Partnerships in Prevention Science Institute

PROmoting School-community-university Partnerships to Enhance Resilience

Type 2 Translational Research: Advances, Challenges, Illustrative Studies, and Strategic Next Steps

2016 Interdisciplinary Translational Science Retreat
Nebraska Center for Research on Children, Youth, Families and Schools, University of Nebraska–Lincoln

Richard Spoth
Partnerships in Prevention Science Institute, Iowa State University

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Overview

1. Context: Evidence-Based Prevention Advances and Translation Challenges
2. Illustrative PROSPER Delivery System Research
3. Translation Research Review Summary
4. Priorities and Strategic Next Steps

Advances in Evidence-Based Prevention

- **NRC-IOM 2009 Report*** reviews an array of evidence-based preventive interventions (EBIs)
  - Prenatal through adolescent stages
  - Prevent multiple behavioral problems, with long-term effects
  - Many show cost benefit/cost effectiveness
- Highlights **evidence on family-focused** programs in particular
  - ↑ Caregiver-child bonding, child management, as well as social, emotional and cognitive competencies
  - ↓ Substance use, delinquency, conduct problems, other mental health problems

*National Research Council and Institute of Medicine (2009). Preventing mental, emotional, and behavioral disorders among young people: progress and possibilities. Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions. Mary Ellen O'Connell, Thomas Boat, and Kenneth E. Warner, Editors. Washington DC: The National Academies Press.

Key Advances: Demonstrations of Crossover Effects

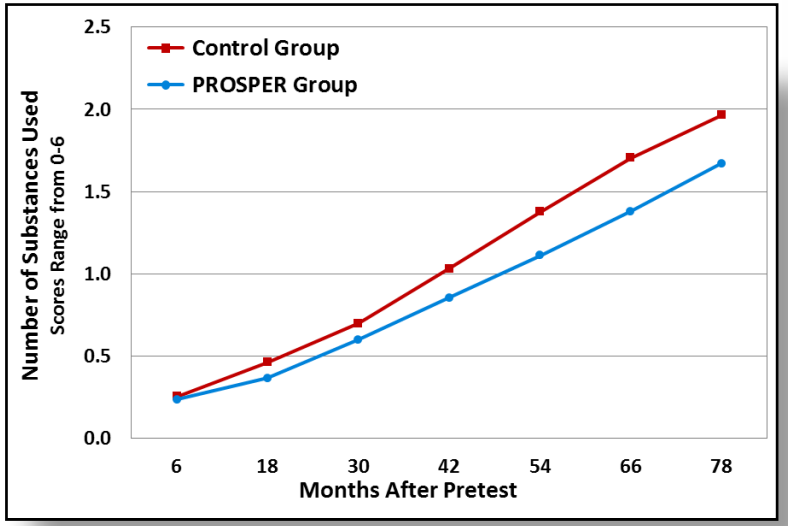
- Universal intervention primary goal: Delay young adolescent initiation of gateway substance use
- Effects – Up to 14 years past baseline
  - ↓ Wide-ranging types of substance use
  - ↑ Parenting skills and family functioning, youth skills (e.g., peer resistance, social competencies), school engagement and grades
  - ↓ Aggressive/destructive behaviors, conduct problems, mental health problems (e.g., depression), health-risking sexual behaviors

How? Programs address common risk/protective factors; impact primary socializing environments (social networks)

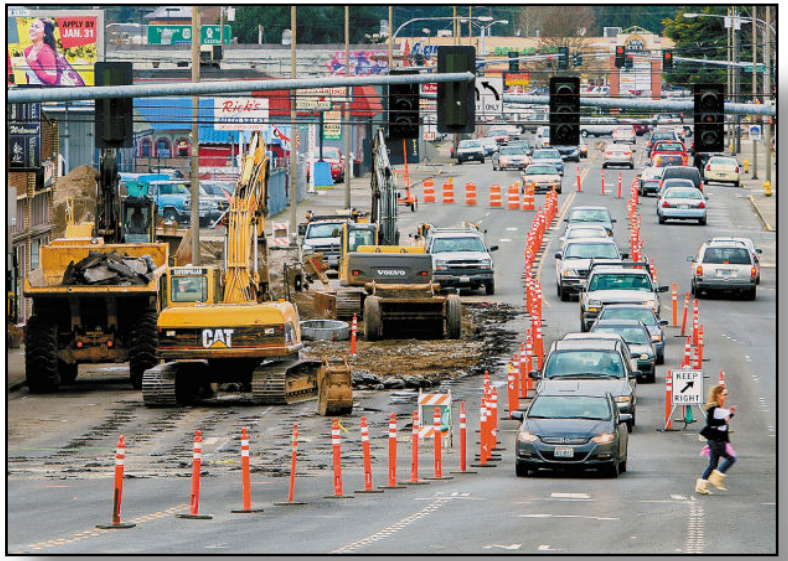
Source: Spoth, Global Implementation Conference Plenary, 2013.

Advances: Upsides and Downsides

- **Upside** – Advances noted in NRC-IOM 2009 Report, e.g., EBIs and positive developmental trajectories



- **Downside** – Slow flow of EBIs to population impact, due to many barriers



In Other Words, Advances Notwithstanding

- Most interventions actually implemented in real world are **untested**
- Mostly have only limited, often **ineffective implementation or delivery systems, so…**
  - Poor implementation quality
  - Limited sustainability
  - Slow scaling, resulting from many barriers
- In other words, there is **limited translation** of intervention science to practice.

Improving Translation: Address Core Challenges for Enhanced "Flow" to Practice

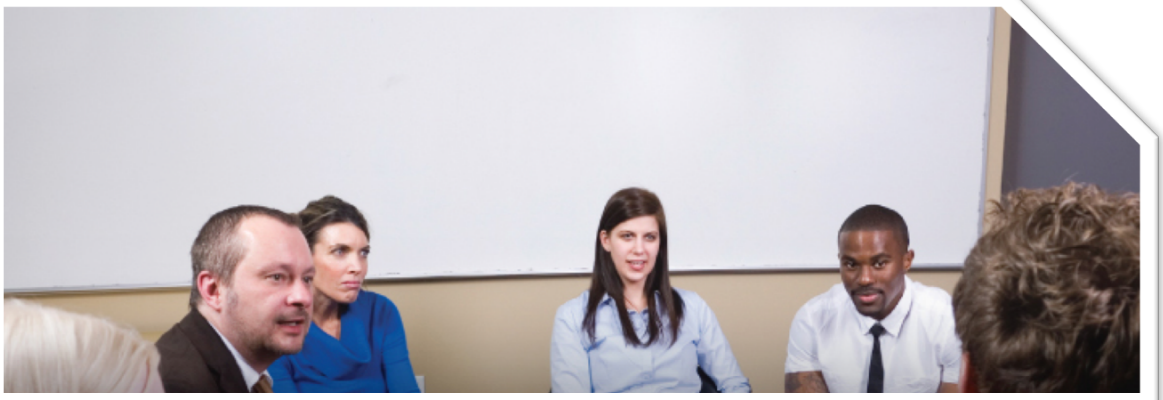
#1: Infrastructure and systems development for enhanced translation – building necessary supports for *practice and research* – including workforce development

#2: Needed scientific advances for systems-oriented T2 research

*Source: Spoth, Rohrbach, Greenberg, et al. (2013). Addressing core challenges for the next generation of Type 2 translation research and systems: The Translation Science to Population Impact (TSci Impact) framework. *Prevention Science, 14(4), 319-351.*

Illustrative Translational Research: PROSPER

PROmoting **S**chool-community-university **P**artnerships to **E**nhance **R**esilience)

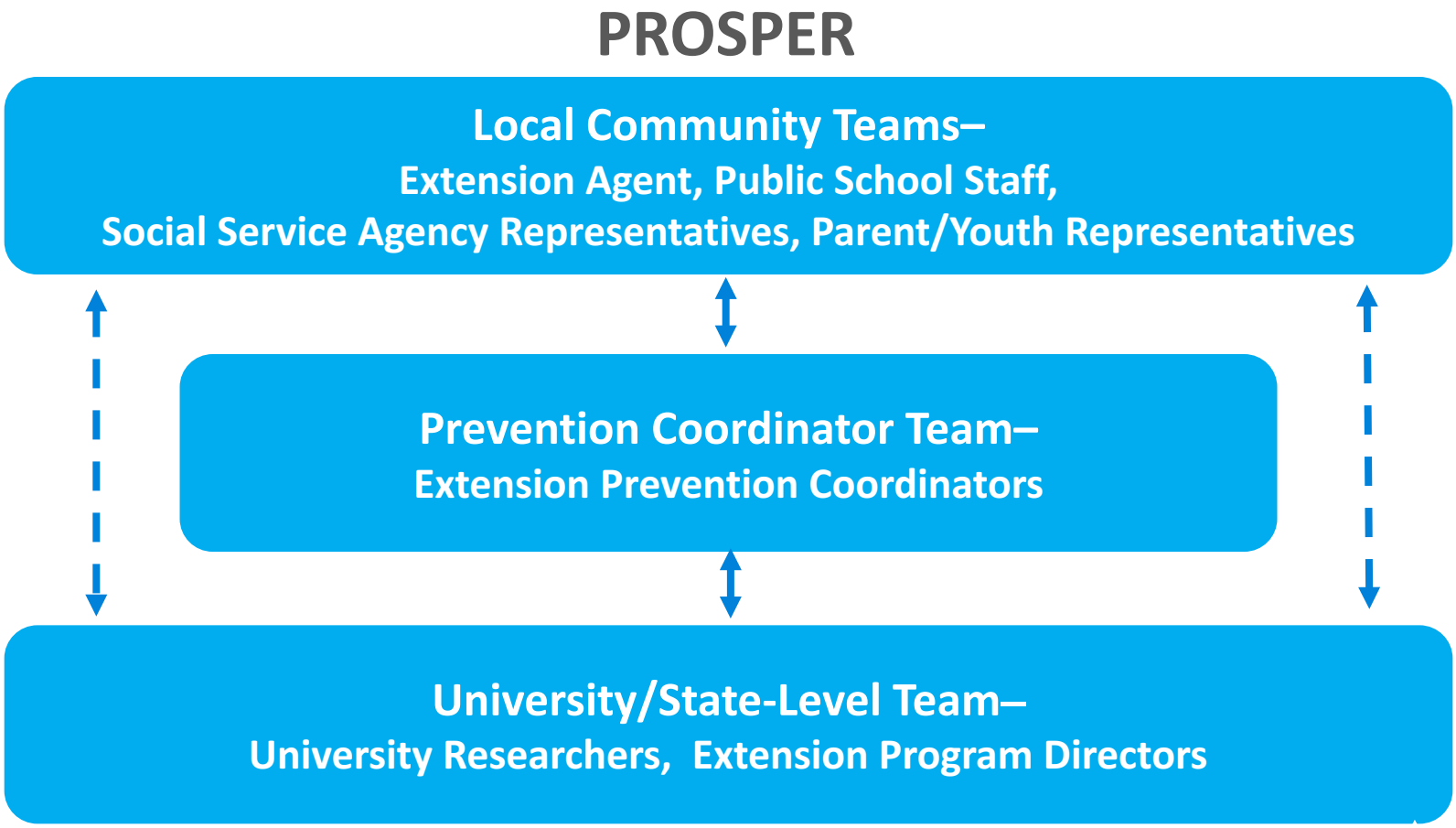


THE PROSPER APPROACH

PROSPER Research – Building on Existing Intervention Infrastructures/Education Systems

- **USDA** – Cooperative Extension System
  - Largest informal education system in the world
  - Reach into every county in the country
- **DoE** – State Public School Systems
  - Universal system reaching nearly all children
  - Existing relationships with Extension System
- **DoD** – Military Family Support Systems
  - Ties into National Guard support systems
  - Could link to existing military training infrastructures
- Groundwork for linkage of the systems began in the late 1980s

Tested Community Partnership Sustainability Model



- **Primary Task: Sustained, quality implementation of family and school EBIs selected from a menu**

Goal 1: Sustain Evidence-based Interventions with High Quality

Community Teams:

- **Plan and coordinate family programs**, including recruitment and monitoring for quality
- **Work with the school** to coordinate a school program, including monitoring for quality
- **Generate resources** for ongoing programming

Who is Involved at the Community Level?

- **Small, strategic PROSPER Community Teams**
- Teams start with between 8-10 members including:
  - Family and/or youth Extension-based Team Leader – average 10 hours/week
  - School-based Co-team Leader – about 1 hour/week
  - Community volunteers – about 3 hours/month
    - Local mental health/public health representatives
    - Local substance abuse agency representative
    - Parents
    - Youth
- **Teams and EBIs expand as teams mature, guided by TA**

Goal 2: Build and Maintain a Well-functioning, Productive Team

Community Teams:

- **Internally**, the team focuses on holding regular, effective meetings and maintaining an active membership
- **Externally**, the team focuses on:
  - Building connections with the school and community organizations
  - Strategic communication throughout the community to promote awareness of its efforts
  - Recognizing and rewarding supporters and contributors

Prevention Coordinators (Middle Tier) – Technical Assistance to Support Teams

- Attend team meetings in their assigned community
- Contact Team Leaders nearly every week to discuss PROSPER activities and goals
- Interact with other Prevention Coordinators to share successful strategies and approaches
- Act as liaison between their community team and the State Management Team to problem solve issues before they become severe

Outcome Study

- Collaboration with PSU
- Design: RCT of 28 school districts (14 IA, 14 PA)
  - Full partnership with community teams
  - Delayed intervention
- Participants: Two cohorts of 6th grade children (≈ 6,000 students per cohort); 2nd cohort has ≈ 1,000 intensive assessment families
- Multimethod, multi-informant measurement (now at 10th wave of data collection–post high school)

Partnerships in Prevention Science Institute
Iowa State University™ University Extension

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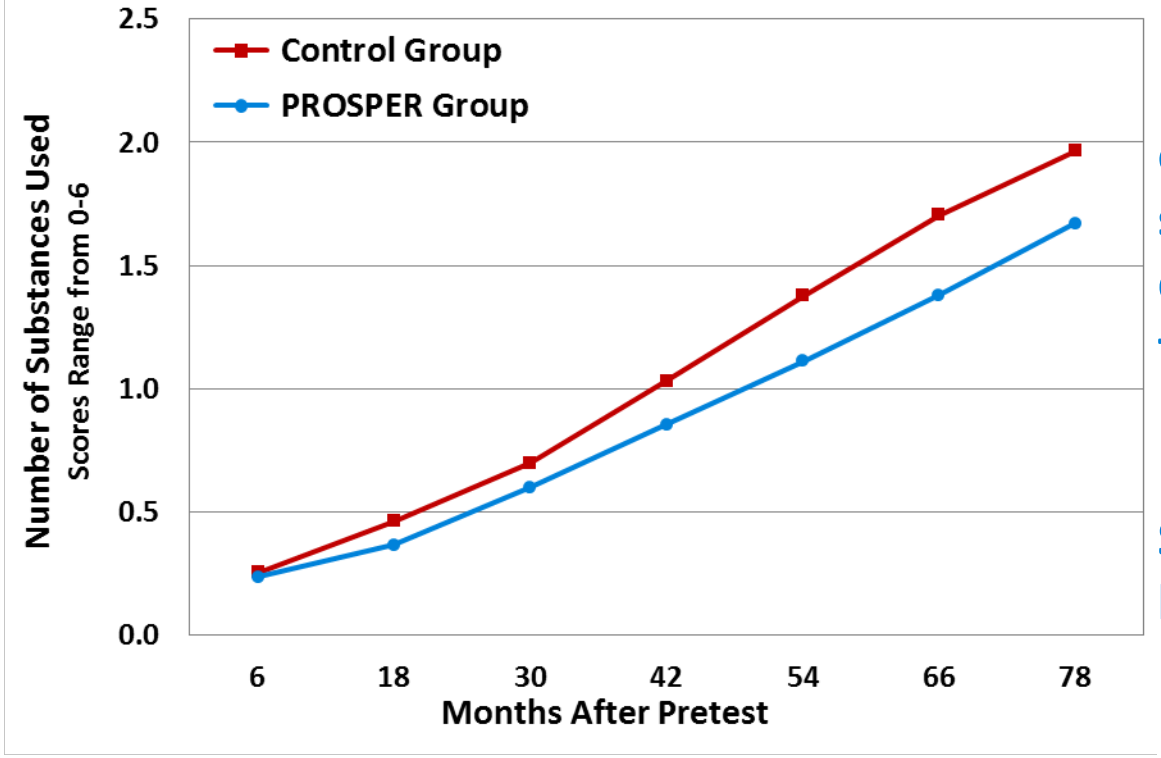
"Snapshot" of Long-term Outcomes – Positive Trajectories

Long-term Impact on Illicit Substance Use Index Through 6½ Years Past Baseline



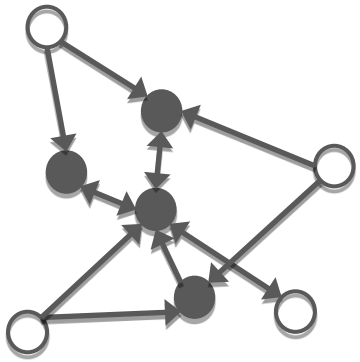
Difference in growth of use is statistically significant, as are differences at multiple time points, including 11th and 12th grades.

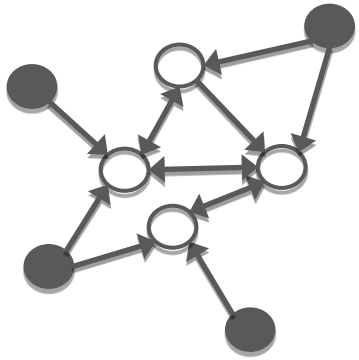
Stronger effects for higher-risk youth.

Source: Spoth, Redmond, Shin, Greenberg, Feinberg, Schainker (2013). PROSPER community-university partnerships delivery system effects on substance misuse through 6½ years past baseline from a cluster randomized controlled intervention trial. *Preventive Medicine, 56,* 190-196.* Sum of six lifetime illicit use measures (methamphetamines, Ecstasy, inhalants, Vicodin, prescription drug misuse overall, other illicit drug use).

Snapshot of Findings – Peer Networks/ Negative Peer Influences

(Black dot = substance user, White dot = non-user)
– Indicates that non-user nominated a substance user as a friend





– More **nonuser** students choose users as friends
– Peer network favors use

– More substance users choose non-users as friends
– Peer network opposes use

PROSPER shifts peer influence toward non-users.

Source: Osgood, Feinberg, Gest, Moody, Ragan, Spoth, Greenberg & Redmond (2013). Effects of PROSPER on the influence potential of prosocial versus antisocial youth in adolescent friendship networks. *Journal of Adolescent Health, 53*(2), 174-179.

Snapshot of Findings – Cost Effective Implementation of Evidence-based Programs

SFP 10-14 Implementation: PROSPER team vs. SFP 10-14 alone.

	PROSPER Low Estimate	**PROSPER** High Estimate	Economist Report Estimate**
Direct Costs Per Family	**$278.56***	**$348.25***	**$851.00**

*** Represents a 59-67% reduction in costs.**

Source: Crowley, Jones, Greenberg, Feinberg & Spoth (2012). Resource consumption of a dissemination model for prevention programs: The PROSPER delivery system. *Journal of Adolescent Health,* 50, 256-263. (See explanation of "day of implementation" costs.) **See Washington State Institute for public Policy Report, 2004.

PROSPER Approach to Translation of Science at the Community Level

Barriers to Translation at the Community Level

Key Barriers to Community Implementation:

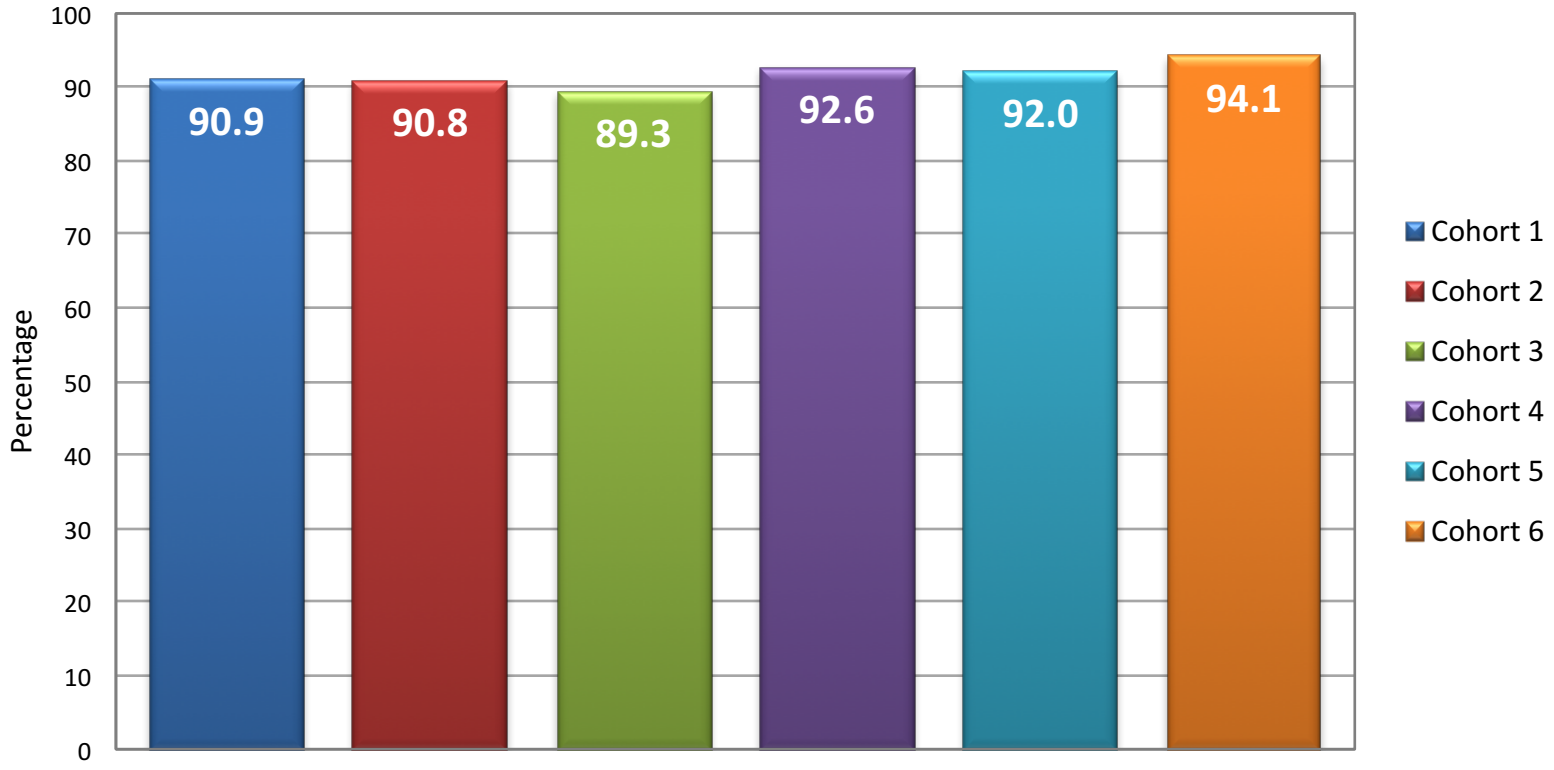
1. Inadequate technical assistance and support systems for evidenced-based program delivery
2. Limited participation/active engagement of targeted general populations
3. **Poor implementation quality of evidence-based programs**
4. **Limited program sustainability (especially funding)**
5. Limited integration of ongoing evaluation for quality improvement

Addressing Implementation Quality Barrier– Ongoing EBI Monitoring

- Educate/train PROSPER partnership members about the **importance of quality monitoring** at:
  - Statewide meetings
  - Learning communities
  - Facilitator and observer trainings
  - "Feedback sessions" after program (e.g. SFP 10-14) session is completed
  - Facilitator supervision

Snapshot of Findings – PROSPER Strategies to ⬆ Implementation

PROSPER Long-Term Adherence Ratings



See: Spoth et al. (2007). PROSPER study of evidence-based intervention implementation quality by community-university partnerships. *Journal of Community Psychology,* 35(8), 981-999. Also see Spoth et al. (2011). Six-year sustainability of evidence-based intervention implementation quality by community-university partnerships: The PROSPER study. *American Journal of Community Psychology, 48*, 412-425.

Addressing Sustainability Barrier – Benchmarking/Technical Assistance

- Assess benchmarked progress across all phases, with special attention to core components
  - Used to monitor sustainability efforts re team and programs
  - Facilitates sustained, long-term development

Instructions for Completing PROSPER Model Benchmark Scoring

PROSPER PARTNERSHIPS

Instructions for Completing PROSPER Model Benchmark Scoring

The PROSPER Partnership Model is *a scientifically-proven delivery system* that provides sustained, quality delivery of evidence-based programs for youth and families. This system facilitates the delivery of programs by creating partnerships among Cooperative Extension, local schools, community volunteers and university-based researchers that operate through a three-tiered partnership structure. The infrastructure created by these partnerships is one of the unique features of this delivery system since it allows for scientific expertise from the university to flow through Prevention Coordinators (PCs) to Community Teams. This expertise and ongoing support, which includes ongoing evaluation and quality control, helps Community Teams implement programs effectively and sustain them long-term. Ultimately, this sustained effort results in a greater impact and benefits the community as a whole.

Based on years of implementation experience, the PROSPER Model Benchmarks have been developed to systematically map onto and reflect the elements of successful model implementation at the community level. Benchmarks have been identified across each of the PROSPER Partnership Model's five core components and are organized by functional areas as outlined in the Team Leader/PC Handbooks. To illustrate how benchmarks map onto the five core components, some examples are provided below:

PROSPER Core Component	Example Benchmarks
1) A small, strategic team of community stakeholders led by a Cooperative Extension representative and co-led by a local school representative.	• PROSPER Team membership reflects the diversity of the community • PROSPER Team has regular meetings during the school year
2) A 3-tier state-level partnership consisting of Community Teams, PCs, and a State Management Team	• Team Leader regularly communicates with Prevention Coordinator • Majority of PROSPER Team members attend Statewide Meeting
3) A developmentally-oriented sustainability planning process that addresses long-term continuity and support for programming.	• PROSPER Team received funding/in-kind support during the past year for program implementation
4) Evidence-based programs that are selected by the Community	• PROSPER Team selected family program from the PROSPER menu

Addressing Sustainability Barrier – Team Training Guided by PROSPER Sustainability Model

Purpose:
Improved Child and Family Outcomes

Goal 1: Sustaining Growth & Quality of Programming

Goal 2: Sustaining Well-Functioning Teams

Objectives

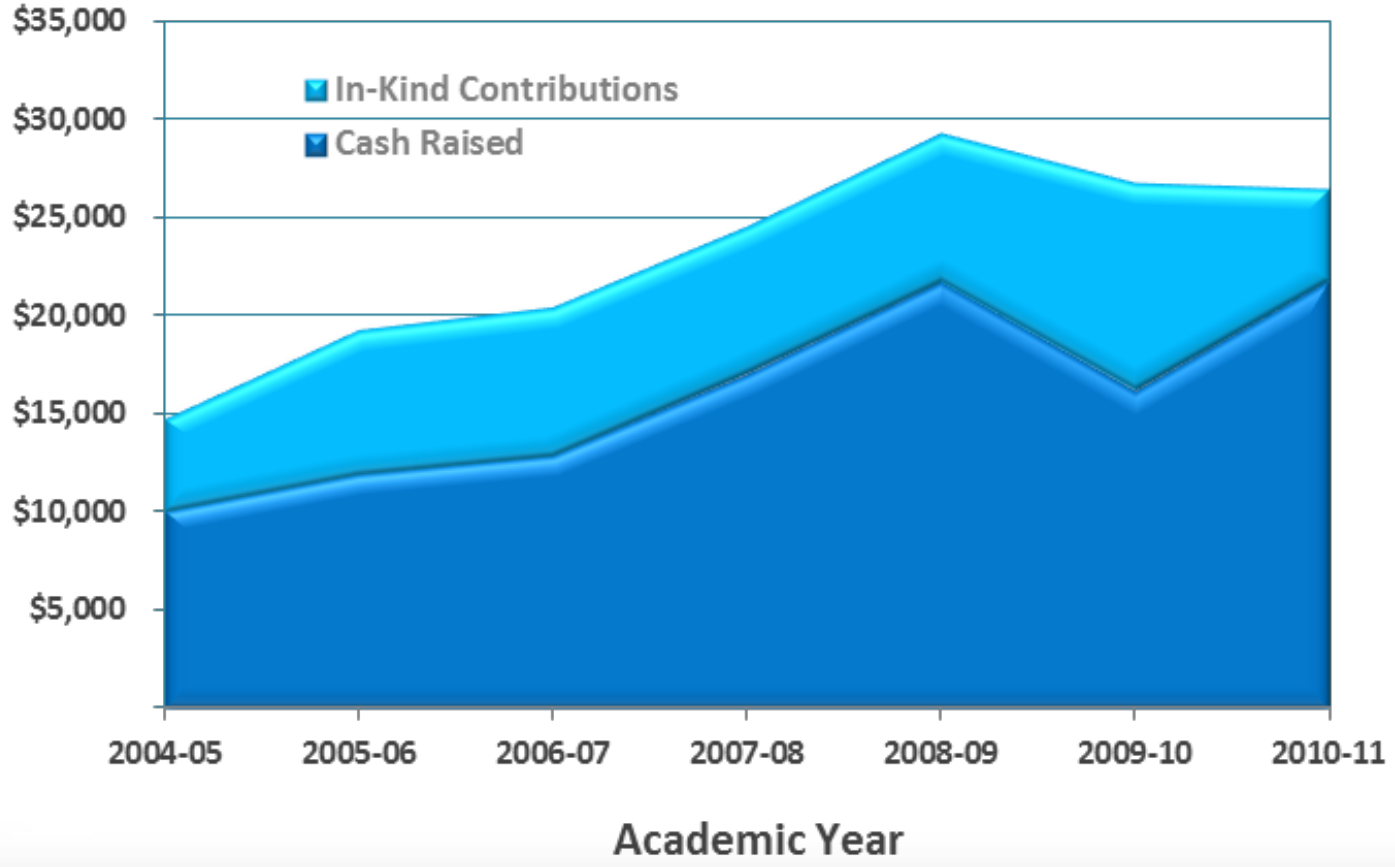
- Evidence-based Family Program
- Evidence-based School Program
- Effective External Relationships
- Effective Internal Relationships

Strategies

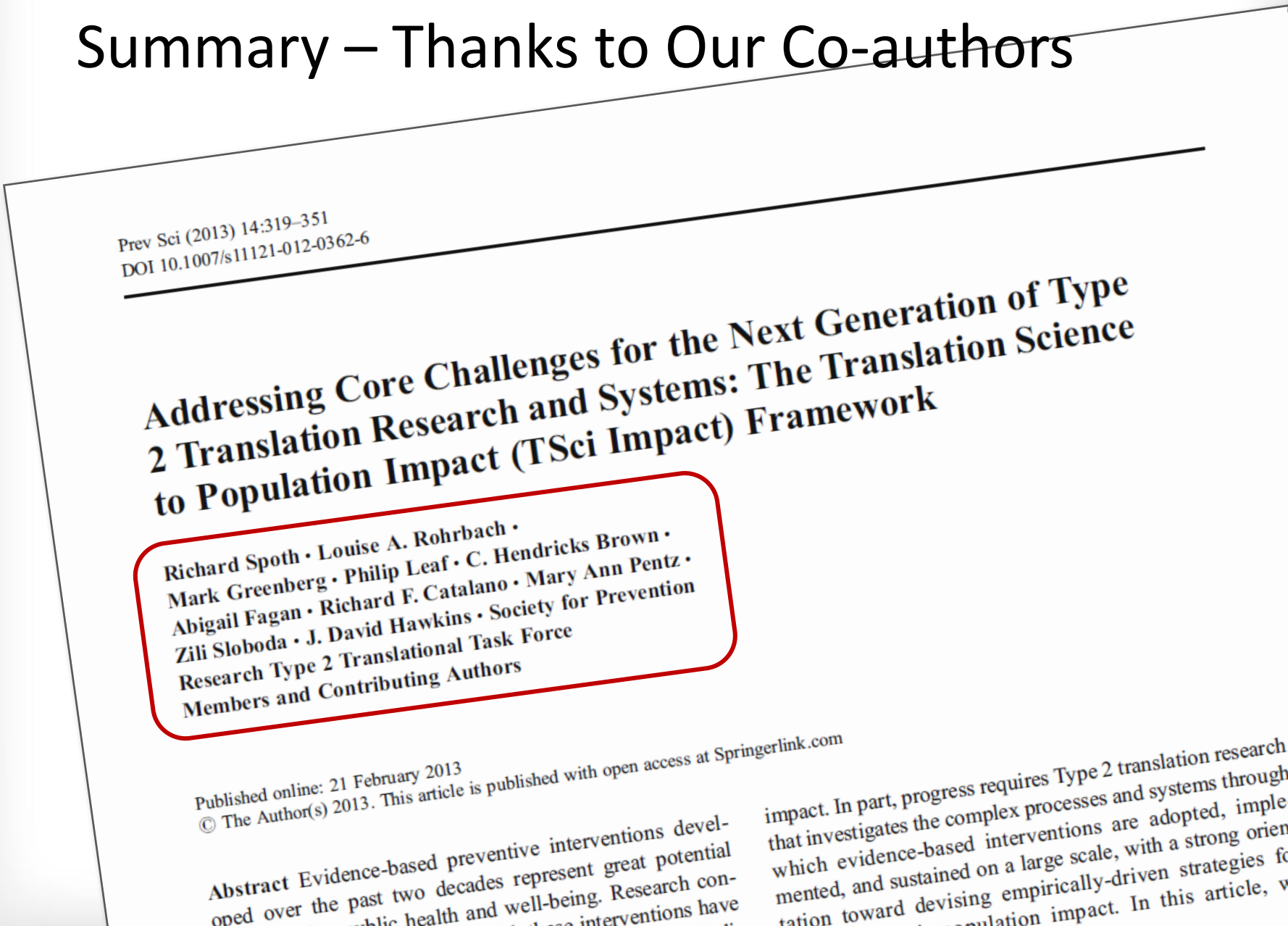
- Resource Generation for Programs
- Community/ School Positioning
- Program Quality Management/ Planning
- Strengthening Partnerships with Schools/ Other Organizations
- Strategic Communication Planning
- Planning for Recognitions and Rewards
- Monitoring Team Structure & Roles & Participation
- Conducting Effective, Regular Meetings

Snapshot of Findings – Team Financial Sustainability

Average Total Contributions Received Across All Project Communities by Academic Year



Type 2 Translation Research Review Summary – Thanks to Our Co-authors



Prev Sci (2013) 14:319–351
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Addressing Core Challenges for the Next Generation of Type 2 Translation Research and Systems: The Translation Science to Population Impact (TSci Impact) Framework

Richard Spoth · Louise A. Rohrbach · Mark Greenberg · Philip Leaf · C. Hendricks Brown · Abigail Fagan · Richard F. Catalano · Mary Ann Pentz · Zili Sloboda · J. David Hawkins · Society for Prevention Research Type 2 Translational Task Force Members and Contributing Authors

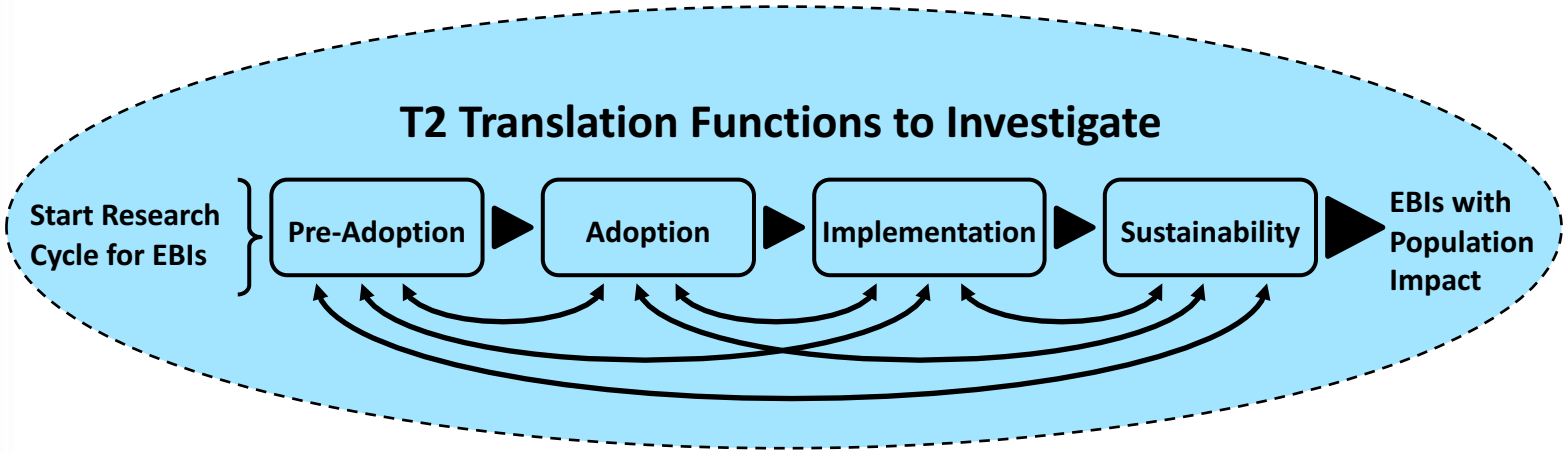
Published online: 21 February 2013

Abstract Evidence-based preventive interventions developed over the past two decades represent great potential
public health and well-being. Research con-
interventions have
impact. In part, progress requires Type 2 translation research
that investigates the complex processes and systems through
which evidence-based interventions are adopted, imple
mented, and sustained on a large scale, with a strong orien
tation toward devising empirically-driven strategies fo
pulation impact. In this article, w

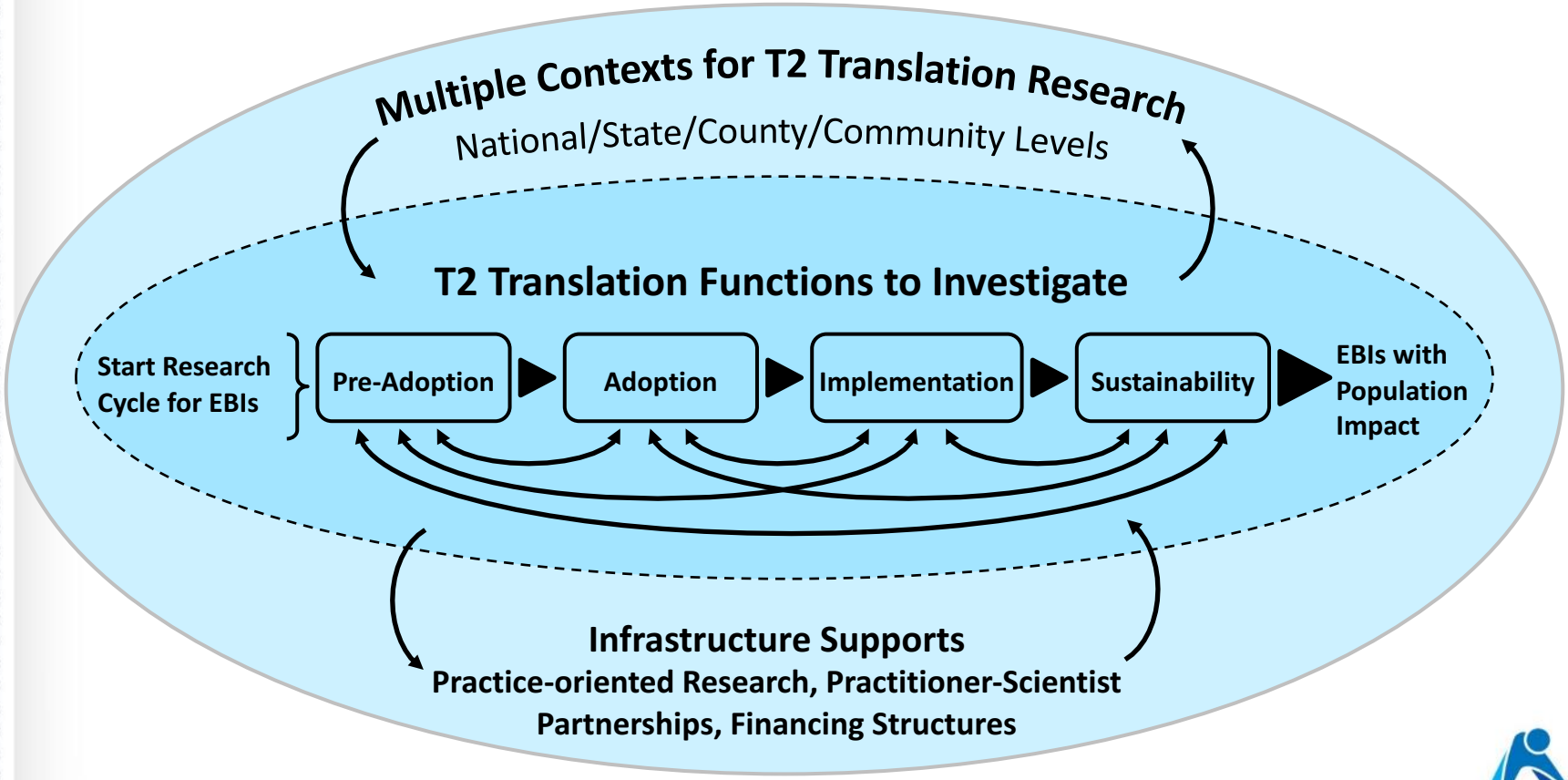
Definition of T2 Translation Research in "Advances" Paper

- **Investigates the complex processes and systems** through which **sustainable EBIs are integrated into practice on a large scale**, across targeted populations and settings
- Essential for realizing the population-level health impact of EBIs

The Translation Science to Population Impact Framework – Basic Translation Functions



The Translation Science to Population Impact Framework – Basic Translation Function Supports and Contexts



Core Challenge #2: Needed Scientific Advances-Key Research Questions for Each Translation Phase

Table 1 Translation science to population impact framework: translation phases, factors to investigate, and illustrative research questions to address

Translation phase/function	Illustrative factors to investigate	Examples of key research questions
Adoption	• Program/provider decision-making • Economic benefit analysis • Organizational readiness	• What are the key market, organizational, and other factors influencing adoption decisions? • What are the incentives/disincentives for EBI adoption by various stakeholders (e.g., policy makers, community leaders, service providers, program participants), and how do they affect adoption decisions? • How do various types of decision-making tools influence the EBI selection and decision-making process? • How does decision-making vary by type of intervention, service system, or community needs? • How are cost and other economic data used in the decision-making process?

*Source: Spoth, Rohrbach, Greenberg, et al. (2013). Addressing core challenges for the next generation of Type 2 translation research and systems: The Translation Science to Population Impact (TSci Impact) framework. *Prevention Science, 14(4), 319-351.*

Pre-Adoption/Adoption Phases – Illustrative Factors to Investigate

- **Consumer preferences**
- **Program/provider decision-making**
- Economic benefit analysis
- Organizational readiness
- Illustrative questions: **"How do program administrators evaluate different types of evidence?**
- How are cost and other economic data used in the decision-making process?" (e.g., Asen et al. study of school board members)

Pre-Adoption Phase – Illustrative Consumer Preference Research Snapshot: Conjoint Analysis

Which Combination of Program Features are Most Preferred?

Question: Do you prefer Program A, Program B, or do you have no preference?

A

1. Meets weekday evenings
2. Meets at a school
3. Taught by child development specialist
4. Endorsed by parents

B

1. Meets weekend days
2. Meets at a church
3. Taught by parents
4. Endorsed by school administrators

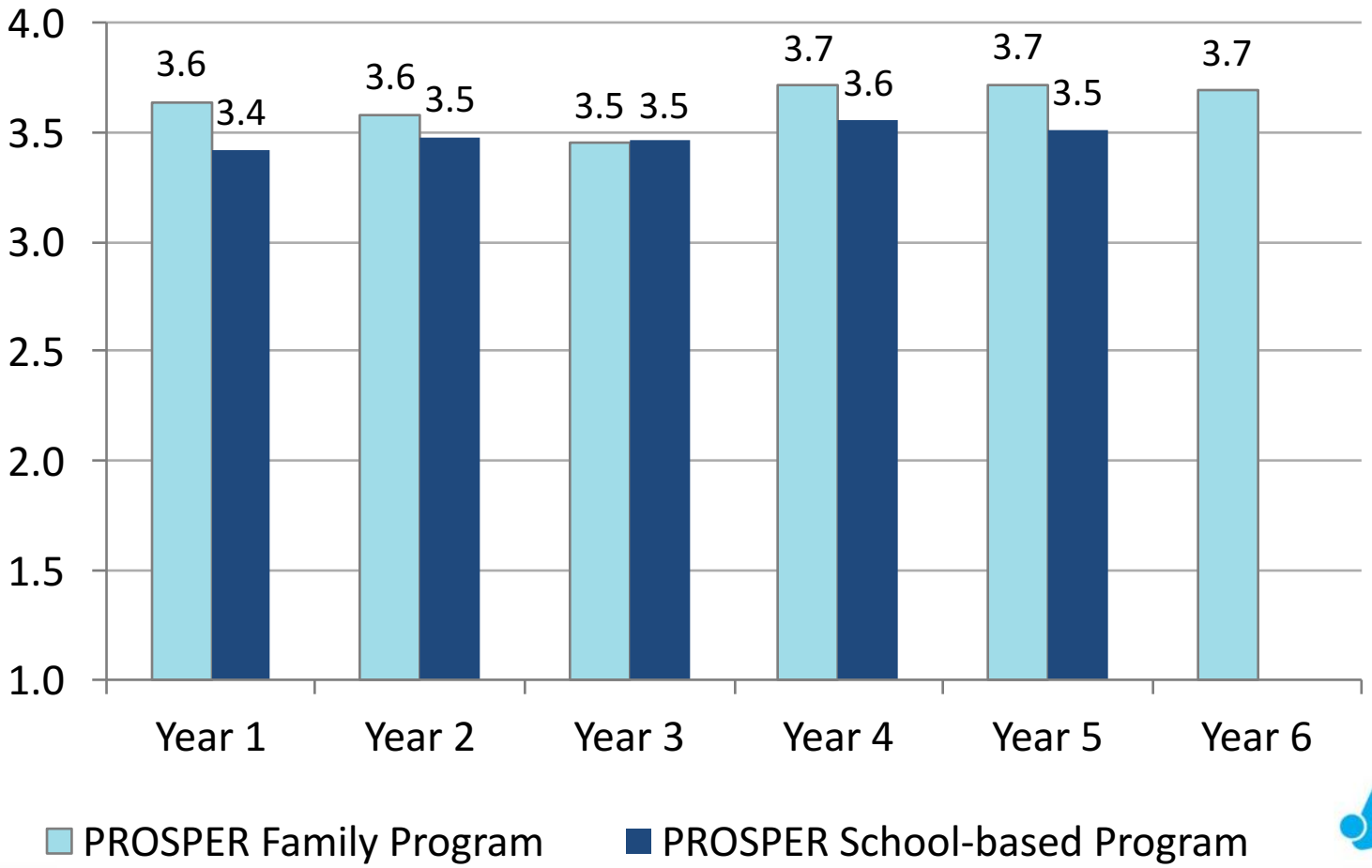
Do you slightly prefer this program or strongly prefer this program?

See Sandler et al., 2005. Developing effective prevention services for the real world: A prevention service development model. *American Journal of Community Psychology, 35*(3-4), 127-142. Source: Spoth & Redmond, 1993. Identifying program preferences through conjoint analysis: Illustrative results from a parent sample. *American Journal of Health Promotion, 8*(2), 124-133.

Implementation Phase – Illustrative Factors to Investigate

- **Factors in participant engagement in EBIs**
- **Provider/organization/team factors affecting implementation**
- Training/technical assistance (TA)
- Fidelity/adaptation
- For example: Is online EBI training as effective as in-person training?

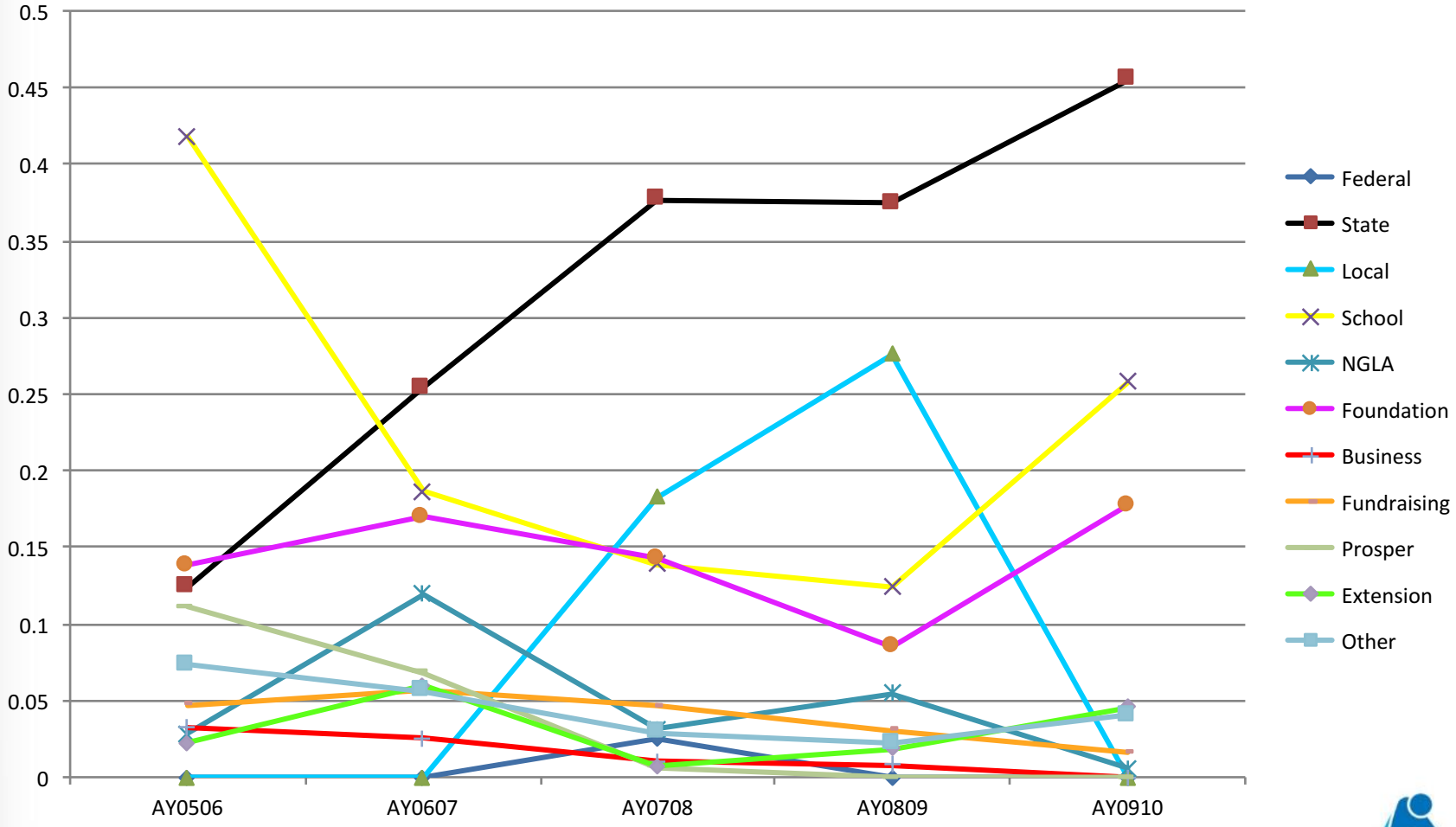
Implementation Phase – Illustrative Research Snapshot: Participant Engagement on a 4-point Scale



Sustainability Phase – Illustrative Factors to Investigate

- **Effective funding/financing strategies**
- **Provider/organization team factors affecting sustainability**
- Intervention characteristics/costs
- Organizational/community system factors
- Supportive policy
- Illustrative question: **"What funding strategies are most conducive to sustainability?"**

Sustainability Phase – Illustrative Research Snapshot: Community Team Funding Sources



Priorities and Possible Strategic Steps

Question:

All things considered, what are some strategic steps? What are the related research and *organizational priorities?

***For Translational Center development**

Overview of Possible Strategic Steps from T2 Advances Article*

1. **Planning and Organization for Infrastructure Development and Capacity Building**
   - **Build interagency collaboration** using National Prevention Strategy, focusing on EBI scaling systems, with a common conceptual framework
   - **Build prevention workforce**—"build out" currently available training/certification systems; organize network of university-supported trainers (e.g., ICUDDR)
   - **Strengthen infrastructure for networked prevention systems**—build on existing infrastructure; learn from existing implementation systems research; link with ACA healthcare reform efforts (e.g., Community Benefit)

*Updated/supplemented Action Steps from Spoth, Rohrbach, Greenberg, et al. (2013). Addressing core challenges for the next generation of Type 2 translation research and systems. *Prevention Science, 14*(4), 319-351

Increasing Impact: Possible Strategic Steps from T2 Advances Article (cont.)

2. Innovative Funding Mechanisms

- Support **braided funding** approaches
  - Across service and research agencies
  - State agency funding to support community grants with federal agency support for research
- Develop **state/region prevention financing teams** with Communities of Interest, to support priority prevention goals
- Engage **private-public partnerships** (e.g., foundations and non-profit hospitals)
- Develop **prevention and wellness funds** to support networked communities

Increasing Impact: Possible Strategic Steps from T2 Advances Article (cont.)

3. **Develop, test, coordinate scalable EBI delivery systems, with embedded research**
   - **Clarify translation lessons from wide-ranging successful systems**
     - Systems for delivering individual EBIs, or EBIs on menus
     - Consider systems for universal EBIs with crossover effects as gateways to more targeted, or intensive interventions
   - **Embed research in state and national prevention systems** to develop, test, disseminate EBIs, and use continuous systems improvement across translation phases

THANK YOU from PPSI and The PROSPER Partnership Group

Iowa State University

Partnership in Prevention Science Institute

Richard Spoth, Director

PPSI Scientists:

Cleve Redmond
Lisa Schainker
Chungyeol Shin
Kate Ralston

Pennsylvania State University

Prevention Research Center

Mark Greenberg, Director

PRC Scientists:

Mark Feinberg
Claudia Mincemoyer
Sarah Meyer Chilenski
Daniel F. Perkins
Janet Welsh

Human Interaction Research Institute

Tom Backer, Director

Partnerships in Prevention Science Institute

Iowa State University
University Extension

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