The Art of Dissemination
Getting Evidence-based Interventions into the Field

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Achieving national health goals requires the availability of effective, adoptable interventions that enhance health and reduce disease risks.

Currently, there is a major “translation gap” between intervention research and practice.

This gap reduces the speed at which effective interventions become wide-spread public health practice, especially among populations with the greatest disparities (Green, L. 2008).
Purpose

- Describe the process of developing and testing an intervention that was “designed for dissemination.”

- Illustrate the utility of the RE-AIM framework for enhancing dissemination using the Not On Tobacco teen smoking cessation program as a case example.

- Present lessons learned about the art and science of dissemination.
Like other health behavior problems, the “research to practice” translation gap is a critical problem in youth smoking cessation. Only a handful of empirically-based interventions exist. Even fewer are widely available to teens who want to quit smoking.

This deficiency leaves the majority of teen smokers without access to effective interventions. Many of these teens can be characterized as high-risk or hard-to-serve populations (Chassin, 2007).
“If we want more evidence-based practice, we need more practice-based evidence.”
Beyond Effectiveness….Practice to Research

- An intervention’s efficacy is a necessary *but insufficient condition* to determine its suitability for widespread dissemination and adoption (Glasgow, Lichtenstein, & Marcus, 2003).

- An intervention’s potential for dissemination (e.g., “translatability) also includes factors such as relevance, feasibility, acceptability to the target population, adaptability, and economic cost—all based on evidence/science.

- One evidence-based intervention, **N-O-T**, was developed and evaluation research conducted with national dissemination in mind.
A brief overview…

- Is a voluntary smoking cessation program for 14-19 year-old teens who are regular smokers and who want to quit smoking.
- Uses a prescribed facilitator curriculum and a standard training protocol.
A brief overview...

• Is gender tailored

• Utilizes selected, trained facilitators

• Standardized national ALA training protocol.

• Includes 10 weekly sessions and booster sessions.
• Promotes a total health approach. Program Goals:
  1. **quit** smoking
  2. **reduce** the number of cigarettes by non-quitters
  3. increase **healthy behaviors** in **nutrition** and **physical activity**
  4. improve **life skills** such as stress management, coping, decision-making, communication, and interpersonal skills
Is there an art to getting evidence-based interventions into the field?

Yes. There is an art...to the science.

Can be sort of messy!
The RE-AIM Framework: Designing for Dissemination

- Reach
- Effectiveness
- Implementation
- Adoption
- Maintenance

Reach — The absolute number, proportion, and representativeness of individuals who participate in a given program. Assuring that the characteristics that reflect the target population's characteristics.

Efficacy/Effectiveness — The impact of an intervention on important outcomes. This includes potential negative effects, quality of life, and costs.

Adoption — The absolute number, proportion, and representativeness of settings and staff who are willing to offer a program.

Implementation — Refers to the how closely staff members follow the program that the developers provide. This includes consistency of delivery as intended and the time and cost.

Maintenance — The extent to which a program or policy becomes part of the routine organizational practices and policies. Within the RE-AIM framework, maintenance also applies at the individual level.
1998-present

Applying RE-AIM: A few examples using N-O-T
Reach

- Developed a partnership with a national infrastructure, the American Lung Association.

- Conducted formative research with potential adopters, implementers, and recipients to inform program content, promotion, recruitment strategies, and training.

- Created a national train-the-trainer model to train N-O-T facilitators (10 Master Trainers).

- Included program promotion and participant recruitment in the N-O-T facilitator training. Considered diversity of sites and target populations.
Conducted research to identify common intervention components needed for different sub-populations and multiple settings, and incorporated them into intervention development and continual evaluation.


Piloted the intervention in multiple states and in multiple settings.


Tracked the effectiveness of different recruitment strategies.

Reach--Are we?

N-O-T is used in 48 states; > 200,000 teens have enrolled in the program between 2000-2008.

Between 2006-2009, ALA trained approx. 2500 facilitators.

If 25% of US 12,040,437 15-17 year olds smoke, then our target population is > 300,000 teen smokers in any given year. A lot to do....
Overall reach remains low relative to prevalence of teen smoking. For ex: in WV, using the **reach calculators**, we know we are reaching <1% of teen smokers; <5% of trained facilitators are implementing routinely.

**New 5-year study** with funding from CDC to examine and address these barriers. Will include the development and testing of a theory-based **9 phase dissemination model** for N-O-T. Start in WV, ideally apply to other states.
Effectiveness

- Developed N-O-T content and implementation strategies to maximize relevance, feasibility, and cost-effectiveness for implementers and recipients.


    - Teens who completed the N-O-T program were predicted to have an increased life expectancy of about 7 years more than teens who completed the brief intervention.

    - Financial cost for each additional year of life expectancy for those completing N-O-T rather than the brief intervention was $442.65. As cost effective as school-based primary tobacco prevention.

- Developed training protocol designed to balance implementation fidelity with flexibility for use with diverse populations and in multiple settings. Used ancillary materials, such as modules for different sub-populations, and curriculum options.

Effectiveness

- Incorporated social and environmental strategies in combination with individual behavior change strategies, e.g., integrating N-O-T with comprehensive school-based tobacco control policy.

- Developed nationally standardized protocols for program delivery, research, and evaluation.
  - Continual efficacy investigations by the ALA and developers Horn and Dino
  - Continual field-based effectiveness evaluations across the US, such as the ALA of Colorado.
  - Independent investigations
Effectiveness

- Continual evaluation, with 10 years of efficacy and effectiveness research by the developers and others.
  - Between 2000-2005, scientifically controlled efficacy studies showed end-of-program (3 mos. post baseline) quit rates between 15% (N=1131, ITT) and 19% (N=898, CS). Days of continuous abstinence (not one puff), M =21 days for N-O-T teens.
  - Real-world effectiveness studies showed end-of-program (3 mos. post baseline) quit rates between 27% (N =4568, ITT) and 31% (N =3761, CS).

Effectiveness

- Consistently, teens who received N-O-T are at least twice as likely to quit smoking than comparison teens.

- Continue to use multiple outcome measures and multiple evaluation strategies (matched-design, RCT, and field studies).
Provided training materials and a program format that is straightforward, low-cost, easy to use, and provides guidance in potential areas of uncertainty.

Incorporated social marketing principles and techniques in program and training materials to promote dissemination and adoption.

Technical assistance provided by the ALA and WV PRC. The ALA handles all programmatic issues to assure responsiveness to facilitators.

Primary focus on school-based settings.

- Needed area of research: Adoption rates are not known.
Conducted formative research to ensure a program that can be easily implemented in a variety of settings. *Community-based Participatory Research applied across all aspects.*

Identified stakeholders during the program development phase who have important roles in program diffusion, adoption, and maintenance.


Training is standardized and provides prescribed guidance on implementation.

Collected process data along the way (e.g., facilitator reactions).

Developed booster sessions.

Program incorporates techniques to help participants incorporate healthy behavior choices into daily lives, manage relapse, and obtain social support for continued cessation.

Curriculum provides options so that facilitators can make choices based on their participants.

Monitor program maintenance by state and site via the ALA.

Developed procedures for ongoing feedback from implementers so issues of sustainability can be incorporated into program promotion and training.

- N-O-T Listserv
- 2009 N-O-T Redesign
- N-O-T web portal
Introducing N-O-T
N-O-T is the American Lung Association's voluntary program designed to help teens:
- Stop smoking
- Reduce the number of cigarettes smoked
- Increase healthy lifestyle behaviors
- Improve life management skills

Learn More About the N-O-T Program

Joining Our Effort
Help make a difference in your community. The N-O-T program helps teens stop smoking, live healthier and improve their life management skills.

Learn More

Looking For Training
Are you a teacher, counselor, nurse, youth coordinator or health educator who is looking to become a N-O-T facilitator? Contact us to sign up for your local facilitator training.

Sign up for Training
N-O-T as a teacher...

Lessons learned along the way...
1. Use a theoretical model in your planning (e.g., Rogers Innovation Development, REAIM).

2. Begin with dissemination in mind—it is never too soon to think about the end goal.

3. Use CBPR: Always keep the users’ perspectives in mind (e.g., the facilitators).

4. Listen carefully to your target (e.g., teens and implementers).

5. Carefully select your partners at all levels.
6. Select at least one partner with broad infrastructure and capacity for dissemination (e.g., ALA, Depts. of Education, YMCAs).

7. Maintain positive relationships from the community to the funders (good social skills go a long way!).

8. Be willing to let go...

9. Don’t let naysayers stop you (e.g., they said that teens would never join a program and if they did, they would not quit smoking).
10. Simplicity is key—interventions should be low cost and highly feasible in the real world.

11. Think like advertising execs -- high quality packaging is essential. Work with a professional graphic designer.

12. Use a train-the-trainer model: phase yourself out of the delivery process. The program must have life without the researchers.

13. Don’t promise more than you can deliver. But deliver more than you promise.
11. Evaluate at every turn. Evaluation is never over.

12. Develop numerous mechanisms and formats for public relations and program promotion.

13. Be patient. Intervention research is iterative. One intervention program can be a lifetime of work.

“The most beautiful thing we can experience is the mysterious. It is the source of all true art and science. “

Albert Einstein
Never stop reaching...

Questions?

Thank you.