CIPRS
CENTER FOR IMPLEMENTATION PRACTICE & RESEARCH SUPPORT

VA QUERI
Quality Enhancement Research Initiative

Sustainability and Scale-up

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EIS Training

Objectives

- Understand the concepts of sustainability and scale-up
- Recognize key factors involved in sustainability and scale-up
- Potential application to your own work as it develops…

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Sustainability

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Overview

- What is **sustainability**?
- Why focus on **sustainability**?
- Frameworks
- Strategies
- Examples
- Research questions
- Implications and considerations

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What is Sustainability?

- Institutionalization, routinization, maintenance…
- "Continuation after funding ends."

  Blasinsky et al., 2006
- "Making an innovation routine until it reaches obsolescence."

  Greenhalgh et al., 2004
- "Continued benefits after funding or support have been withdrawn, continuation of program elements, and continued capacity."

  Shediac-Rizkallah & Bone, 1998

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Why Sustainability?

- Reach large number of individuals over a period of time in order to impact population health
- Return-on-investment
- Prevent negative perception of future research and practice efforts

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Key Issues in Sustainability

- Cost/continued funding
- Fit with organization (i.e., integration, mission, objectives)
- Availability of trained staff
- Intervention effectiveness
- Leadership/program champions
- Surveillance and evaluation data
- Adaptation
- Degree of implementation
- Community/stakeholder involvement
- Task-shifting/volunteer-based staff
- Time/competing demands

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Sustainability Frameworks

- Goodman & Steckler, 1992
- Johnson et al., 2004
- Luke et al., 2011
- Pluye et al., 2004
- Scheirer & Dearing, 2011
- Shediac-Rizkallah & Bone, 1998
- Yin, 1979

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Conceptualizing Program Sustainability (Shediac-Rizkallah & Bone, 1998)

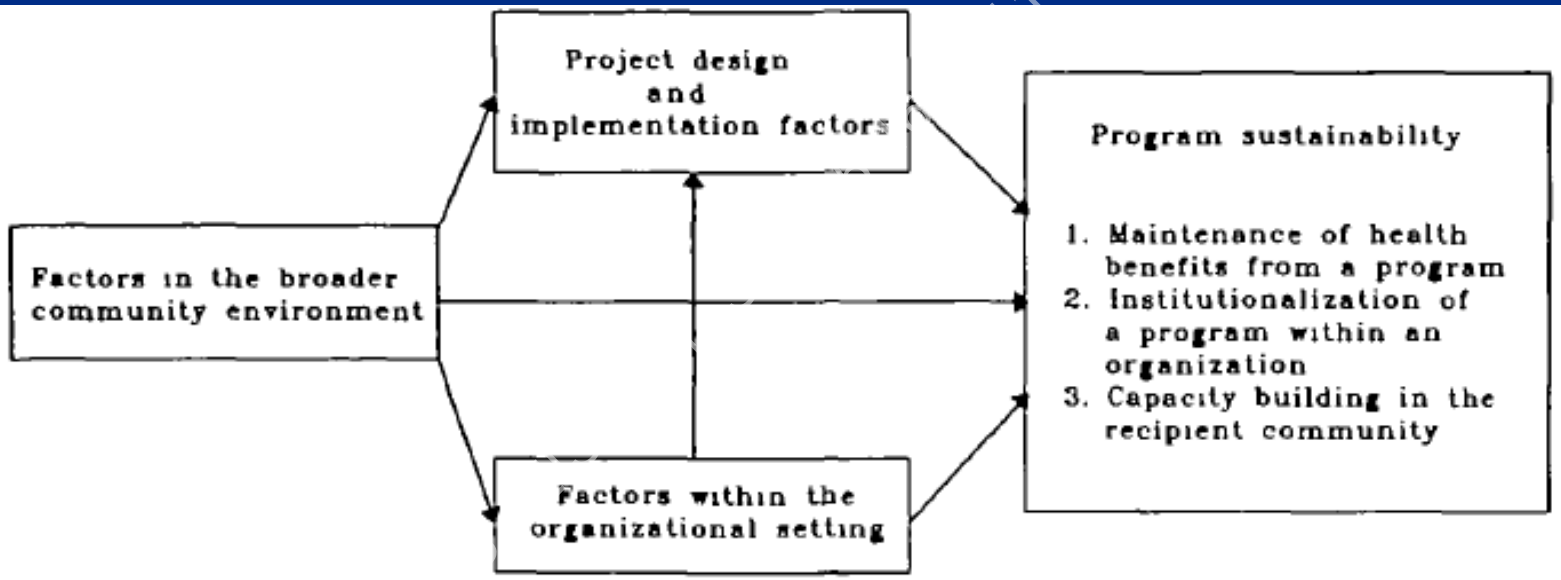
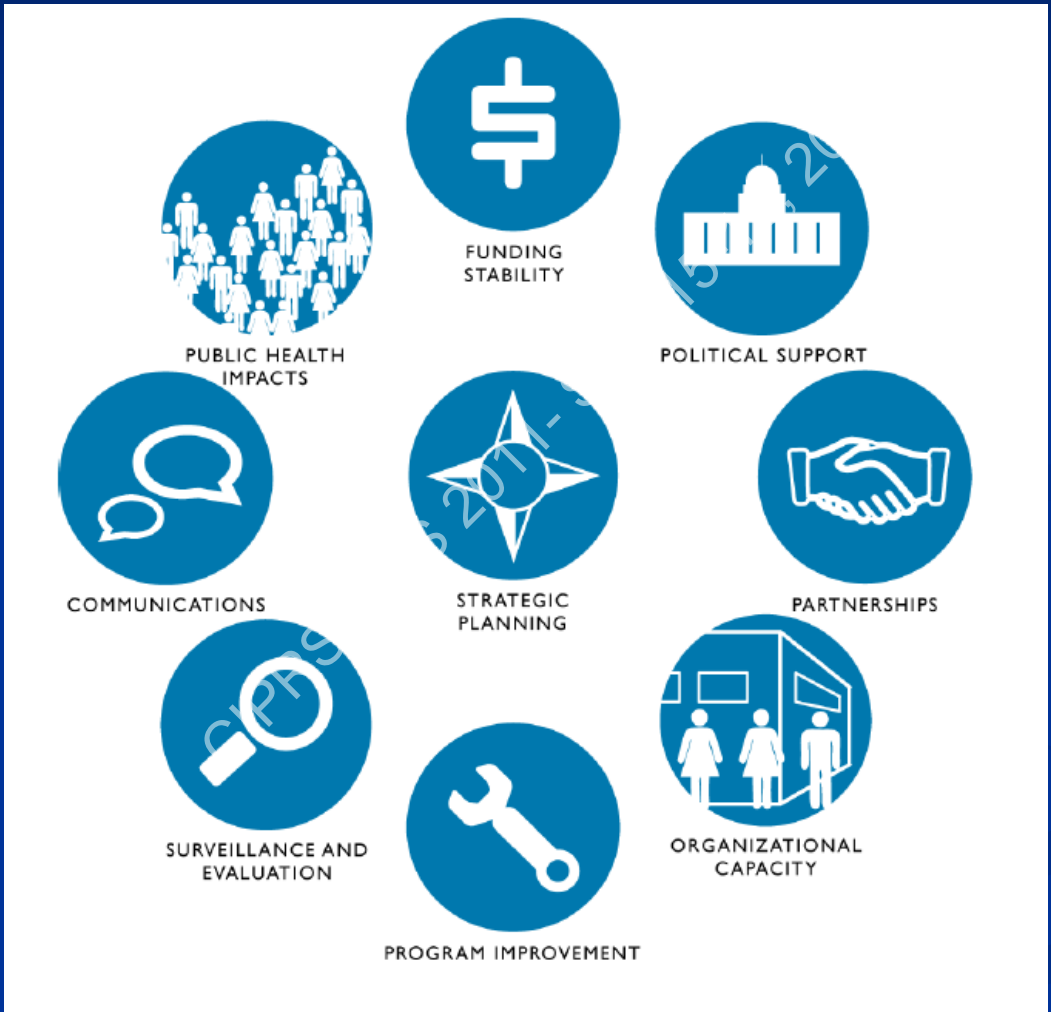


Fig. 1. A framework for conceptualizing program sustainability.

Sustainability Framework
(Luke et al., 2011)



Routinization Framework (Yin, 1979/1981)

Yin's (1979, 1981) Routinization Framework	
1. Budget	1a. Program supported by change from soft to hard money 1b. Survives annual budget cycles
2. Personnel	2a. Program activities become part of job descriptions/requirements 2b. Program survives turnover of personnel/leadership 2c. Key program staff members are promoted within agency 2d. Program activities spread to all potential users within agency
3. Supply and maintenance	3a. Supply and maintenance provided by agency 3b. Activities survive equipment turnover
4. Training	4a. Skills taught in many training cycles 4b. Skills become part of professional standards
5. Organizational governance	5a. Use of program recognized in manuals, procedures, regulations 5b. Program recognized as permanent within agency

Model for Program Institutionalization
(Goodman & Steckler, 1989)

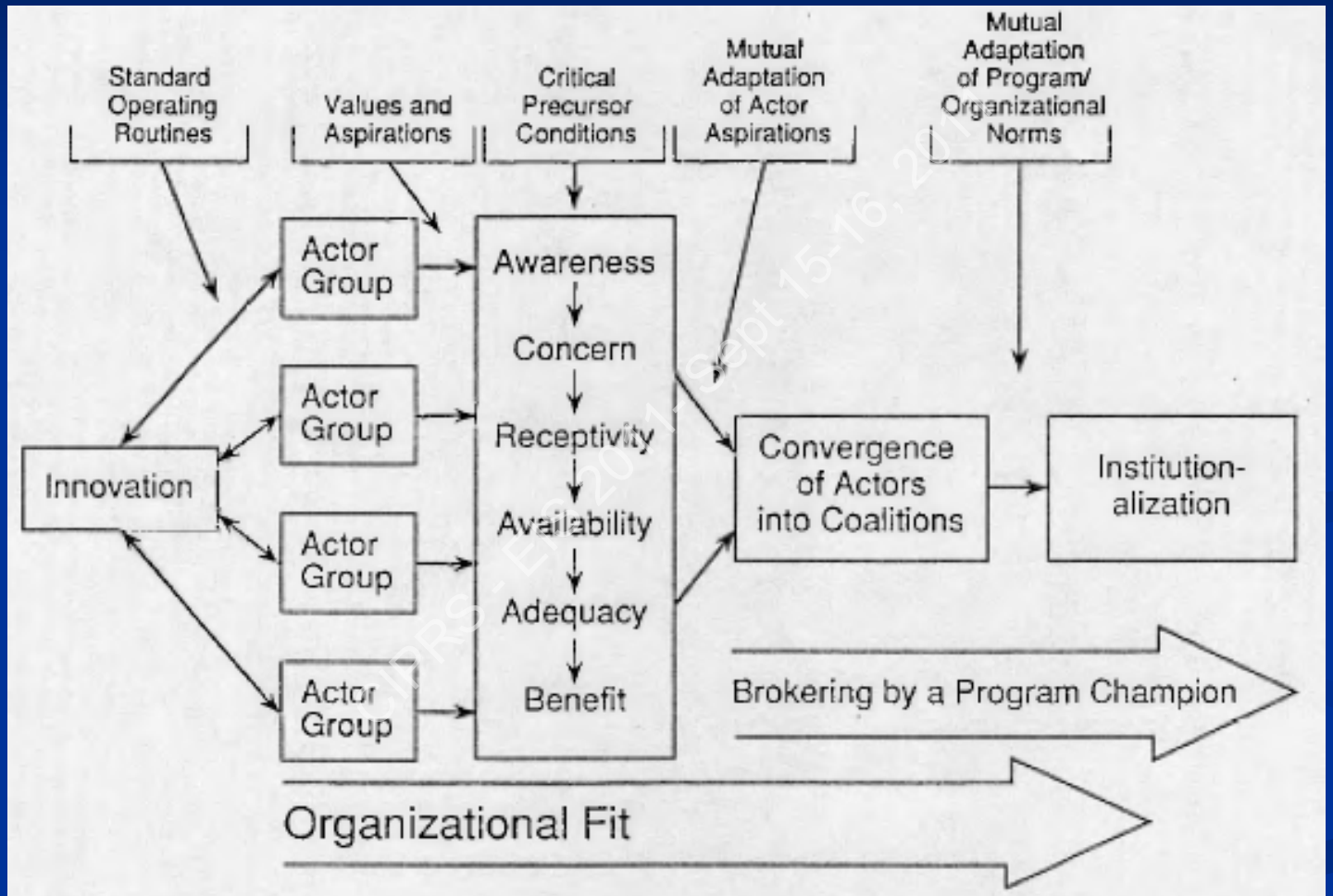


Fig 2. A model for program institutionalization.

Sustainability Examples

1. Project IMPACT (Blasinsky et al., 2006)

2. Sustainability of intervention to increase HIV testing (Goetz et al., 2009)

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Project IMPACT
Blasinsky et al., 2006

- Improving Mood: Promoting Access to Collaborative Treatment (IMPACT)

- Collaborative team care approach to assist older adults suffering from depression—can it be sustained post-funding?

- Qualitative study:
  - Telephone interviews 1-yr after clinical services ended
  - Evidence of sustainability
  - Characterize changes made to program
  - Barriers and facilitators of sustainability
  - Determine how program was sustained

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Project IMPACT
Blasinsky et al., 2006

- 5/7 original study sites incorporated IMPACT into usual care
- Variations found in target population, staff composition, and role of manager
- *Barriers*: Continued funding, provider preference, organizational shift in priorities
- *Facilitators*: Outcome data, institutional support, trained staff

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HIV Testing
Goetz et al., 2009

- Implementation study to increase HIV testing at VA medical facilities (Goetz et al., 2008)

- Implementation phase (YR1)
  - Research team involved in increasing HIV testing in 17 sub-facilities
  - Electronic clinical reminder; audit-feedback; reduction of organizational barriers (informed consent); provider education

- Sustainability phase (YR2)
  - Research team not involved in sustaining program
  - Transferred responsibility to clinic leadership
  - Provider education activities declined; other components remained

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HIV Testing
Goetz et al., 2009

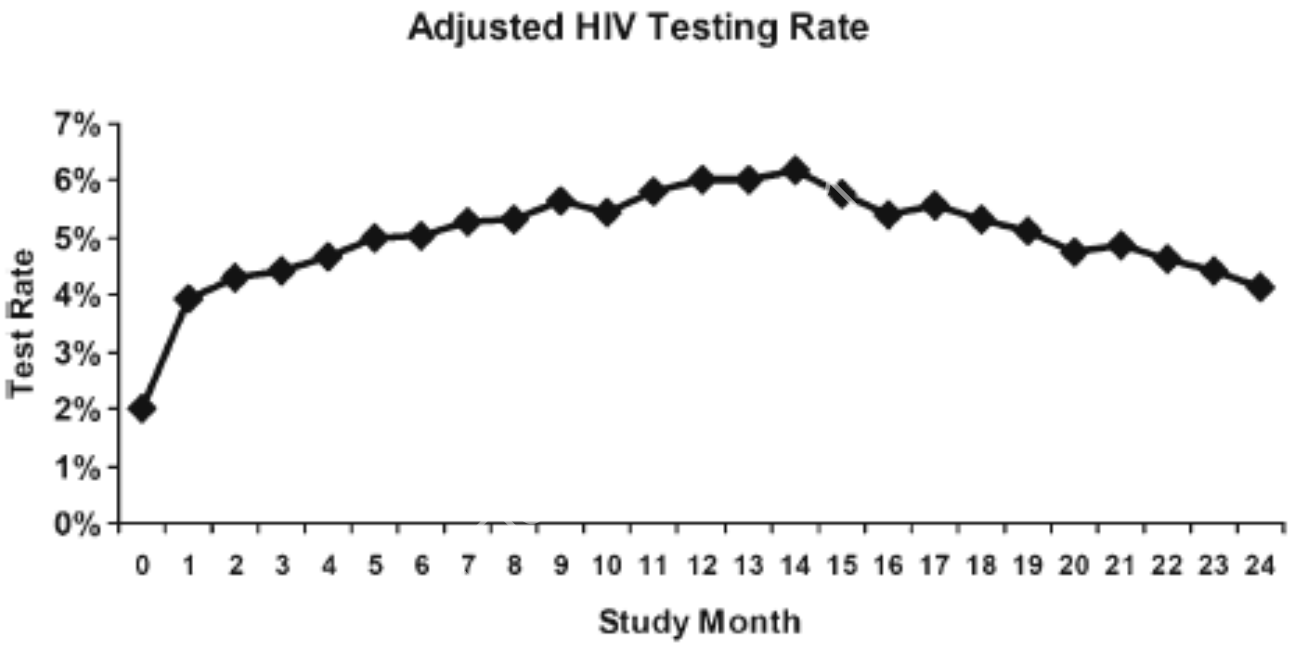

Figure 1. Adjusted HIV testing rates among all patients with identified risk factors for HIV infection. The active intervention period started in study month one and lasted through study month 12. The sustainability period started in study month 13.

Sustainability Strategies

- Planning
- Creative use of resources
- Ownership/Buy-in
- Advocacy
- Integration into system

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Research Questions

- Barriers and facilitators
- Readiness for sustainability
- Sustainability strategies/interventions
- Measurement issues
- Sustainability timeframe

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Implications & Considerations

- Think about these issues early-on…
- How do you decide whether or not you should sustain the program? For how long? Who makes the decision?
- How can you sustain the change once the research study ends?
- What are the barriers to sustainability and potential strategies to overcome barriers?
- When should you end a program or replace it with a better program?

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Scale-up

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Scale-Up Defined

- Variability in use of term

- "Objective or process of either increasing the coverage of health interventions or increasing the financial, human or capital resources that are required to expand coverage."

  Mangham & Hanson, 2010

- "Deliberate efforts to increase the impact of health service innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and program development on a lasting basis."

  Simmons et al., 2007

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Why Focus on Scale-up?

- Implementation studies are oftentimes conducted with a relatively small number of sites in the same or similar region with support and resources provided by the research team

- Need to spread effective practice more quickly, effectively, and broadly to have impact on population health

- Need to focus on scale-up issues *now*…

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(1) Portfolio of Health Innovations

- Demonstrated efficacy and/or effectiveness
- Variety of settings, populations, and behaviors
- Examples
  - AHRQ Health Care Innovations Exchange
  - SAMHSA National Registry of Evidence-based Programs & Practices
  - Cancer Control P.L.A.N.E.T.
  - National Guideline Clearinghouse
  - Canadian Best Practices Portal

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(2) Advances in Implementation Science

- Increasing identification of effective or promising implementation strategies

- Examples
  - Technical assistance
  - Audit and feedback
  - Training/supervision
  - Organizational change models
  - PDSA cycles
  - Measurement, scales, assessments
  - Models, theories, and frameworks

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(3) Need to Plan Ahead

- Scale-up rarely happens automatically
- Scaling-up requires significant preparation and planning
  - Human and financial resources
  - Political and policy support
  - Community, organization, and agency collaboration
  - State, regional, and/or national coordination
- Issues faced during small-scale studies or pilots are different—and typically less complex—than those faced in large-scale trials or initiatives

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Key Issues in Scale-up

- Characteristics of the health innovation/intervention
- Characteristics of the implementation strategies
- Resources (human, financial, equipment, infrastructure, IT)
- Training (facilitators, trainees, time, location, booster sessions, technical assistance/support)
- Environment (politics, perceived demand)
- Timeframe, pace, and scope
- Coordination, communication, logistics

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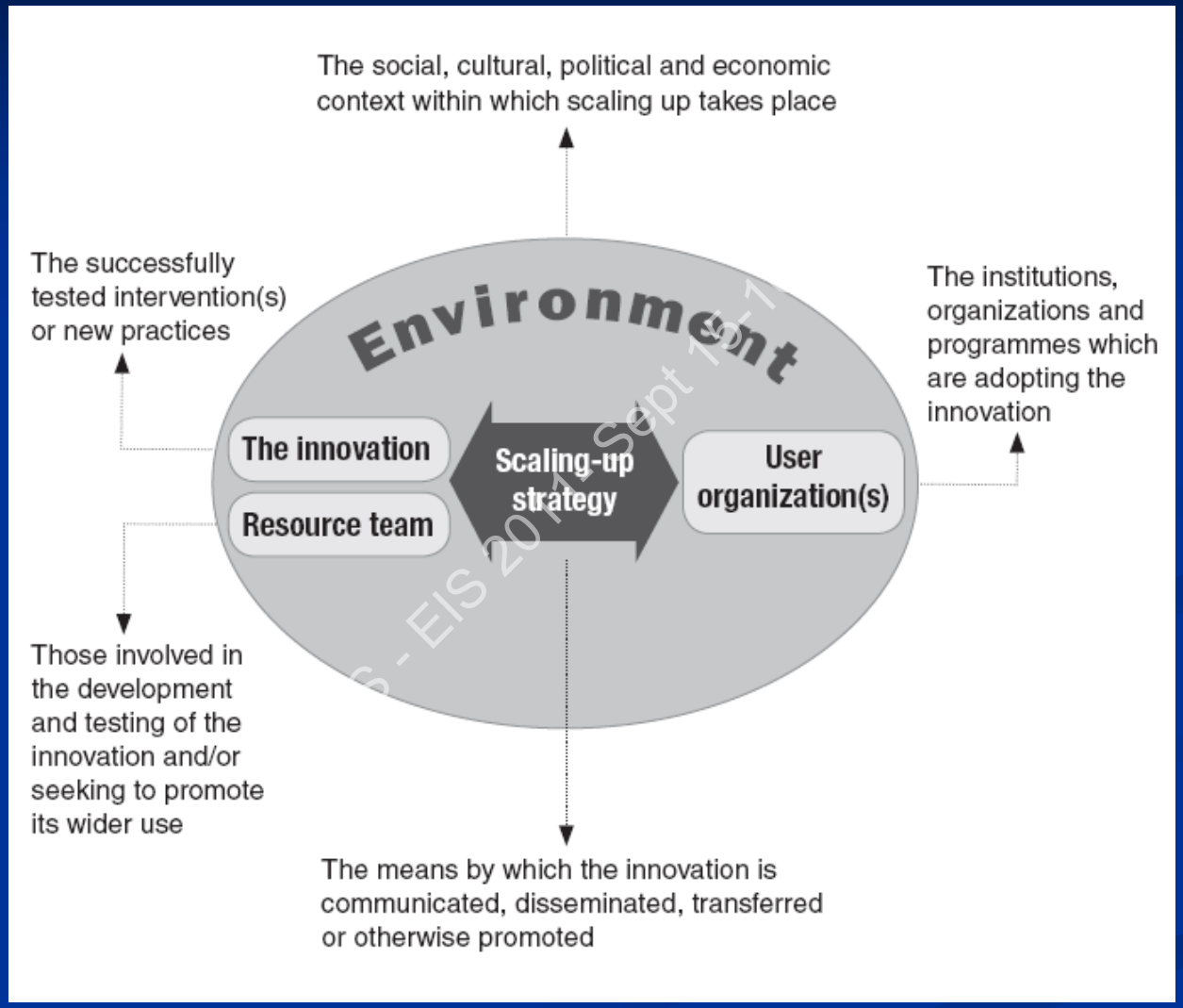
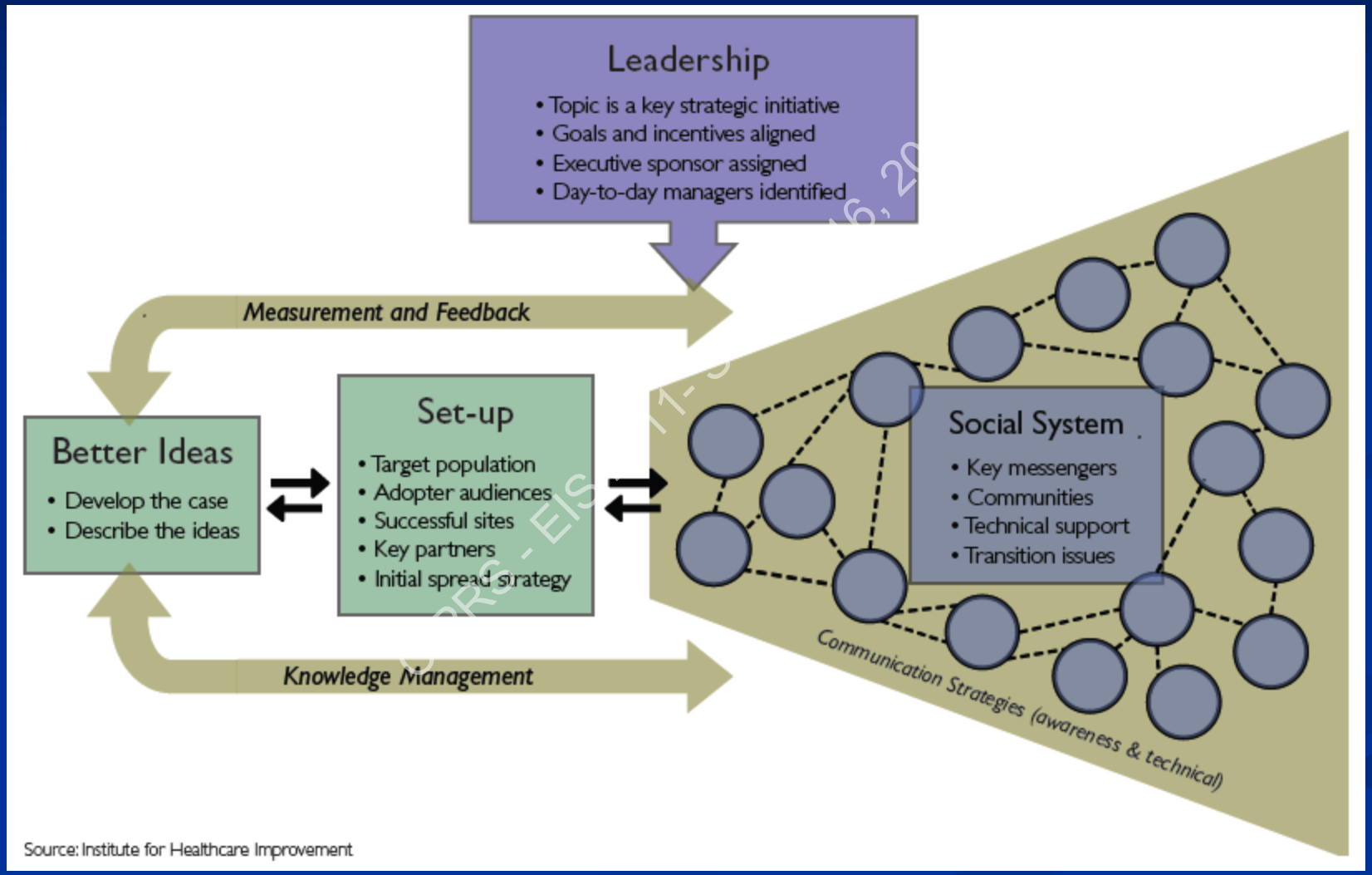
WHO/ExpandNet Framework



Simmons et al., 2007

IHI Framework for Spread



Massoud et al., 2006

Scale-up Strategies

- Executive Mandates
  - Orders or instructions
- Extension Agent
  - Mobile health care workers or community leaders spread ideas and best practices
- Emergency Mobilization
  - Used in times of crisis, where plans, materials, and supplies are mobilized to respond quickly and efficiently

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Massoud et al., 2010

Scale-up Strategies

- IHI Breakthrough Series Collaborative
  - Brings together several teams from independent facilities for structured learning and exchange around shared aims, measures, and goals

- Virtual Collaborative
  - Participants meet virtually via phone, WebEx, etc.

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Massoud et al., 2010

Scale-up Strategies

- Campaign
  - Targeted social system connects with a shared quantitative aim. This approach builds on a platform (evidence-based interventions to be spread), a simple measurement system, broad communications, and distributed field operations

- Hybrid
  - Combined elements from different approaches

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Massoud et al., 2010

Scale-up Examples

1. 100,000 Lives Campaign (IHI)

2. Scaling-up HIV Prevention Interventions (CDC)

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100,000 Lives Campaign (IHI)

- Objective
  - Save 100,000 lives over an 18-month period by supporting the implementation of 6 evidence-based practices to reduce avoidable deaths in US hospitals
- Campaign-style
  - National-level leadership and support (IHI)
  - Volunteer organization to support campaign activity for 50-100 hospitals (‘Nodes’)
  - Individual participating hospitals (3,000)

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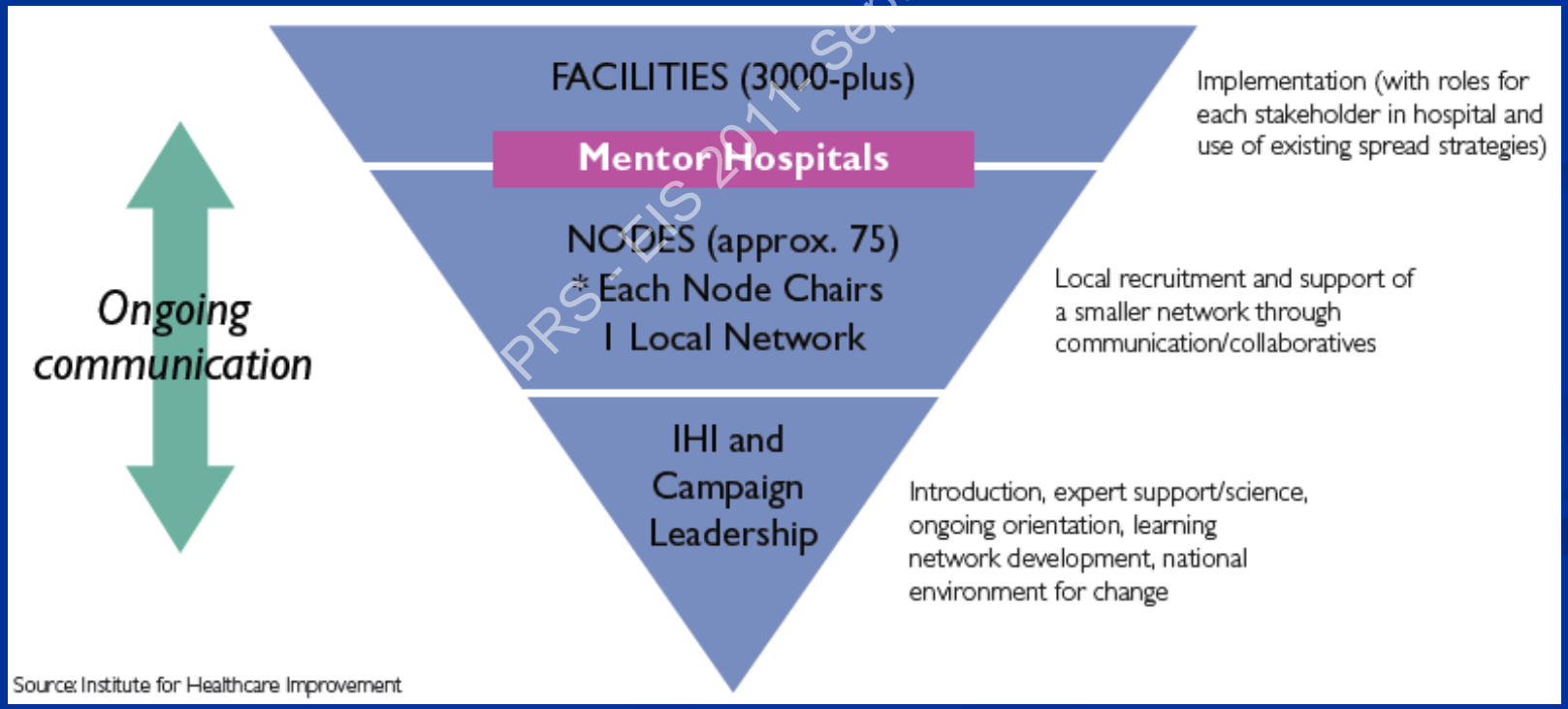
100,000 Lives Campaign

Quality improvement

Saving 100 000 lives in US hospitals

C Joseph McCannon, Marie W Schall, David R Calkins, Alexander G Nazem

An initiative to cut avoidable deaths required rapid recruitment and support of large numbers of US hospitals. Campaign leaders describe how they coordinate nationwide implementation of effective healthcare interventions and document lessons for effective spread



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Scaling-up HIV Prevention Interventions

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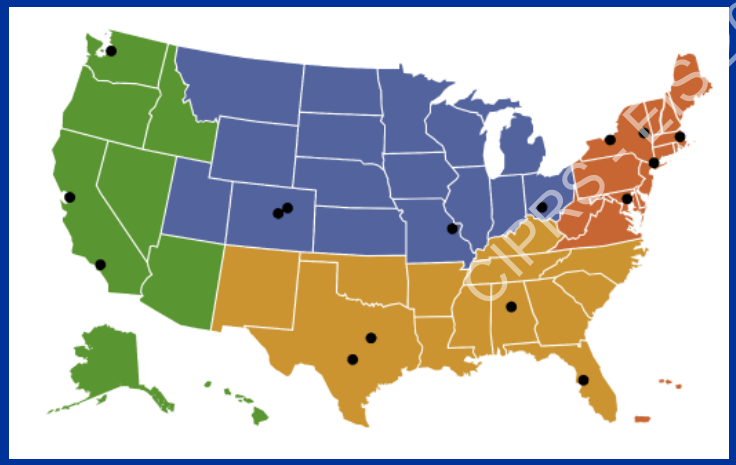

CDC has trained over 21,000 individuals from over 4,400 agencies in the US in one or more evidence-based HIV prevention interventions

Research Questions

- Barriers and facilitators across centers, organizations, care settings, and delivery systems?
- Are scale-up strategies effective and generalizable across delivery systems, innovations/programs, settings, contexts?
- Pace and reach of scale-up
- Planning for scale-up?
- Sustainable scale-up? De-scaling?

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Implications & Considerations

- Think about these issues early-on…
- Should your evidence-based practice be scaled-up? To what coverage area? At what cost? Projected benefits?
- Who will deliver the program? Who will conduct the training? Monitoring and evaluation? Leadership? Scale-up strategy?
- Once it is scaled-up, how can it be *sustained with sufficient intensity, quality, and coverage*…?

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Closing Comments

- Sustainability and scale-up and are ‘next frontiers’ in implementation science
- Emerging empirical work in these areas, but still relatively nascent (i.e., opportunity!!!)
- Think about these issues ahead of time…even early-on in the development of your innovation or implementation strategy
- Not all programs should be sustained indefinitely or scaled-up nationally

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Questions & Comments?

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Thank you

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Key Articles: Sustainability

- Goodman & Steckler, 1992
- Gruen et al., 2008
- Johnson et al., 2004
- Pluye et al., 2004
- Scheirer & Dearing, *in press*
- Scheirer et al., 2005
- Shediac-Rizkallah & Bone, 1998
- Wiltsey-Stirman et al., *under review*

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Key Articles: Scale-up

- Berwick, 2003
- Cooley & Kohl, 2005
- Hanson et al., 2003
- Massoud et al., 2006
- Mangham & Hanson, 2010
- McCannon et al., 2007
- Victora et al., 2004
- WHO/ExpandNet, 2007

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