

**Application of Dissemination and Implementation Science to the Spread of  
Evidenced-Based Practice**

**Project Work Book**

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## Exploration: Creating an Intervention that can be Readily Adopted

### *Tip Sheet*

- The purpose of exploration is to develop an intervention that creates a strong match between patient needs, program needs, resources and evidence based practice
- Your intervention needs to be perceived as having "more pros than cons" among those who will make the decision to adopt or not. Ideally a new intervention will be perceived as
  - low cost
  - compatible with existing practice
  - adaptable in some ways to local context
  - simple to use and understand
  - effective (evidence-based)
  - trialable, and
  - observable in its results
- Does your intervention depend on the enthusiasm and expertise of a small group of individuals? If so, it may be more difficult to spread. Design ways to decentralize the expertise and advice about overcoming challenges to implementation and sustained use

### *The Nature of the Intervention: Questions*

1. What are the advantages of this intervention to the organization? To leadership? To front office staff? How best should you learn answers to these questions?
  - a.
  - b.
  - c.
2. What do you think are the plausible advantages for parents and children? Does the intervention minimize burden, does it increase access? How could you be as patient-centered as possible in answering these questions?
  - a.
  - b.
  - c.
3. Have you partnered with operations stakeholders and representatives of your target population in designing the intervention? How about in designing for the introduction of the intervention?

4. How would you rate the strength of the evidence supporting your intervention? How would you suppose effectiveness could best be communicated to providers? What about to parents?
  
5. What are the likely burdens of the intervention on your organization (complexity, cost and coordination across departments)?
  - a.
  - b.
  - c.
  
6. Will this intervention be compatible with existing systems? Will it be aligned with organizational goals?

**Summary:**

<b>Intervention attributes?</b>	<b>Yes</b>	<b>No</b>	<b>Needed Changes</b>
Perceived advantages to the organization			
Perceived disadvantages to the organization			
Perceived advantage to organization and family			
Perceived disadvantages to the organization and family			
Sufficient supporting evidence?			
Sufficiently simple to use and understand?			
Manageable cost burden for patient and organization?			
	<b>Yes</b>	<b>No</b>	<b>Next Steps</b>
Did you partner with operations stakeholder and target population representatives in designing your intervention?			

**Resources:**

***The nature of the intervention:***

Rogers EM. *Diffusion of innovations*. 5th ed. New York: Free Press; 2003.

Berwick DM. "Disseminating Innovation in Health Care". *JAMA*. 2003; 289:1969-1975.

***Re-inventing the intervention to meet the needs of different target groups***

Schroeder RG, Van de Ven AH, Scudder GD, Rolley D. Managing innovation and change processes: findings from the Minnesota Innovation Research Program. *Agribusiness Manage*. 1986; 2:501-523.

Winter SG, Szulanski G. "Replication as strategy". *Organizational Science* 2001 12(6) 730-743

***Partnering with your stakeholders in designing your intervention***

Van de Ven AH. *Engaged scholarship: A guide for organizational and social research*. New York; Oxford University Press; 2007

Mitchell P, Pirkis J, Hall J, et al. "Partnership for knowledge exchange in health services research, policy and practice" *J Health Serv Res Policy* 2009; 14: 104-111

## Putting Your Intervention into the Field

### *Tip Sheet:*

- Make sure your implementation team is not “outside the norm”; involve naysayers as well as the converted
- Make sure that there are no “special circumstances” available to you that won’t be available to others trying to implement your intervention.
- Don’t let idea bias get in your way. Issues of resistance may be due to the idea and not the people
- Try alternative solutions for different segments of your target population
- Develop rapid and iterative trials that provide important feedback to improving your intervention.

### *Putting your Intervention into the Field: Questions*

1. Who on the implementation team represents your target population?
2. Who are potential resisters to your intervention? Include them in the process; you may want to create a “critique group” to provide input into the process.
3. What, if any are the potential changes in organizational capacity, organizational culture, human resources and regulatory issues?
  - a.
  - b.
  - c.
4. Do you have a business case for your intervention?
5. Are you keeping track of start-up and maintenance costs? Are there identified funding streams to support implementation, dissemination and maintenance of your intervention?

	Yes	No	Next Steps
Have you characterized your target population?			
Have you developed alternative solutions for different segments of your target population?			
Have you involved representatives of your target population in your implementation effort?			
Have you identified potential resistors to your implementation and involved them in the process?			
Have you identified potential changes in organizational capacity and culture?			
Have you identified funding streams for your pilot study and for widespread implementation and maintenance?			

**Resources:**

***Designing your pilot study for widespread dissemination***

Fraser SW. *Undressing the Elephant: Why Good Practice Doesn't Spread in Healthcare*. 2007; Lulu Press

Fraser SW. *Accelerating the Spread of Good Practice; A Workbook for Healthcare*. 2002; Chichester, UK; Kingsham Press

***Understanding potential changes in organizational culture and capacity***

Rosenheck R. "Stages in the Implementation of Innovative Clinical Programs in Complex Organizations" *The Journal of Nervous and Mental Disease*; 189(12), December 2001, pp 812-821

Feldstein AC, Glasgow RE. "A practical, robust implementation and sustainability model (PRISM)". *The Joint Commission Journal on Quality and Patient Safety*; 2008; 34(4) P 228-243

## **Beyond the Pilot: Spreading the Word**

### ***Tip Sheet:***

- Assume that the strength of the evidence will be necessary but not sufficient to propel the diffusion of the intervention
- Diffusion is an over-time social process of advice-seeking and advice-giving about a new intervention, not just the initial dissemination of descriptive information about the intervention; you need a strategy for both
- The creators of a new intervention -- even a great one! -- are often not the best individuals to communicate it to potential adopters
- Oftentimes, authority does not equate with influence in the diffusion of innovations. Find out who the “influencers” are in your organization
- Expect potential adopters to think differently than you. Many interventions need "guided adaptation" in order to meet the needs of adopters in other departments, other healthcare organizations, and in other places.

### ***Beyond the Pilot: Spreading the Word – Questions***

1. Do you know who potential adopters of your intervention turn to for advice? How might you find out?
2. Have you segmented your target audience of potential adopters by relevant characteristics so that it's possible to communicate with relatively homogenous audience segments (i.e., by computer literacy, available resources to support change?)
3. Have you talked with these different adopter groups to see what changes are necessary to ensure they adopt your intervention?
4. Is there a way to conceptualize potential target audiences so that they are interconnected by interpersonal or professional communication? Who is a member of each network, and can you access them?

5. What existing communications modalities are available to you to help spread your intervention within these social networks?
  - a.
  - b.
  - c.
  
6. Have you tailored your communications to the interest of different adopter segments?
  
7. Do you have a mechanism for communicating early updates ("evidence of implementation success") about improved processes and patient outcomes?

**Summary:**

	Yes	No	Next Steps
Do you understand the different groups in your target population?			
Have you talked with different target groups to understand their needs to ensure adoption?			
Do you know who your potential adopters turn to for advice?			
Do you know the existing communication modalities in your organization?			
Have you tailored your communication to the interests of the different target groups?			
Do you have a way to communicate early successes with implementation?			

**Resources:**

***Spreading the word***

Singhal A.; Dearing J.W. (Eds), *Communication of innovations: A journey with Ev Rogers*, New Delhi, India, Sage Publications India Pvt Ltd, 2006.

Dearing JW, Kim DK. (2008). *The International Encyclopedia of Communication*. London: Blackwell. Volume III. 1299-1304.

Dearing JW, *Research on Social Work Practice* 2009 19(5) 503-518.

Althabe F, et al *The New England Journal of Medicine* 2008 358(18) 1929-1940.

***Tailoring your Communication***

Kreuter MW, Strecher VJ, Glassman B. One size does not fit all: The case for tailoring print materials. *Annals of Behavior Medicine*; Volume 21, Number 4 / December, 1999 275-349

Evan WD. How social marketing works in health care. *BMJ*. 2006 May 20; 332(7551): 1207–1210.

Evans WD, McCormack L. Applying social marketing in health care: communicating evidence to change consumer behavior. *Med Decis Making*. 2008 Sep-Oct;28(5):781-92. Epub 2008 Jun 12.

## Measuring and Maintaining the Implementation Process

### *Tip Sheet:*

- Recognize the need to broaden your program evaluation criteria to include external validity and context
- Use evaluation criteria that examine setting issues relevant to program adoption, implementation, and sustainability. Goal: Design a program that will reach those individuals who will benefit the most, will be widely adopted by different settings, be consistently implemented, and produce reliable and long lasting effects
- Involve and listen to, partner with your target audience and adoption settings in the design and evaluation of your intervention
- Create evaluation measures that are practical, patient centered and can reveal areas of improvement/adjustment.
- Leave behind:
  - Intervention and evaluation materials
  - Video and stories from the program
  - Website resources with links to local and national support
  - Recommendations for future adaptations

### *Measuring and Maintaining the Implementation Process: Questions*

1. What percent of your target population will be impacted by your intervention;
  - a. Will the intervention meet those most in need
  
  
  - b. Will participants be representative of the target population?
  
2. Will you be able to assess key target outcomes, possible adverse consequences, impact on quality of life?
  
  
3. What percentage of your target populations and organizations do you estimate will use your intervention? Will this impact populations that most need the intervention?
  
  
4. Do you understand the staff requirements for implementation?

5. Do you know the start-up and maintenance costs?
  
6. Will your program produce lasting effects
  
7. Will your organization be able to sustain the program over time?

**Summary:**

	Yes	No	Next Steps
Does your intervention impact those individuals who will benefit the most?			
Do you know if a significant percentage of your target population will adopt your intervention?			
Do you know how many and what kind of staff will be required to start-up and maintain the program?			
Are you measuring start-up and maintenance costs?			
Are you using RE-AIM or a similar methodology to evaluate your intervention?			

**Resources:**

***Translating research into practice: striking a balance between internal and external validity***

Glasgow RE. What types of evidence are most needed to advance behavioral medicine? *Ann Behav Med* 2008;35(1):19-25.

Glasgow RE, Emmons KM. How can we increase translation of research into practice? *Annu Rev Public Health* 2007;27L413-433.

Green LW, Glasgow RE. Evaluating the relevance, generalization, and applicability of research: Issues in translation methodology and external validity. *Evaluation and the Health Professions* 29(1):126-153.

Klesges LM, Dzewaltowski DA, Glasgow RE. "Review of External Validity Reporting in Childhood Obesity Prevention Research". *Am J Prev Med* 2008; 34(3):216-223.

Green LW, Glasgow RE. Evaluating the relevance, generalization, and applicability of research: Issues in translation methodology and external validity. *Evaluation and the Health Professions* 29(1):126-153.

### ***RE-AIM***

Glasgow R.E. “Critical Measurement Issues in Translational Research”.  
*Research on Social Work Practice*. 2009. 19(5) 560-568.

<http://www.re-aim.org>

Using RE-AIM metrics to evaluate diabetes self-management support interventions.  
Glasgow RE, Nelson CC, Strycker LA, King DK. *Am J Prev Med* 2006; 30(1):67-73.

Glasgow RE. “RE-AIMing research for application: Ways to improve evidence for family medicine”. *J Am Board Fam Med*; 2006; 19: 11-19

Glasgow RE, Strycker LA, King D, Toobert D, Kulchak, Rahm A, Jex M, Nutting PA. Use of “robustness analyses” to evaluate generalizability and dissemination potential. *Am J Managed Care* 2006;12:137-145

## **T3 Translational Research: Designing Research for Widespread Dissemination and Implementation**

### ***Tip Sheet:***

- To help ensure widespread dissemination of your intervention adopt flexible criteria for study participants that will allow for broad representation of your target population
- Widespread adoption of your intervention will call for flexibility in the nature of your intervention to meet the needs of different provider groups
- Remember that intense follow-up and outcome assessment can alter adherence to the intervention that will be difficult to sustain. Try to establish a follow-up schedule and outcome assessment which are consistent with usual practice
- Recognize that lack of compliance with the prescribed intervention is the reality in clinical practice. Practical or pragmatic research does not intensively measure adherence or employ extraordinary adherence improving strategies
- Consider research designs that stagger or delay treatment for segments of your population to allow you to learn from the initial phase of your intervention and to modify your intervention for the second phase
- Engage your Quality Improvement experts in the design and spread of your intervention

### ***T3 Translational Research: Designing Research for Widespread Dissemination and Implementation: Questions***

1. How will you adopt eligibility criteria that will ensure broad representation of your target group?
2. How will you design your evaluation to ensure that you can learn from early efforts and continuously modify and improve your intervention?
3. How will you allow for flexibility in the implementation of your intervention that will meet the needs of your provider and target population yet retain fidelity to your evidence base?
4. Will you measure adherence to the intervention, if so, how will you do it?
5. Can employ quality improvement methods e.g. iterative PDSA cycles to help continuously improve and maintain your interventions?

**Summary:**

	Yes	No	Next Steps
Does your evaluation design have flexible eligibility criteria?			
Do you have the ability to continuously improve your intervention during widespread adoption?			
Do you allow flexibility in the implementation of your intervention in clinicians/patients?			
Will you measure adherence to the intervention?			
Have you involved your Quality Improvement experts in the design and implementation of your intervention?			

**Resources:**

**Translational Research:**

Szilagyi PG. “Translational research and pediatrics”. *Acad Pediatr*. 2009 Mar-Apr;9(2):71-80

Green LW, Glasgow RE. Evaluating the relevance, generalization, and applicability of research: Issues in translation methodology and external validity. *Evaluation and the Health Professions* 29(1):126-153.

Woolf SH. The meaning of translational research and why it matters. *JAMA*. 2008 Jan 9; 299(2):211-3

C. Lenfant, Shattuck lecture—clinical research to clinical practice—lost in translation? *N Engl J Med* 349 (2003), pp. 868–874

**Practical Clinical Trials:**

Tunis SR, Stryer DB, Clancy CM. Practical clinical trials: increasing the value of clinical research for decision making in clinical and health policy. *JAMA*. 2003 Sep 24;290(12):1624-32.

Glasgow RE, Magid DJ, Beck A, Ritzwoller D, Estabrooks PA. Practical clinical trials for translating research to practice: design and measurement recommendations. *Med Care*. 2005 Jun; 43(6):551-7

Solberg LI, Glasgow RE, Unützer J, Jaeckles N, Oftedahl G, Beck A. Partnership Research: A Practical Trial Design for Evaluation of a Natural Experiment to Improve Depression Care. *Med Care* (In press)

Glasgow RE, Davidson K.W., Dobkin PL, Ockene J, Spring, B. Practical Behavioral Trials to Advance Evidence-Based Behavioral Medicine. *Ann Behav Med* 31(1):5-13.

Thorpe KE Zwarenstein M, Oxman AD, Treweek S, Furberg CD, Altman DG, Tunis S, Bergel E, Harvey I, Magid DJ and Chalkidou K. A pragmatic–explanatory continuum indicator summary (PRECIS): a tool to help trial designers. *Journal of Clinical Epidemiology* Volume 62, Issue 5, May 2009, Pages 464-475