Identification and Selection of Evidence-Based Interventions

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Principal Investigator, Blueprints for Healthy Youth Development
Professor Psychology and Neuroscience
Institute of Behavioral Science
University of Colorado Boulder
My background

• Life-Span Social-Developmental Psychologist by training

• Worked 23 years in Seattle as a professor of social work — Prevention Science with David Hawkins & Richard Catalano SSDP & CTC

• Recently moved to Colorado to take on the present position:

  Director, Prevention Science Program
  Principal Investigator, *Blueprints for Healthy Youth Development*
  Professor Psychology and Neuroscience
  Institute of Behavioral Science
  University of Colorado Boulder
Talk Overview

• Prevention Science
  What have we learned as a field in the last 30 years, and why does it matter?

• Community Based Prevention

• Blueprints

• What do we still not know?
My story: from treatment to prevention

Upstream:
Youth Development &
Problem Prevention

Prevention Science:
Prevent problems
before they onset

1983!

Addiction
Violence
Depression

Treatment
400-350 BCE
Aristotle
Biology, Physics, Astronomy, Geology
Hippocrates - Medicine

Prevention Science is a relatively new field.

Other sciences have been around for 2400 years...
Prevention Science is a relatively new science.

Research in the Science of Prevention rose in the late 1980s early 1990s.
Talk Overview

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   What have we learned as a field in the last 30 years, and why does it matter?

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• Blueprints

• What do we still not know?
Basic Prevention Principles: What have we learned as a field in the last 30 years?

1. Causes
2. Outcomes
3. Individual Risks vs. Cumulative Risk Impact
4. Selective vs. Universal Intervention
5. Theory / Intervention Development
6. Community-Based Prevention

Implications for action!
Basic Prevention Principles: What have we learned as a field in the last 30 years?

1. Causes
   To adequately address a problem, you have to know its causes.

What are the childhood and adolescent causes of addiction and related outcomes?
When you see an adult with an addiction problem, you need to think back. At some point he was just like you or me.

What happened in-between?
The root causes of prosocial and problematic development reach across all domains.
Those factors that increase risk for poor outcomes

Risk Factors

Family
School
Individual
Peer
Community

Protective Factors

Those factors that protect against risk and promote positive outcomes.
Risk Factors

- Family Conflict
- Child Maltreatment
- Family Antisocial Attitudes

Protective Factors

- Good Family Management
- Bonding to Family
- Positive Involvement in Family
- Positive Recognition in Family
Risk Factors

- Sensation Seeking
- Antisocial Peers
- Friends' Drug Use
- Friends' Pro-violent attitudes

Protective Factors

- Social Skills
- Emotion Regulation
- Interaction with Prosocial Peers
Risk Factors

- Community Disorganization
- Pro-Drug & violence norms
- Drug Availability
- Gangs

Protective Factors

- Prosocial Opportunities
- Prosocial Involvement
- Recognition & Rewards
Causes of prosocial and problematic development


<table>
<thead>
<tr>
<th>RISK FACTORS</th>
<th>PROTECTIVE FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk factors increase the likelihood young people will develop health and social problems.</td>
<td>Protective factors help buffer young people with high levels of risk factors from developing health and social problems.</td>
</tr>
</tbody>
</table>

**COMMUNITY**
- Low community attachment
- Community disorganisation
- Community transitions and mobility
- Personal transitions and mobility
- Laws and norms favourable to drug use
- Perceived availability of drugs
- Economic disadvantage
- Opportunities for prosocial involvement in the community
- Recognition of prosocial involvement

**FAMILY**
- Poor family management and discipline
  - Family conflict
  - A family history of antisocial behaviour
  - Favourable parental attitudes to the problem behaviour
- Attachment and bonding to family
- Opportunities for prosocial involvement in the family
- Recognition of prosocial involvement

**SCHOOL**
- Academic failure (low academic achievement)
  - Low commitment to school
  - Bullying
- Opportunities for prosocial involvement in school
- Recognition of prosocial involvement

**PEER / INDIVIDUAL**
- Rebelliousness
  - Early initiation of problem behaviour
  - Impulsiveness
  - Antisocial behaviour
  - Favourable attitudes toward problem behaviour
  - Interaction with friends involved in problem behaviour
  - Sensation seeking
  - Rewards for antisocial involvement
- Social skills
  - Belief in the moral order
  - Emotional control
  - Interaction with prosocial peers
Risk Factors

- Reduce those factors that put children at risk for poor outcomes

Protective Factors

- Build protective/nurturing environments and individual strengths
Implication

If the root causes of prosocial and problematic development reach across all domains...

Then prevention strategies should address multiple domains of risk and protection.
The same root causes predict a wide range of outcomes
Implication:
We do not need different prevention programs (or agencies) for different outcomes.
We used to ask: Which risks are strongest?

Family
School
Individual Peer
Community

Each of these causes has about the same impact by itself.

No one factor rises above the rest as most important.
However, they add up.

I calculated in our data: In how many domains was the child in the worst quartile during adolescence?
And then used this risk score to predict addiction in adulthood.

56% of the kids in the highest risk group had diagnosed substance use disorder in adulthood.
Predicting Substance Use Disorder in Adulthood from Adolescent Risk

Maybe we should just focus our prevention programs on youths at high risk?

Probability of substance use disorder

number of domains in which the person is in the worst quartile
A prevention strategy that focuses only on high-risk youth will fail to “move the needle” on community substance use disorder.
Universal interventions apply the prevention program broadly across the population.

Selective interventions only apply the prevention program to those at highest risk.

With “selective” or “indicated” interventions you try to identify those individuals who are at greatest risk of addiction.

In Universal Prevention, we seek to turn down the heat.
Some people ask: Maybe we should just focus our prevention programs on youths at high risk?

(selective intervention)
Predicting Substance Use Disorder in Adulthood from Adolescent Risk

Why waste prevention dollars on youths who are at low risk in the first place?

(universal intervention)
Predicting Substance Use Disorder in Adulthood from Adolescent Risk

Youths at highest risk represent less than 5% of the sample.
Predicting Substance Use Disorder in Adulthood from Adolescent Risk

Youths at highest risk accounted for less than 10% of the adult substance use disorder.
Predicting Substance Use Disorder in Adulthood from Adolescent Risk

The majority of cases (over 70%) come from youths at low to moderate risk.
Predicting Substance Use Disorder in Adulthood from Adolescent Risk

Percent SUD by group

<table>
<thead>
<tr>
<th>Number of domains</th>
<th>Percent SUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>33.9%</td>
</tr>
<tr>
<td>1</td>
<td>20.5%</td>
</tr>
<tr>
<td>2</td>
<td>18.8%</td>
</tr>
<tr>
<td>3</td>
<td>17.9%</td>
</tr>
<tr>
<td>4</td>
<td>8.9%</td>
</tr>
</tbody>
</table>

number of domains in which the person is in the worst quartile

Embedded within Universal Prevention to Move the Population Needle

Selective Intervention for Youths at High Risk
What have we learned in the last 30 years?

1. The causes of disordered and of positive development reach across all areas of influence: family, school, peer, community, individual.
2. These factors affect a wide range of outcomes.
3. Each of these causes has +/- the same impact, however together they have a large cumulative impact.
4. A strong prevention strategy embeds a selective intervention within a universal strategy. If funds are limited, do not neglect Universal.
Risk and Protective Factors

Can be Organized into a Theory

Social Development Model, Catalano & Hawkins, 1996
Risk and Protective Factors

Can be Organized into a Theory

And Theory guides the development and adaptation of interventions.

Social Development Model, Catalano & Hawkins, 1996
What have we learned in the last 30 years?

1. The causes of disordered and of positive development reach across all areas of influence, family, school, peer, neighborhood & individual.
2. These factors affect a wide range of outcomes.
3. Each of these causes has +/- the same impact, however together they have a large cumulative impact.
4. A strong prevention strategy embeds a selective intervention within a universal intervention.
5. We can organize risk and protective factors into a theory, and use the theory to guide the development of interventions.
6. Getting communities to select and implement tested, effective interventions takes planning, but we have many successes.
Talk Overview

• Prevention Science
  What have we learned as a field in the last 30 years, and why does it matter?

• Community Based Prevention

• Blueprints

• What do we still not know?
Communities That Care (CTC)

CTC is NOT an intervention.

It is a strategy to guide communities through the steps of science-based prevention.
Community Mobilization: Example
Communities that Care (CTC)

Watch introductory video:

http://www.communitiesthatcare.net
Communities That Care (CTC)

CTC is NOT an intervention.

It is a strategy to guide communities through the steps of science-based prevention.
Mayor

Key Leaders

Champion(s)

CTC Community Coordinator

County DA

CTC Board
Champion(s)

Mayor

County DA

Key Leaders

CTC Community Coordinator

CTC Board
VISION FOR HEALTHY COMMUNITY Process

- Activate catalysts
- Community ready?
- Identify key community leaders
- Invite diverse stakeholders

Phases

1. Get Started
2. Get Organized
3. Develop Community Profile
4. Create a Plan

months
VISION FOR HEALTHY COMMUNITY Process

- Form coalition
- Learn about prevention science
- Write vision statement
- Organize work groups
- Develop a timeline

Phases

1. Get Started
2. Get Organized
3. Develop Community Profile
4. Create a Plan

Timeline: 1 year
VISION FOR HEALTHY COMMUNITY Process

- Conduct community youth survey
- Prioritize risk and protective factors
- Identify existing resources and gaps
• Define clear, measurable outcomes
• Select tested, effective policies and programs
How do community members know what works?

• Define clear, measurable outcomes
• Select tested, effective policies and programs
Blueprints!

A web-based registry of experimentally proven programs (EPPs) promoting the most rigorous scientific standard and review process for certification.

www.blueprintsprograms.org
Goal:

To provide communities with a trusted guide to interventions that work.

www.BlueprintsPrograms.org
Show search example under “Find Programs”

www.blueprintsprograms.org
Each Certified Intervention has a Fact Sheet including:

- Program Name and Description
- Developmental/Behavioral Outcomes
- Risk/Protective Factors Targeted
- Risk/Protective Factors Impacted
- Contact Information/Program Support
- Target Population
- Program Rating and Effect Size
- Operating Domain: Individual, Family, School, Community
- Logic/Theory Model
- Program Costs: Unit Costs, Start-Up, Implementation, Fidelity Monitoring, Budget Tool
- Cost Benefit/Return On Investment (When Available): Net Unit Cost-Benefit, Benefits
- Funding Overview, Financing Strategies
- Program Materials
- References
Role of Blueprints in this process

- 10 Programs
- 1544 Reviewed
- 89 Certified
  - 3 Model Plus Programs
  - 14 Model Programs
  - 72 Promising Programs
Role of Blueprints in this process

- **Very Strong Research Evidence**
  - Sustained effect
  - Ready to go to scale

- **Strong Research Evidence**
  - Sustained effect
  - Ready to go to scale

- **Moderate Research Evidence**
  - Suggested for further testing

- **1544 Reviewed**
- **89 Certified**

- **3 Model Plus Programs**
- **14 Model Programs**
- **72 Promising Programs**

Recommended to communities to go to scale

1996 to Present
Role of Blueprints in this process

- Is the evidence strong?
- Did the intervention have a big impact?
- Is the intervention ready for distribution?

1544 Reviewed
89 Certified
3 Model Plus Programs
14 Model Programs
72 Promising Programs
Blueprints Certification Process

A report says a program works → Report undergoes internal review by Blueprints experts → Report sent for external review by Blueprints Advisory Board Members
Blueprints Advisory Board
Distinguished board with expertise in research design and methodology from a variety of disciplines

Thomas Cook
Delbert Elliott
Abby Fagan
Frances Gardner
Denise Gottfredson

J. David Hawkins
Larry V. Hedges
Karl G. Hill
Velma Murray
Patrick Tolan
Blueprints Certification Process

A report says a program works

Report undergoes internal review by Blueprints experts

Report sent for external review by Blueprints Advisory Board Members

Program Certified (5.7% of those reviewed)

Program Excluded (non-certified)
## Blueprints Classification Framework Criteria

The chart below shows the minimum criteria for each effectiveness category in the Blueprints classification framework. It reflects the predominant effect of quality evaluations when multiple trials are available. A more detailed explanation of the criteria for the categories follows the chart.

<table>
<thead>
<tr>
<th>Model Plus</th>
<th>Evaluation Design</th>
<th>Significant Effect</th>
<th>Sustained Effect</th>
<th>Successful Replication</th>
<th>Research Design Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 Randomized Controlled Trials (RCT), or 1 RCT and 1 Quasi-Experimental Design (QED)</td>
<td>Blueprint behavioral outcome $p &lt; .05$</td>
<td>Yes</td>
<td>Independent replication in 1 study</td>
<td>Satisfies all</td>
</tr>
<tr>
<td>Model</td>
<td>1 RCT and 1 Replication (RCT or QED)</td>
<td>Blueprint behavioral outcome $p &lt; .05$</td>
<td>Yes</td>
<td>1 RCT or 1 QED</td>
<td>Satisfies all</td>
</tr>
<tr>
<td>Promising</td>
<td>1 RCT, or 2 QEDs</td>
<td>Blueprint behavioral outcome $p &lt; .05$</td>
<td>No</td>
<td>No</td>
<td>Satisfies all</td>
</tr>
<tr>
<td>Ineffective</td>
<td>1 RCT or 2 QEDs</td>
<td>Blueprint behavioral outcome with Null effects</td>
<td>No</td>
<td>No</td>
<td>Satisfies most</td>
</tr>
<tr>
<td>Harmful</td>
<td>1 RCT or 2 QEDs</td>
<td>Blueprint behavioral outcome with significant harmful effects</td>
<td>No</td>
<td>No</td>
<td>Satisfies most</td>
</tr>
<tr>
<td>Inconclusive Evidence</td>
<td>RCTs or QEDs</td>
<td>contradictory or weak findings; evidence can’t be fully supported by design; only 1 quality QED</td>
<td>No</td>
<td>No</td>
<td>Some methodological problems</td>
</tr>
<tr>
<td>Insufficient Evidence</td>
<td>Major design flaw No control group No Evaluation</td>
<td>Design too weak to support findings; or no evaluation or control group</td>
<td>No</td>
<td>No</td>
<td>Flawed experimental design or non-experimental design</td>
</tr>
</tbody>
</table>
N=1544 Interventions Reviewed to date

80.1%

inconclusive (some potential with problems), 30.6%

ineffective (good design, but null effects), 0.9%

promising, 4.5%

model, 0.9%

model plus, 0.2%

not dissemination ready (met promising or better but...), 1.7%

in process, 11.5%

harmful, 0.3%

80% of published prevention programs have design problems that prohibit certification.
Ineffective programs have been, and still are, very popular.
Ineffective programs have been, and still are, very popular.

- Information Dissemination - D.A.R.E, "Just Say No"
- Fear Arousal - "Scared Straight" "This is your brain on drugs"
- Delinquent Group Peer Counseling and Mediation
- Gun Buyback Programs
- Firearm Training
- Boot Camps
Ineffective programs have been, and still are, very popular.

Communities must work together to implement programs that have been proven to work!
Select tested, effective policies and programs

Implement & Evaluate
The Test of Communities That Care

2003-2013

24 incorporated towns
- Matched in pairs within state
- Randomly assigned to CTC or control condition

Longitudinal panel of 4407 students
- All 5th graders in public schools
- Surveyed annually from grade 5
Effective Programs Implemented in CTC Trial

**School-Based**
- All Stars Core
- Life Skills Training (LST)
- Lion’s Quest SFA (LQ-SFA)
- Project Alert
- Olweus Bullying Prevention Program
- Towards No Drug Abuse (TNDA)
- Class Action
- Program Development Evaluation Training

**Selective After School**
- Participate and Learn Skills (PALS)
- Big Brothers/Big Sisters
- Stay SMART
- Tutoring
- Valued Youth

**Family Focused**
- Strengthening Families 10-14
- Guiding Good Choices
- Parents Who Care
- Family Matters
- Parenting Wisely
Communities That Care: Results in 3 Years- End of Grade 8

- tobacco – down 33%
- alcohol – down 32%
- delinquent behavior – down 25%

On a community-wide level!

CTC is Scaling Up Across the US and Globally

CTC is currently successfully operational in
– over 130 communities in the US
CTC is currently successfully operational in
- over 130 communities in the US
- dozens of communities around the world...
- including Germany, Sweden, Denmark, The Netherlands, the United Kingdom, Croatia, Austria, Switzerland, Canada, Mexico, Colombia, Chile, Panama and Australia
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• Blueprints

• What do we still not know?
Consider the Prevention Science Framework

- Recognizing in our theories and work that opportunities, rewards and sanctions are not equitably or fairly distributed in our society.
- Engaging in equal partnerships with participants and community members in our research.

MOST of the work done to date has been in this area, but challenges still remain.
The Prevention Science Framework

Really BIG challenges remain in these areas

• Transportability of interventions to new populations
• Going to scale with fidelity
• Adaptation without invalidating the intervention
What do we still not know?

1. How do the multiple causes of substance use disorder work together over development?
All of these factors influence this teen’s addiction.

However, we are still figuring out how all of these things work together over the life course, from birth into adulthood.
What do we still not know?

1. How do the multiple causes of substance use disorder work together over development?
2. Transportability of interventions
Many interventions on these registries were developed and tested in one population...

...but now we would like to implement them in other populations.

- Should we assume that the intervention will not work without adaptation?
- Or should it be implemented exactly as designed in the new community with high fidelity?
Many interventions on these registries were developed and tested in one population...

...but now we would like to implement them in other populations.

Can interventions be transported cross-culturally?
Transportability of interventions across cultures

• One view is that parenting interventions are effective in new cultural contexts
  – only if there is an extensive multi-stage adaptation process (Castro, et al)
  – if there is limited cultural distance between the populations (Sussman, et al.)

• However, meta-analyses of cross-country transportability do not support this.
Transportability of interventions across cultures

Examined 17 studies that transported four parenting interventions.

Three were originally designed and tested in the United States
- Incredible Years
- Parent–Child Interaction Therapy [PCIT]
- Parent Management Training Oregon [PMTO]

and one in Australia
- Triple P

Gardner, et al. (2016)
Transportability of interventions across cultures

Canada, Iceland, Iran, Ireland, Sweden, Holland, Puerto Rico, Norway, Hong Kong, the United Kingdom
Transportability of interventions across cultures

Transporting Evidence-Based Parenting Programs for Child Problem Behavior (Age 3–10) Between Countries: Systematic Review and Meta-Analysis

Frances Gardner, Paul Montgomery, and Wendy Knerr
Centre for Evidence-Based Intervention, Department of Social Policy and Intervention, University of Oxford

values than those ranked more individualistic. There were no differences in effects by country-level policy or resource factors. Contrary to common belief, parenting interventions appear to be at least as effective when transported to countries that are more different culturally, and in service provision, than those in which they were developed. Extensive adaptation did not appear necessary for successful transportation.

Gardner, et al. (2016)
Transportability of interventions across cultures

What about indigenous communities in the US & Canada?

Compared CTC risk and protective factors for 5,095 self-identified Native American youth to those of 284,000 youths in a nationally representative CTC database.
Transportability of interventions across cultures

Scale reliabilities were similar across the two groups

<table>
<thead>
<tr>
<th>Community Domain</th>
<th>Reliability Coefficients</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Full Sample</td>
<td>Native American Sample</td>
</tr>
<tr>
<td>C1: Positive Community Opportunities</td>
<td>0.77</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>C2: Positive Comm. Rewards</td>
<td>0.82</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>C3: Low Neighborhood Attachment</td>
<td>0.80</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>C4: Comm. Disorganization</td>
<td>0.82</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>C5: Personal Transitions and Mobility</td>
<td>0.71</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>C6: Laws and Norms Favorable to Drug Use and Firearms</td>
<td>0.81</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>C7: Perceived Availability of Drugs and Firearms</td>
<td>0.88</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>

| Family Domain                                         | Reliability Coefficients |            |            |
|                                                       |                          | Full Sample| Native American Sample |
| F1: Family Attachment                                 | 0.81                     | 0.77       |            |
| F2: Family Opportunities for Positive Involvement     | 0.82                     | 0.80       |            |
| F3: Family Rewards for Positive Involvement           | 0.80                     | 0.78       |            |
| F4: Poor Family Supervision                           | 0.80                     | 0.80       |            |
| F5: Poor Family Discipline                            | 0.83                     | 0.80       |            |
| F6: Family Conflict                                   | 0.73                     | 0.72       |            |
| F7: Family History of Antisocial Behavior             | 0.85                     | 0.86       |            |
| F8: Parental Attitudes favorable to ATOD Use          | 0.86                     | 0.88       |            |
| F9: Parental Attitudes favorable toward Antisocial Behavior | 0.83                     | 0.84       |            |

| School Domain                                         | Reliability Coefficients |            |            |
|                                                       |                          | Full Sample| Native American Sample |
| S1: School Opportunities for Prosocial Involvement    | 0.65                     | 0.70       |            |
| S2: School Rewards for Prosocial Involvement          | 0.72                     | 0.73       |            |
| S3: Poor Academic Performance                         | 0.63                     | 0.60       |            |
| S4: Low School Commitment                             | 0.69                     | 0.69       |            |

| Peer/Individual Domain                                 | Reliability Coefficients |            |            |
|                                                       |                          | Full Sample| Native American Sample |
| I1: Low Perceived Risks for Drug Use                   | 0.87                     | 0.86       |            |
| I2: Early Initiation of Drug Use and Antisocial Behavior | 0.80                 | 0.78       |            |
| I3: Sensation Seeking                                  | 0.79                     | 0.81       |            |
| I4: Gang Involvement                                  | 0.90                     | 0.90       |            |
| P1: Social Skills                                     | 0.65                     | 0.69       |            |
| I5: Belief in the Moral Order                          | 0.70                     | 0.71       |            |
| I6: Rebelliousness                                     | 0.74                     | 0.76       |            |
| P2: Friends’ Delinquent Behavior                       | 0.89                     | 0.89       |            |
| P3: Friends’ Use of Drugs                             | 0.87                     | 0.86       |            |
| P4: Peer Rewards for Antisocial Behavior              | 0.88                     | 0.88       |            |
| I7: Favorable Attitudes Toward Antisocial Behavior     | 0.84                     | 0.87       |            |
| I8: Favorable Attitudes Toward ATOD Use                | 0.88                     | 0.89       |            |
| I9: Religiosity                                        | N/A (only one item)      | N/A (only one item) |
Transportability of interventions across cultures

Prediction of outcomes was similar across the two groups
Transportability of interventions across cultures

CTC survey measures of risks, protection and outcomes are reliable and valid within this Native American youth sample.
Transportability of interventions across cultures

Potential other factors influencing health and health-related behaviors beyond the RPFs measured here that are specific to the circumstances in which Native American youth grow up.

- institutional racism
- disparities in access to and delivery of health services
- exposure to trauma
- stressors related to discrimination
- historical trauma
- colonization
- loss of culture specific to their sociohistorical context
- dissonance between cultural ideals and behavioral realities

- involvement in traditional and spiritual practices
- cultural identity
- presence of strong extended families and social networks that can provide culturally competent care
What do we still not know?

1. How do the multiple causes of substance use disorder work together over development?
2. Transportability of interventions
3. Adaptation of interventions
Many tested, effective interventions are adapted over time, e.g. Good Behavior Game

At what point are they still “the same” intervention that was or was not replicated?

- **GBG tested in combination with Enhanced Academic Curriculum** (Ialongo et al., 1999; Storr et al., 2002; Furr-Holden et al. 2004)
- **GBG tested alone in Belgium** (Leflot et al. 2010)
- **GBG tested alone in England** (Humphrey et al., 2018)

- **PAX GBG** adds in...
  - Team cohesion enhancers
  - Child-driven focus
  - Additional structure
  - Additional support for teachers
  - Additional peer support?
Intervention Logic Model

Researchers should stipulate the full logic model of their intervention.

In particular adaptations that deal more with intervention delivery.

Adaptations that are consistent with the logic model of the intervention might be OK.
What do we still not know?

1. How do the multiple causes of substance use disorder work together over development?
2. Transportability of interventions
3. Adaptation of interventions
4. How best to represent evidence to communities?
I’m not evidence-based, I’m evidence informed!

I’m evidence-based!

Ignore her! Look at us!

NO! I am!
Original Meaning of Term Evidence-Based

Experimental evidence from rigorous trials providing statistically significant positive effects: Evidence of a *causal relationship*

- **Society for Prevention Research** (Flay, et al., 2005; Gottfredson et al., 2015)
- **American Psychological Association** (APA Task Force, 1995)
- **Institute of Medicine** (2015)
- **Shadish, Cook & Campbell** (2001)
- **All Major Registries of EB Interventions**
New Use of Term Evidence-Based

- Refers to a continuum of evidence justifying a “Best Evidence” selection policy
## Continuum of Evidence

<table>
<thead>
<tr>
<th>Evidence Continuum</th>
<th>Type of Evidence</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimentally Proven (Ready for Scale)</td>
<td>Independent Replication Multiple Randomized Controlled Trials</td>
<td>Very High</td>
</tr>
<tr>
<td>Experimentally Proven (Ready for Scale)</td>
<td>Randomized Controlled Trials with Replication</td>
<td>High</td>
</tr>
<tr>
<td>Single RCT or Strong Quasi-Experimental</td>
<td>Regression Discontinuity, Interrupted Time Series, Matched Comparison</td>
<td>Moderate</td>
</tr>
<tr>
<td>Research Informed</td>
<td>Correlational, Pre/Post Study Post-test only</td>
<td>Low</td>
</tr>
<tr>
<td>Opinion Informed</td>
<td>Satisfaction, Personal Experience Testimonials, Anecdotes</td>
<td>Very Low</td>
</tr>
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</table>
New Use of Term Evidence-Based

• Refers to a **continuum of evidence** justifying a “Best Evidence” selection policy

• Risk: **Any** level/type of evidence (even weak evidence) makes an intervention “evidence-based”

• A policy that assumes doing something, any level of positive evidence, is better than doing nothing may be unethical!
  - Ethical problems requiring participation in programs with unknown effects and no intention or commitment to evaluation.
  - Unethical to put in place potentially harmful programs.
## Continuum of Evidence

<table>
<thead>
<tr>
<th>Evidence Based</th>
<th>Evidence Continuum</th>
<th>Type of Evidence</th>
<th>Confidence</th>
<th>Blueprints Program</th>
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</thead>
<tbody>
<tr>
<td>√</td>
<td>Experimentally Proven (Ready for Scale)</td>
<td>Independent Replication Multiple Randomized Controlled Trials</td>
<td>Very High</td>
<td>Model+</td>
</tr>
<tr>
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<td>Randomized Controlled Trials with Replication</td>
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</tr>
<tr>
<td>√</td>
<td>Single RCT or Strong Quasi-Experimental</td>
<td>Regression Discontinuity, Interrupted Time Series, Matched Comparison</td>
<td>Moderate</td>
<td>Promising</td>
</tr>
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<td>Research Informed</td>
<td>Correlational, Pre/Post Study Post-test only</td>
<td>Low</td>
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Recommended for Community Scale-Up
## Continuum of Evidence

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However, most prevention registries present everything in their database (the good, the bad, and the ugly) along with its rating.
Imagine your child was very sick and you took her to the doctor...

And the doctor laid out a tray of pills saying here bunch of things that people have tried, some work and some don’t...you choose!
He could be sued for malpractice!

But this is what we do when we present communities with lists of interventions that work mixed in with those with weak or no evidence.

We should be VERY CLEAR to community members which interventions are recommended for scale-up (and which are merely on the list for research or informational purposes).
Thus: Certified and Not-Certified Interventions are presented in different parts of the Blueprints website and not on the same list!
What do we still not know?

1. How do the multiple causes of substance use disorder work together over development?
2. Transportability of interventions
3. Adaptation of interventions
4. How best to represent evidence to communities?
5. How to encourage the use of evidence in our public health prevention planning?
If we have effective interventions for youth development...

...and registries documenting what works...

why aren’t they being used?
If you build it, they will say they already have one
If you build it, they will say it probably doesn’t work.
If you build it, they will get lost trying to use it and give up.
If you build it, they will probably not know that it exists.
Current Challenge: Dissemination (Marketing)

- Local
- State
- National
- International

- Publications
- Press
We now have at our disposal the means to reduce community drug use by 25-30% through Community-Based Universal Prevention. Globally, including here in Montana

– Communities are working together
– Implementing Proven Programs
– Reducing crime, violence & drug use
– Improving the lives of children and young adults
Three things

1) Everybody has a job to do.
   (Don’t blame others for community problems.)

2) Do what you can, where you are.
   (If you’re a parent, be a good parent, if you’re a teacher, be a good teacher. Be an active member of your community.)

3) Work together.
By working together, we can prevent substance abuse and related problems before they happen.
Identification and Selection of Evidence-Based Interventions

Karl G. Hill, PhD
Director, Prevention Science Program
Principal Investigator, Blueprints for Healthy Youth Development
Professor Psychology and Neuroscience
Institute of Behavioral Science
University of Colorado Boulder

Thank you!