Why is Implementation of Evidence-based Practices So Challenging?

Highlighting the Technology Transfer Model

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ATTC — Addiction Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

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Focus of Presentation

- **Participants thoughts on Implementation**
- **What is Technology Transfer?**
  - **A Brief History of the Field**
  - **The ATTC Technology Transfer Conceptual Model**
- **Using the ATTC Model**
  - **Example: Motivational Interviewing**
- **What causes implementation or technology transfer to fail?**
- **Strategies, Tips and ATTC Network Resources**

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What is technology transfer?

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A Brief History of the Field

The story of technology transfer starts with *diffusion of innovations* work in agriculture in the **1930s**.
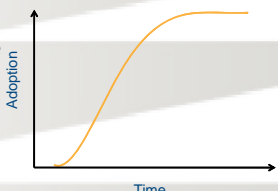
- **Ryan and Gross** at Iowa State University studied the diffusion or use of **hybrid seed corn** throughout rural Iowa.

- **It took 12 years to diffuse**, even though it increased yields by 20% and was hardier to drought.

- **They found that the hybrid corn diffused more quickly** to farmers who had larger farms, higher income, more education, and made more trips to Des Moines.

Everett M. Rogers - *Diffusion of Innovations*

- **First published, 1962; 5th edition 2003**
- **Popularized adoption curve**
- **Focused on diffusion up to decision to adopt**
- **Identified attributes of innovation that affected adoption**
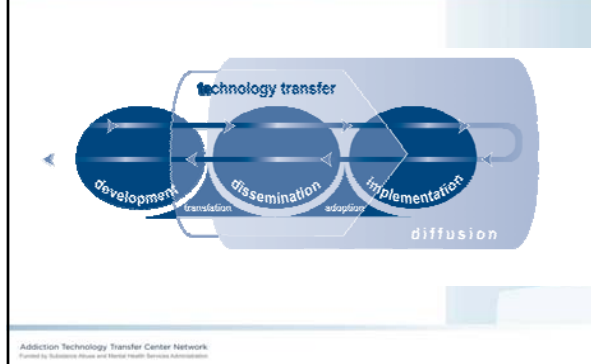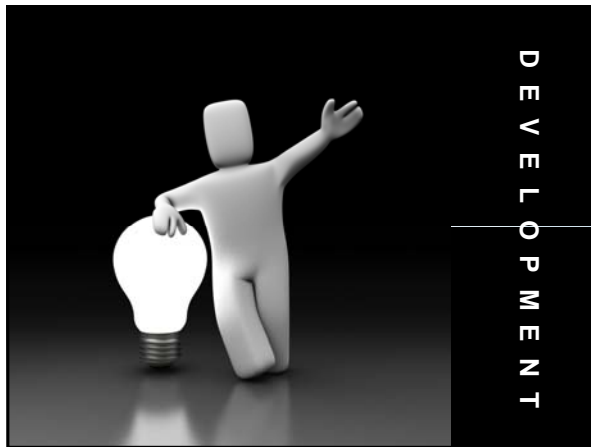
Adoption

Time

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Where are we now?

numerous terms with conflicting definitions

multiple, overlapping models

popular interest books

2003 ~ over 5,000 publications on innovations

evolving concept of "innovation"

**ATTC Network Model of Technology Transfer in the Innovation Process**

DEVELOPMENT

Development

Creating and initially evaluating an innovation.

*An innovation can be an idea, technology, treatment or method, including evidence-based practices. The innovations in our field are evidence-based practices such as psychosocial treatments and medications for substance use disorders.

TRANSLATION

Translation

technology transfer

development   dissemination   implementation

translation   adoption
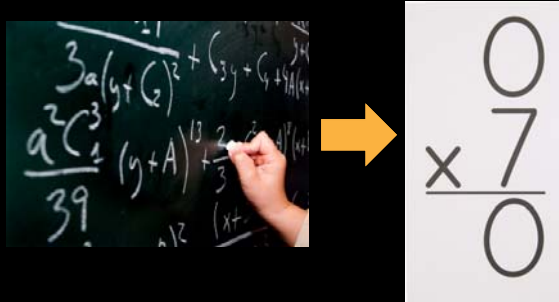
d i f f u s i o n

Explaining the essential elements and relevance of an innovation, then packaging it to facilitate dissemination.

*Examples include lay-language newsletters or articles describing the innovation or training curricula.

DISSEMINATION

Raising Awareness   Building Skills   Changing Practice

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Dissemination

Promoting awareness of an innovation with the goal of encouraging adoption and implementation. Dissemination strategies include raising awareness, building knowledge, and distributing materials.

ADOPTION

Adoption

The process of deciding whether to use an innovation. Adoption may or may not lead to implementation.

IMPLEMENTATION

Implementation

Incorporating an innovation into routine practice. Implementation ideally includes a range of strategies designed to address individual, organizational, and systemic characteristics (e.g., skills training, administrative buy-in, and policy changes).

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4 Things About Implementation that You Didn't Learn in School

1. Dissemination is not implementation
2. Successful implementation of complex clinical practice takes 2-4 years
3. Training alone is never enough
4. Fidelity to evidence-based practices affects client outcomes

DIFFUSION

Diffusion

The planned or spontaneous spread of an innovation.
  * Diffusion is an overarching process that picks up after an innovation has been developed.

TECHNOLOGY TRANSFER

Technology Transfer

A multidimensional process that intentionally promotes the use of an innovation.
- Begins during the development of an innovation, continues through its dissemination, and extends into its early implementation.
- Requires multiple stakeholders and resources, and involves activities related to the translation and adoption of an innovation.
- Accelerates the diffusion of an innovation.

Where does the ATTC Network fit in the model?
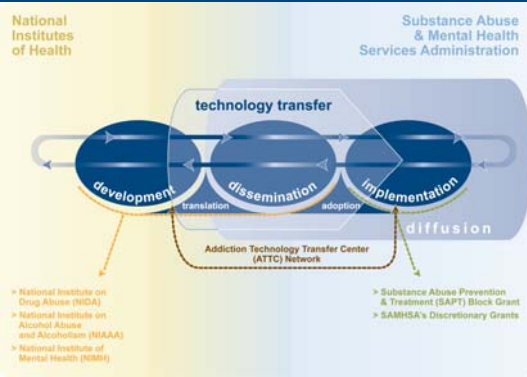
National Institutes of Health

Substance Abuse & Mental Health Services Administration

technology transfer

development   dissemination   implementation
translation   adoption
diffusion

Addiction Technology Transfer Center (ATTC) Network

> National Institute on Drug Abuse (NIDA)
> National Institute on Alcohol Abuse and Alcoholism (NIAAA)
> National Institute of Mental Health (NIMH)

> Substance Abuse Prevention & Treatment (SAPT) Block Grant
> SAMHSA's Discretionary Grants

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INFORMATION

WHAT TO DO WITH IT

Technology Transfer:

What does it *really* do and why should we care?

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Slide 1

The ATTC Technology Transfer Model Promotes:

- Standardized language
- Contextualized process
  - Helps partners to better understand and prepare for a multi-tiered *process* of change
- High fidelity change
- Greater satisfaction with the process
- Focused purchasing power
  - Helps ATTC staff to plan activities with SSAs and other stakeholders

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Slide 2

- Technology transfer promotes high fidelity change:
  - A study of clients with co-occurring disorders who received Assertive Community Treatment (ACT) shows that those treated by ACT teams implemented with high fidelity to the original model have much better treatment outcomes.

	High Fidelity ACT team	Low Fidelity ACT team
Treatment Drop-outs	15%	30%
Substance Use in Remission	55%	13%
Hospital Admissions	2.87	4.69

McHugo, 1999

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Slide 3

Actions that Accelerate Technology Transfer

> The ATTC Matrix shows suggested actions that different groups can take to encourage the use of innovations.
> This sample page shows actions that states and systems can take to foster use of innovations at different points in the model.

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Innovation Example: Motivational Interviewing

This example shows how the ATTC Network's work fits into the process of developing, disseminating, and implementing an evidence-based practice (treatment innovation).

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Development

Development of Motivational Interviewing (MI)

- **MI is an evidence-based counseling practice developed by William Miller and Stephen Rollnick (1991)**
- **Research shows that MI has a positive effect on retention in care (Carroll et al., 2006)***

Carroll, K. M., ET.al., (2006). Motivational interviewing to improve treatment engagement and outcome in individuals seeking treatment for substance abuse: A multisite effectiveness study., *Drug and Alcohol Dependence, 81, 301-312*

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Translation

Examples of how the ATTC has translated MI

- **ATTC Network, in conjunction with the NIDA Clinical Trials Network, develop the Motivational Interviewing Assessment: Supervisory Tools for Enhancing Proficiency product (MIA:STEP)**
- **Develop newsletters or articles that provide information about MI and the benefits of its use**

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Dissemination

Examples of how the ATTC has **disseminated** MI

- ATTC Regional Centers conduct awareness and/or skill-building trainings with clinical staff around MI
  - From 2006 to 2010 there were a total of 538 events relating to MIA:STEP Blending Product
    - ✓538 Pre-MIA:STEP, motivational interviewing events

Adoption

During the **adoption** process, the ATTC Network supports organizations to make sure they have the information necessary to "try on" MI so that they can authentically decide whether or not to implement the innovation.

Implementation

Examples of how the ATTC supports *early* implementation of Motivational Interviewing

- ATTC Regional Centers can provide:
  - Training on the MIA:STEP product with clinical supervisors to sustain the use of MI in clinical settings
  - Ongoing technical assistance to program administrators around implementation
  - Periodic coaching sessions with clinical staff to enhance and refresh their MI skills

Implementation

Later implementation of MI

- **Full implementation is beyond the scope of Technology Transfer.**
- **Once the ATTC Regional Center is no longer in the picture, it is up to the organization to ensure long term sustainability and fidelity to achieve full implementation.**

So, why does innovation and diffusion of technology fail?

- "Expert Authority"
- Ignoring the psychological fact of resistance
- Denial of organizational psychodynamics of change
- Ignoring the culture of the organization's Receptiveness & Resistance
- The concept of "organizational resilience"

Innovation and Diffusion of Technology: A Human Process
Michael A Diamond-University of Missouri

Strategies & Tips

Design a *Transitional Space*

- An environment where organizational members can work through their feelings and thoughts
- Involve employees in the designing (framing and naming)
- Employees participate in selection of and reasoning behind the idea

Source: *Innovation and Diffusion of Technology: A Human Process,* Michael A. Diamond

Bottom-up Adoption

- Foster staff commitment
- Cascading Impact of positive leadership
- Climate setting

Innovation adoption as facilitated by a change-oriented workplace
Becan J.E., Knight D.K., Flynn P.M.
Texas Christian University
JSAT: 2012, 42, p.179-190

Conduct Readiness Assessment

- How did you arrive at decision
- Study previous attempts at implementing a new practice at your organization
- Perceived interest level among all staff
- What currently exists to support the new practice
- What resources are needed to implement
- How will you measure success

Disseminating the Model

- Interactive section of the ATTC Network Website: ATTCnetwork.org/technologytransfer
- Matrix of actions that accelerate technology transfer
- Academic journal article
- *The Bridge article*
- Network resources
- Visit **www.attcnetwork.org**

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Thank You!

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Questions & Answers

Archive & Handouts

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You can find it on our homepage at: www.attcnetwork.org/greatlakes

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