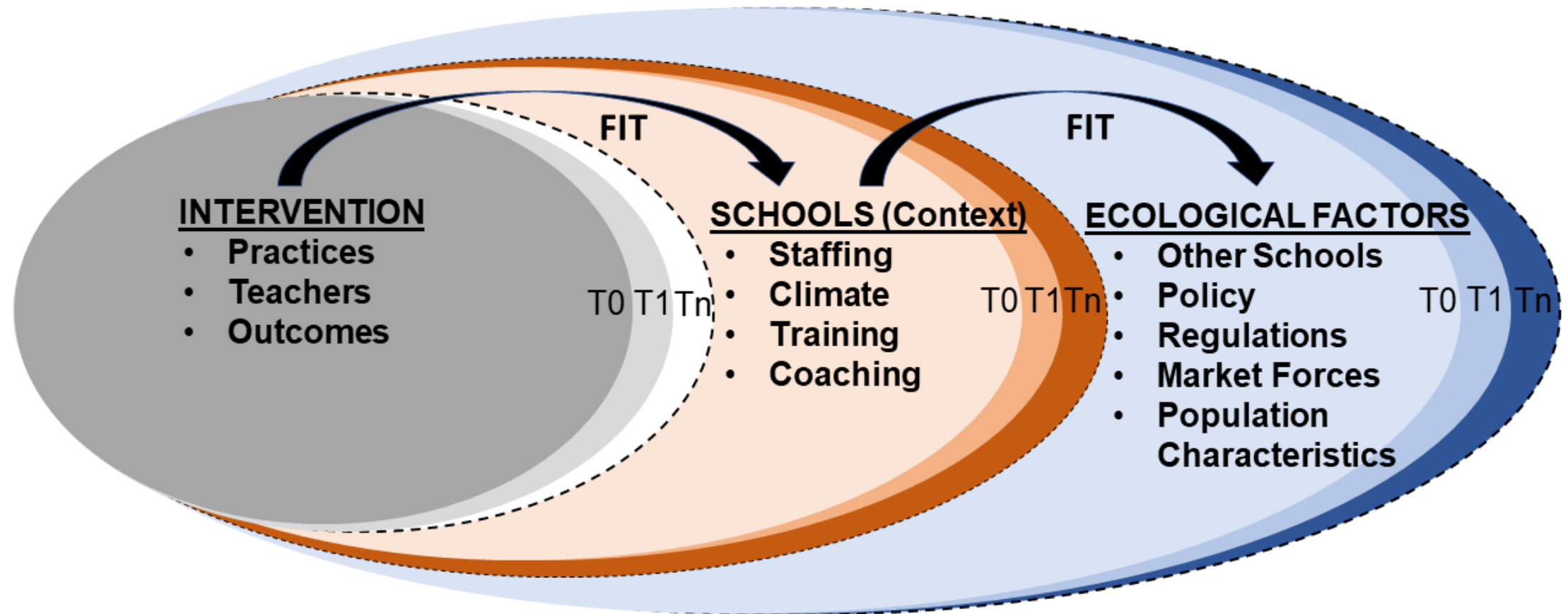
Reliability and validity dimensions

- Content validity
- Reliable in target setting(s) with end users
- Construct validity
- Criterion validity
- Sensitivity to change
- Validity generalization

How to select a fidelity measure

- Adapt an existing fidelity measure?
- Develop your own fidelity measure?
- Pros and cons of each approach
- How to plan for the future

Models – Dynamic Sustainability Framework



Adaptations and modifications

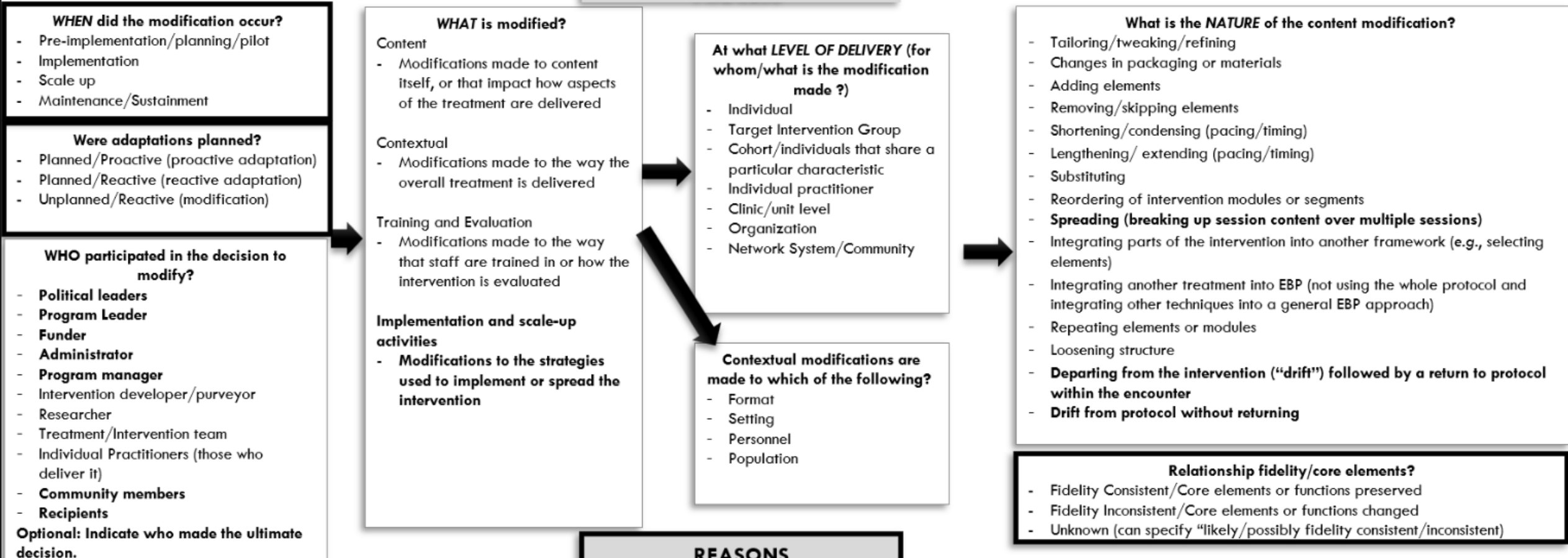
- Map out core components
- Document adaptations (planned) and modifications (unplanned) across settings and populations
- Mixed methods are often needed to document/understand adaptations and modifications

FRAME

- Mixed method approach for identifying and understanding adaptations
- Resources can be used in whole, or part

Framework for Reporting Adaptations and Modifications-Expanded*

PROCESS



REASONS

	SOCIOPOLITICAL	ORGANIZATION/SETTING	PROVIDER	RECIPIENT
What was the goal?	<ul style="list-style-type: none"> - Existing Laws - Existing Mandates - Existing Policies - Existing Regulations - Political Climate - Funding Policies - Historical Context - Societal/Cultural Norms - Funding or Resource Allocation/Availability 	<ul style="list-style-type: none"> - Available resources (funds, staffing, technology, space) - Competing demands or mandates - Time constraints - Service structure - Location/accessibility - Regulatory/compliance - Billing constraints - Social context (culture, climate) - Mission - Cultural or religious norms - Identified disparities in services provided 	<ul style="list-style-type: none"> - Race - Ethnicity - Sexual/gender identity - First/spoken languages - Previous Training and Skills - Preferences - Clinical Judgement - Cultural norms, competency - Perception of intervention - Availability/comfort with technology 	<ul style="list-style-type: none"> - Race, Ethnicity - Gender identity - Sexual Orientation - Access to resources - Cognitive capacity - Physical capacity - Literacy and education level - First/spoken languages - Motivation and readiness - Availability/comfort with technology - Legal status - Cultural or religious norms - Comorbidity/<u>Multimorbidity</u> - Immigration Status - Crisis or emergent circumstances - Mistrust of the system

Function and form

- Function

- What the intervention (or implementation strategy) seeks to change
 - Behavioral activation, habituation, training
- Important to map out core functions and how they promote change
- Absence of core functions may compromise integrity

- Form

- Specific strategies or activities used to carry out the core functions
- Forms are often customized to specific settings and/or populations
 - Training can take many forms (in person, online)



<https://thecenterforimplementation.com/toolbox/innovative-way-to-address-the-fidelity-adaptation-debate-forms-and-functions>

<https://rethinkingclinicaltrials.org/chapters/conduct/monitoring-intervention-fidelity-and-adaptations/identifying-the-functions-and-forms-of-an-intervention/>

Don't forget...

- Fidelity of implementation strategies...
 - Training
 - Coaching
 - Etc.
- Logic of monitoring fidelity applies to interventions and implementation strategies

Conclusions

- No one-size-fits-all integrity measure
- Map out the core functions, understand the forms
- Plan for the future

Questions?



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Learning Opportunities at Dartmouth

Seminar Series

Fundamentals of Implementation Science

Monthly on the 2nd Wednesday
12:00 – 1:00PM ET
Virtual



Works in Progress

Monthly on the 3rd Wednesday
12:00 – 1:00PM ET
In Person & Virtual



Hosted by:

Jeremiah Brown, PhD, DCIS Director
Kelly Aschbrenner, PhD, DCIS Co-Director
Sarah Lord, PhD, DCIS Co-Director

implementation.science@dartmouth.edu

MS in Implementation Science



Dartmouth
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100% ONLINE
**MS in
IMPLEMENTATION
SCIENCE**
9 or 18 Months



What is Implementation Science?
Implementation science is a rapidly growing field with robust government investment and industry interest that addresses the lag between evidence-based practices and widespread practical application in the real world.

The Implementation Science program at Dartmouth provides rigorous training in dissemination and implementation science including theory, methods, and practical applications, as well as essential project management, collaboration, and leadership skills. Graduates will be equipped to apply these skills in a broad range of disciplines and communities throughout the country and the world.

1st

Be part of one of the first implementation science master's programs in the world.

Learn from leaders at the forefront of the dissemination and implementation science field.

Complete the IMPACT Capstone Project where you'll gain hands-on experience throughout the duration of the program.

Unlock the full Ivy League experience from the comfort of your home and elevate your career and training potential!



Accelerated In this delivery option, students take two concurrent courses at a time (four courses per term) and spend approximately 10-15 hours per week on coursework and class time.

9 Months Total **30 Students Per Class** **2 Courses At A Time**

Traditional In this delivery option, students take one course at a time (two courses per term) and spend approximately 16-20 hours per week on coursework and class time.

18 Months Total **30 Students Per Class** **1 Course At A Time**

Why Implementation Science and Why Now?

Employment for Implementation Science related occupations is projected to grow annually by 9% by 2021.

The salary range for jobs in the Implementation Science field is \$70,000 - \$100,000.

"Implementation science is the bridge between great ideas and great people ready to act on them. This science brings the 'know' to the 'do.'"
-Genevieve Shafer '26

Scan Here:

Courses In:

- Implementation and De-implementation Strategies
- Application of Theories, Models, and Frameworks
- Qualitative and Mixed Methods in Implementation Research
- Measuring Implementation Science Context, Process and Outcomes
- User-Centered Design Applied to Interventions and Implementation Strategies
- Evaluation of Experimental Trials Including Cost Effectiveness
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