Applying Implementation Science to Your Prevention Work

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Our Learning Objectives

• Determine the difference between prevention “programs”, “practices” and “strategies” based on importance of fidelity

• Identify implementation monitoring components within an evidence-based intervention example

• Using an example of an evidence-based intervention, practice planning for adaptations

• Discuss actions for consistent fidelity assessment across Nebraska
Parking Lot

- Questions to be addressed later in the training
- Questions to be addressed outside of the training
Table Introductions

Photo Source: https://pixabay.com/en/fruit-fruit-buffet-bananas-oranges-1137851/
Starting with Evidence

Photo Source: https://c1.staticflickr.com/1/72/196310475_4097c3bf9d_z.jpg?zz=1
Is It Evidence-based? A Warm Up

Photo Source:
https://c2.staticflickr.com/4/3804/13442542235_a0b6a8b988_b.jpg
Is It Evidence-based? A Warm Up

- Good Behavior Game
- Prime of Life
- Life Skills Training Program
- Character Counts
- W.A.I.T

- Brief Alcohol Screening and Intervention of College Students (BASICS)
- Love and Logic Parenting Classes
- Responsible Beverage Server Training
- Compliance Checks
- Lead and Seed
How Do You Know It’s Evidence-based?

• A single study? What type of study?
  • Randomized control trials?
  • Policy analysis?
  • Epidemiological studies?
• A series of studies?
• A systematic review?
• Personal experience?
• Evaluation / surveillance data?
Evidence-based?

✔️ Good Behavior Game
   - NREPP - http://legacy.nreppadmin.net/ViewIntervention.aspx?id=201
   - 1 study with 14 year follow-up outcome data show evidence of effectiveness

✔️ Prime for Life
   - 2 studies show evidence of effectiveness

✔️ Life Skills Training Program
   - 1 study with 6 year follow-up outcome data, 1 study with 2 year follow-up data, 1 study with 3 month follow up show evidence of effectiveness

❌ Character Counts
   - https://charactercounts.org/program-overview/results-2/
   - Anecdotal and case studies only showing limited effectiveness

❌ DARE
   - 2 studies both showing no effects
**Evidence-based?**

✅ **BASICS**
- 2 studies, 1 with a 4 year follow-up show evidence of effectiveness

❌ **Love and Logic**
- [https://www.loveandlogic.com/about/research-funding](https://www.loveandlogic.com/about/research-funding)
- “Although there has been limited empirical research conducted on these programs, the studies do show evidence that support using Love and Logic techniques... Love and Logic does not currently have any studies published in academic journals”

✅ **RBST**
- 6 studies show evidence of effectiveness

✅ **Compliance Checks**
- 7 studies show evidence of effectiveness

✅ **Lead and Seed**
- NREPP - [http://legacy.nreppadmin.net/ViewIntervention.aspx?id=335](http://legacy.nreppadmin.net/ViewIntervention.aspx?id=335), 1 questionable study
- Children’s Safety Network and Rural Health Information Hub acknowledge evidence-base
Types of Interventions

**Programs**
- Pre-packaged, detailed protocol
- Intended for implementation with high fidelity

**Policies**
- Government or local regulations
- Organizational rule or regulation

**Strategies**
- Recommendation of general approach based on systematic review
- Can develop an approach based on underlying principles of strategy
## Activity: Some Differences between Individual and Environmental Efforts

<table>
<thead>
<tr>
<th>Individual Level</th>
<th>Environmental Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong>: Individual (behavior)</td>
<td><strong>Focus</strong>:</td>
</tr>
<tr>
<td><strong>Goal</strong>:</td>
<td><strong>Goal</strong>:</td>
</tr>
<tr>
<td><strong>Strategies</strong>:</td>
<td><strong>Strategies</strong>:</td>
</tr>
<tr>
<td><strong>Who</strong>:</td>
<td><strong>Who</strong>:</td>
</tr>
</tbody>
</table>
Targeting Underlying Conditions

Promotion
Perceived Risk
Social Norms
Enforcement
Social Access
Retail Access

Environmental Strategies’ Targets
Example of Individual Program: PRIME for Life

**Intended outcome:** Change individual student behaviors, attitudes, and perceptions

**Location of program implementation:** Typically in small groups in community settings, but has been adapted

**Intended audience:** 18-25 year-olds; has been adapted by developer for middle school, high school and college students

**Program components:** 12 60-minute sessions

**Program materials:** Student workbooks

**Implementation instruction:** Implementers workbook and implementer training

**Evaluation expectations:** Pre-Post
Example of Environmental Approach: Compliance Checks

**Intended outcome:** Lower retail access for underage youth

**Location of program implementation:** Outlets holding liquor licenses

**Intended target:** Persons under 21

**Program components:** Law enforcement and CI protocol, partnership and/or MOU

**Program materials:** law enforcement officer, cooperating individual, buy money

**Implementation instruction:** Compliance check protocol

**Evaluation expectations:** pass/fail rate
Example of Public Policy: Mandatory RBST

**Intended outcome:** Lower retail access for underage youth

**Those effected by the policy:** Outlets holding liquor licenses, governing body such as liquor control commission

**Intended reach:** All persons under 21 in Nebraska

**Policy components:** buy-in from law/policy makers, passing of the policy, interpretation by the enforcement body, partnerships to offer course

**Implementation:** Liquor Control Commission or the like in partnerships with agencies

**Evaluation:** Retail access as reported by youth under 21 before and after policy implementation
What Two Things Have to Happen for Intervention Success?

<table>
<thead>
<tr>
<th>Appropriate Selection of Evidence-based Intervention</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Intervention success</td>
<td>Intervention problem</td>
</tr>
<tr>
<td>No</td>
<td>Implementation problem</td>
<td>Intervention failure</td>
</tr>
</tbody>
</table>
Selecting Interventions

Photo Source:
Logic Model: Our Road Map

Resources and Readiness

Behaviors and Related Problems
- Magnitude
- Time trend
- Severity
- Comparison

Risk and Protective Factors
- Importance
- Changeability

Interventions
- Evidence of effectiveness
- Conceptual fit
- Practical fit
Things to Consider

Evidence of effectiveness
   Is the intervention effective?

Conceptual fit
   Will the intervention impact the selected risk factor?

Practical fit
   Is the intervention feasible for the community?
How to Select the Best Fit

Conceptual

Effectiveness

Practical

Best Fit
Effectiveness: Is it Evidence-based?

It has been included in a federal registry of evidence-based interventions.

OR

It has been reported in peer-reviewed journals with positive effects.

OR

It has documented effectiveness that is supported by other sources of information and the consensus of experts.
Conceptual Fit: Is it Relevant?

Problems and Related Behaviors

- Increased past 30-day NMUPD

Risk and Protective Factors

- Lack of clear prescribing guidelines
- Low perception of harm associated with NMUPD

Interventions and Strategies

- Develop prescribing guidelines
- Social Marketing Campaign to Youth
- Parental Education Program
- Law Enforcement Tip and Reward Program
Practical Fit: Is it Appropriate?

- Is it feasible with our resources?
- Is there synergism with other prevention interventions?
- Is the community ready?
- Is the intervention culturally relevant?
Infusing Cultural Competency

Strategic Prevention Framework

- Assessment
- Evaluation
- Sustainability and Cultural Competence
- Capacity
- Implementation
- Planning
Defining Health Disparities

- A health disparity is a difference in health between populations or groups of people.
- Health disparities are particularly linked with social, economic, and/or environmental disadvantage.
- Health disparities affect groups of people who have systematically experienced greater obstacles to health linked to discrimination or exclusion.
In Our Communities

Photo Source: https://diningforwomen.org/international-womens-day-womens-equity-vs-equality/
Implementing with Fidelity

Image Source:
https://c2.staticflickr.com/8/7454/956815646_3_86087625dd.jpg
What Are Core Elements?  

- They represent the logic mechanisms of change and key delivery steps of an evidence-based approach  
- These are what most likely produce effectiveness, usually comprised of…  
  - Content  
  - Delivery mechanisms  
  - Methods
What is Dose Delivered?

**Individual Level**
- What is implemented
- The extent to which all parts of the program or practice is delivered

**Environmental Level**
- Referred to as “completeness”
- Extent to which individuals in the environment are aware of the change
  …but their awareness is not necessary
What is Fidelity?

Individual Level

• How the program is implemented
• The extent to which the mode of delivery reflects the conceptual and philosophical approach

Environmental Level

• The consistency of changes with the conceptual framework that guides them
• Focuses on installation of defined environmental elements
Dimensions of Fidelity

- Materials protocols
- Audience
- Providers
- Program content
- Setting

Fidelity
What is Reach?

**Individual Level**
- Individuals are the unit of exposure
- Proportion of individuals within the possible focus population who participate or are exposed

**Environmental Level**
- Setting is the unit of exposure
- Proportion of change agents who participate compared to those who could have participated
- Key is to create a changed environment for all
Reach is a Fraction

Representativeness

Reach = \frac{\text{Individuals participating}}{\text{Possible individuals in focus population}}

\text{(numerator)}

\text{(denominator)}
What is Dose Received?

**Individual Level**
- Extent to which participants actively respond
- Includes immediate reactions and follow-up or continued reactions

**Environmental Level**
- Change agents’ responses and whether or not they engaged in expected follow-up
Activity: Identify Implementation Monitoring Components

In your groups...

- Pick an EBP
- Identify an example of the following for that EBP:
  - Dose delivered
  - Fidelity
  - Reach
  - Dose received

Photo Source:
https://upload.wikimedia.org/wikipedia/commons/9/96/Thinking_(2808468566).jpg
Making Adaptations

Photo Source: https://pixabay.com/p-63148/?no_redirect
What is Adaptation\(^5\) in Prevention?

- Making changes or modification to meet the needs of the focus population with the given resources and/or local conditions
- May be in the form of...
  - Additions
  - Deletions
  - Substitutions

Photo Source: https://upload.wikimedia.org/wikipedia/commons/f/f7/Golden_Retriever_agility_teeter.jpg
In your groups...

- Using your EBP example, propose a change of each type
  - Addition
  - Deletion
  - Substitution
- Identify some (unintended) consequences
Continuum of Adaptation and Fidelity

<table>
<thead>
<tr>
<th>Program implemented with...</th>
<th>Example Adaptations</th>
<th>Degree of Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High fidelity</td>
<td>Added/customized materials</td>
<td>Minor adaptation</td>
</tr>
<tr>
<td></td>
<td>Integrated into infrastructure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Narrowed primary audience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Added activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Changed order/length of activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expanded audience</td>
<td></td>
</tr>
<tr>
<td>Low fidelity</td>
<td>Shifted focus to other behaviors</td>
<td>Major adaptation or Reinvention</td>
</tr>
<tr>
<td></td>
<td>Did not complete core elements</td>
<td></td>
</tr>
</tbody>
</table>

Needs More Rigorous EVALUATION
Green Light Adaptations

- Things that *probably can* be modified without impacting effectiveness
- These are *minor adaptations* to...
  - Increase reach, receptivity and participation
  - Update or customize guidelines
  - Tailor program materials to fit the focus population
  - Change ways to recruit or engage participants

Yellow Light Adaptations

- Things that need to be modified with caution
- These affect content and/or methods
- Usually using addition
- Some prevention programs may have suggestions for these kinds of adaptations in their implementation protocols

Photo
Source: http://s3.freefoto.com/images/21/33/21_33_64_web.jpg
Red Light Adaptations

- Things that *probably cannot* be modified without impacting effectiveness
- These **change the methods** used or delete content, which then changes or contradicts what is addressed
- Avoid – try to turn into a yellow light adaptation

Photo Source: https://upload.wikimedia.org/wikipedia/commons/3/3a/LED_traffic_light_on_red.jpg
Cultural adaptation is the systematic modification of an evidence-based treatment (EBT) or intervention protocol in such a way that it is compatible with the client’s cultural patterns, meanings, and values.
Stages of Cultural Adaptation

- Information Gathering
- Preliminary Adaptation
- Pilot Testing
- Refining the Adaptation
- Cultural Trial
Nebraska Example

Alcohol: True Stories hosted by Matt Damon
Activity: Culturally Responsive Adaptations

In your groups…

- Using your EBP example, brainstorm what culturally-responsible adaptations could be made for your focus population
- Be prepared to share
Assessing Implementation Fidelity

Photo Source: https://pixabay.com/static/uploads/photo/2014/04/03/19/46/recipe-312959_960_720.jpg
Fidelity isn’t always “yes or no”
# Fidelity isn’t always “yes or no”

## Fidelity Rubric for Social Norms Marketing Campaign

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Core Activity</th>
<th>Missing 0</th>
<th>Weak Fidelity 1</th>
<th>Moderate Fidelity 2</th>
<th>Strong Fidelity 3</th>
<th>Rating Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline survey data that describe the attitudes and behaviors of the target population was collected.</td>
<td>No baseline data collected</td>
<td>Some data were used, but did not reflect the attitudes and behaviors of the target population</td>
<td>Survey data mostly reflected recent attitudes and behaviors of the target population, but quality could be improved</td>
<td>A recent survey collected high quality, up-to-date data on attitudes and behaviors of the target population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive messages that point out and attempt to correct misperceptions around substance use within the targeted population were developed in an attempt to change the social norm.</td>
<td>No messages developed</td>
<td>Positive messages were created, but they may not be believable, fully address the target population, or describe social norm data</td>
<td>Positive and believable messages that address the target population and data were created</td>
<td>Clever, engaging, believable, messages that correct misperceptions and speak to the target population using accurate data were created</td>
<td></td>
<td>--------------</td>
</tr>
<tr>
<td>A comprehensive marketing plan that involved a variety of media strategies was created.</td>
<td>No marketing plan developed</td>
<td>A media plan using only one or two messages and media types was created</td>
<td>A media plan using more than one message and two or three types of media was created</td>
<td>A plan that used multiple messages with multiple media types that include both free and paid media was created</td>
<td></td>
<td>--------------</td>
</tr>
</tbody>
</table>
### Fidelity isn’t always “yes or no”

<table>
<thead>
<tr>
<th>Core Activity</th>
<th>Missing 0</th>
<th>Weak Reach 1</th>
<th>Moderate Reach 2</th>
<th>Strong Reach 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet sample was drawn from the entire geographic area readily accessible to the community’s youth.</td>
<td>No purchase surveys were conducted</td>
<td>Sample was drawn from a smaller sub-area (e.g., a neighborhood) within the community</td>
<td>Sample was drawn from more than one sub-area, but less than the entire area accessible to youth</td>
<td>Sample was drawn from the entire area accessible to youth</td>
</tr>
<tr>
<td>A full census of outlets were surveyed, or a random sample using sample size recommendations by PIRE.</td>
<td>No purchase surveys were conducted</td>
<td>Sample was not a full census or random sample, or did not meet sample size recommendations</td>
<td>Used random sample; sample size provided confidence interval larger than ± 5%</td>
<td>Used a full census or random sample providing ± 5% confidence interval or better</td>
</tr>
<tr>
<td>Two purchase attempts made per outlet using different buyers; attempts made on different days/times (not during school hours); all attempts completed within a four-week period.</td>
<td>No purchase surveys were conducted</td>
<td>Purchase attempt intensity did not meet core activity specifications</td>
<td>Purchase attempt intensity met some, but not all core activity specifications</td>
<td>Purchase attempt intensity met all core activity specifications</td>
</tr>
</tbody>
</table>
## Quality of Implementation Tracking

<table>
<thead>
<tr>
<th>PROGRAM NAME</th>
<th>How many sessions were in the planned program design?</th>
<th>How many sessions were actually held?</th>
<th>How long were the sessions meant to be in the planned program design?</th>
<th>What was the actual length of program sessions - or did they vary?</th>
<th>What was the intended frequency of program sessions - or did it vary?</th>
<th>What was the actual frequency of program sessions - or did it vary?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol_True_Stories</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1 per high school</td>
<td>1 per high school</td>
</tr>
<tr>
<td>Alcohol_True_Stories</td>
<td>7</td>
<td>1</td>
<td>50 minutes</td>
<td>50 minutes</td>
<td>once per school</td>
<td>hopefully all 7 schools will do it</td>
</tr>
<tr>
<td>All_Stars</td>
<td>14</td>
<td>14</td>
<td>IDK</td>
<td>varied</td>
<td>Daily</td>
<td>Daily</td>
</tr>
<tr>
<td>All_Stars</td>
<td>20</td>
<td>20</td>
<td>1 hr</td>
<td>1 hr</td>
<td>1 time per week</td>
<td>1 time per week</td>
</tr>
<tr>
<td>All_Stars</td>
<td>13</td>
<td>13</td>
<td>45 min</td>
<td>45 min</td>
<td>2-2 times per week</td>
<td>2-3 times per week</td>
</tr>
<tr>
<td>All_Stars</td>
<td>9</td>
<td>2</td>
<td>9 weeks</td>
<td>2 weeks</td>
<td>at least once every week</td>
<td>once every 2 weeks</td>
</tr>
<tr>
<td>All_Stars</td>
<td>8</td>
<td>n/a</td>
<td>30-45 minutes</td>
<td>30-45 minutes</td>
<td>Every other week</td>
<td>It varies</td>
</tr>
<tr>
<td>CFLC</td>
<td>15</td>
<td>16</td>
<td>2 Hours</td>
<td>2 Hours</td>
<td>Once a week</td>
<td>Once a week</td>
</tr>
<tr>
<td>CFLC</td>
<td>18</td>
<td>18</td>
<td>15-18</td>
<td>varied</td>
<td>weekly</td>
<td>varied</td>
</tr>
<tr>
<td>CFLC</td>
<td>3</td>
<td>3</td>
<td>18</td>
<td>varied</td>
<td>Once per week</td>
<td>Once per week</td>
</tr>
</tbody>
</table>

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<tr>
<th>PROGRAM NAME</th>
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<th>What was the actual frequency of program sessions - or did it vary?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead_n_Seed</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>Once a week</td>
<td>Once a week</td>
</tr>
<tr>
<td>Lead_n_Seed</td>
<td>2</td>
<td>12</td>
<td>6 hours</td>
<td>1 hour</td>
<td>2 six-hour sessions on back-to-back days.</td>
<td>Frequency varied due to school holidays, but sessions were generally held once a week for 1-hour.</td>
</tr>
<tr>
<td>Lead_n_Seed</td>
<td>2</td>
<td>12</td>
<td>6 Hours</td>
<td>1 Hour</td>
<td>2 separate 6 hour sessions on back to back school days.</td>
<td>Frequency has varied because of school schedules; however, sessions are generally held every week.</td>
</tr>
<tr>
<td>TIPS</td>
<td>4</td>
<td>4</td>
<td>3hrs</td>
<td>3hrs</td>
<td>Six in a year</td>
<td>Four were actually done this year</td>
</tr>
<tr>
<td>TIPS</td>
<td>2</td>
<td>2</td>
<td>3 hours</td>
<td>3 hours</td>
<td>Quarterly</td>
<td>varied</td>
</tr>
<tr>
<td>TIPS</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>3.5</td>
<td>classes about every other month</td>
<td>varied</td>
</tr>
</tbody>
</table>
Moving Forward

Photo Source: https://pixabay.com/p-1083262/?no_redirect
Thank You for Joining Us Today!

If you have questions or comments, please don’t hesitate to contact:

Nicole Luciani, T/TA Specialist
CAPT Southwest Resource Team
nluciani@ou.edu
Evaluation

Please take a few moments to complete a brief evaluation.

Your feedback is much appreciated!


