

# TECHNOLOGY TRANSFER: NEW WAYS TO DISSEMINATE INFORMATION



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# INTERVENTIONS CAN REDUCE SEXUAL RISK BEHAVIORS ACROSS MANY VULNERABLE POPULATIONS.

- Individual-level interventions
- Couples counseling
- Small-group interventions
- Social network interventions
- Community-level interventions
- Structural change approaches

**ALTHOUGH CAST FROM DIFFERING THEORETICAL FRAMEWORKS AND BEEN GIVEN DIFFERENT PROGRAM “NAMES,” EFFECTIVE INTERVENTIONS SHARE MUCH IN COMMON WITH ONE ANOTHER.**

- Core set of psychosocial constructs including correct risk understanding; positive attitudes, beliefs, motivations, and intentions toward behavior change; and the practice of cognitive and behavioral skills needed to affect change
- Attention to critical situations that might otherwise trigger risk behavior
- Normative, peer, or partner supports to sustain risk reduction if maintenance is an objective
- Delivery of intervention by charismatic agents
- Sufficient “dosage” of intervention

# THE TRADITIONAL PRODUCTS OF HIV PREVENTION RESEARCH ARE ARTICLES APPEARING IN SCIENTIFIC JOURNALS READ MOSTLY BY OTHER SCIENTISTS.

- However, the most important users of HIV prevention research are public health service providers, nationally and internationally.
- Service providers:
  - Often lack access to journals in which HIV prevention research is published (and, in the international arena, often don't speak the same language)
  - Could not possibly be successful in implementing an intervention from the minimal procedural details usually published
  - Have to guess how to tailor interventions to meet their needs while maintaining critical core elements

**ALTHOUGH RESEARCHERS HAVE EXTENSIVELY STUDIED THE EFFECTS OF HIV PREVENTION INTERVENTIONS, THERE HAS BEEN LITTLE STUDY OF HOW BEST TO MOVE EVIDENCE-BASED MODELS FROM THE RESEARCH ARENA TO SERVICE PROVIDERS.**

- Investigators generally want to see their interventions used, and most make manuals available.
- CDC has led in efforts to identify efficacious models and offer training to U.S. providers in them (Replication Projects and DEBI).
- However, the field has lacked systematic research on how best to transfer evidence-based interventions to providers on a wide scale and assist providers in using them.

**PROVIDERS UNDERSTAND COMMUNITY NEEDS,  
WANT TO KNOW ABOUT PROGRAM-RELEVANT RESEARCH,  
BUT WANT TO TAILOR AND ADAPT EVIDENCE-BASED  
INTERVENTIONS TO MEET LOCAL NEEDS.**

- Service provider agencies understand much better than researchers key issues, needs, and perspectives of the communities they serve and represent.
- Experienced provider agencies are not passively waiting for researchers or funders to tell them what to do.
- Evidence-based models must be tailored to meet needs of the provider agency and the community while maintaining critical core elements responsible for their impact.

# A LARGE BODY OF RESEARCH ON THE EFFECTS OF CONTINUING MEDICAL EDUCATION (CME) ILLUSTRATES THE CHALLENGES FACED IN TECHNOLOGY TRANSFER EFFORTS.

- New program adaptation is greatest when:
  - Providers are dissatisfied with current techniques
  - Perceive a new approach as more effective than existing methods
  - Providers are high in openness to innovation and have sufficient resources
  - Providers receive intensive practice-based training in the new model
  - High-status peers are known to have adopted the innovation
  - Access is provided to ongoing implementation assistance and problem solving
  - Providers can reinvent the model and feel ownership of it

## CAIR INVESTIGATORS BEGAN A LINE OF STUDIES TO SCIENTIFICALLY STUDY APPROACHES FOR TRANSFERRING EVIDENCE-BASED HIV PREVENTION INTERVENTIONS TO AIDS SERVICE PROVIDERS.

- The studies were randomized trials, not of a risk reduction intervention, but rather trials of training approaches to assist providers in using the intervention being disseminated.
- The objective of our research was to determine what dissemination services most often result in providers adopting the intervention and using it as a part of their service program repertoire.
- We also sought to learn how providers tailored and adapted the intervention to meet community needs.

## CAIR'S FIRST DISSEMINATION PROJECT WAS CARRIED OUT IN A COLLABORATION WITH 74 AIDS SERVICE ORGANIZATIONS THROUGHOUT THE UNITED STATES.

- All ASOs carried out HIV prevention programs for MSM and for women.
- The intervention being disseminated in the study was a small-group, cognitive-behavioral risk reduction program highly studied in research.
- In-person interviews with ASO directors measured the organizations' baseline use of interventions that included core elements of the intervention being disseminated.
- Few had offered the intervention at baseline.

Source: J.A. Kelly, A.M. Somlai et al., "Bridging the gap between the science and service of HIV prevention," *American Journal of Public Health*, 2000, **90**, 1082-1088.

# AGENCIES WERE RANDOMIZED TO ONE OF THREE DISSEMINATION CONDITIONS.

- **Technical Assistance Manuals**

- Detailed manuals, intervention materials, and facilitator guides

- **TA Manuals + On-Site ASO Staff Training**

- Manuals + a 2-day on site, interactive, skills training program conducted by CAIR staff

- **TA Manuals, On-Site ASO Staff Training + Ongoing Telephone Consultation**

- Manuals, on-site training + followup calls to discuss:
  - ASO goals, successes, or problems encountered
  - Assistance in planning implementation
  - Tailoring the model to meet community needs, ASO priorities, and resource constraints
  - Review of intervention core elements

# OUTCOMES

- 6- and 12-months following the dissemination activities, on-site interviews with ASO directors were repeated.
- “Adoption” occurred when an ASO offered to a client service population a program incorporating all core elements of the model that had been disseminated.

## Percentage of ASOs That Adopted the Intervention

<u>Manuals Only</u>			<u>Manuals + Training</u>			<u>Manuals + Training + Consultation</u>		
<u>B</u>	<u>6-Mo</u>	<u>12-Mo</u>	<u>B</u>	<u>6-Mo</u>	<u>12-Mo</u>	<u>B</u>	<u>6-Mo</u>	<u>12-Mo</u>
<b>15%</b>	<b>31%</b>	<b>50%</b>	<b>0%</b>	<b>41%</b>	<b>59%</b>	<b>0%</b>	<b>41%</b>	<b>59%</b>

# IMPLICATIONS

- Successful uptake of the disseminated intervention took place when providers had implementation guides, received intensive and interactive training in the new method, and also had received individualized consultation concerning implementation efforts.
- A key component in the process was opportunities for ongoing, individualized, bidirectional dialogue between providers and researchers.
- While promising, the training model was time- and cost-intensive.

## CAIR RESEARCH HAS SHOWN THAT TRADITIONAL TECHNICAL ASSISTANCE MODELS CARRY CONSIDERABLE LIMITATIONS FOR AIDS SERVICE PROVIDERS.

- In an interview study of directors of 77 ASOs from throughout the U.S. we found:
  - Predominant current prevention programs for MSM were distributing AIDS educational materials (86% of ASOs), giving “AIDS 101” talks (76%), and one-on-one educational outreach (75%). Most programs for women were the same.
  - ASO directors generally wanted to offer more targeted, intensive individual-, group, and community-level programs of the kind studied in the research arena.
  - Main barriers were very high staff turnover and limited budgets.

Source: AM Somlai, JA Kelly et al., “Current HIV prevention activities for women and gay men among 77 ASOs,” *Journal of Public Health Management and Practice*, 1999, 5, 23-33.

## **ADVANCED COMMUNICATION TECHNOLOGIES HAVE THE POTENTIAL TO LINK SERVICE PROVIDERS NATIONALLY AND GLOBALLY WITH TRAINING, CONSULTATION, AND EXPERIENCE SHARING IN NEW PROGRAMS.**

- The Internet is available nearly worldwide and can serve as a distance learning vehicle for providing interactive, practice-based training for service providers in new HIV prevention models.
- Distance training can be made available on-demand whenever needed, and as often as desired for new agency staff or for retraining.
- Apart from training curricula, distance models can link service providers with researcher consultants and link agencies with one another for experience sharing.

# CAIR UNDERTOOK A PROJECT TO TEST WHETHER DISTANCE COMMUNICATION TECHNOLOGY COULD BE USED AS A DISSEMINATION VEHICLE FOR INTERNATIONAL AIDS SERVICE PROVIDERS.

- The “Global AIDS Intervention Network” (GAIN) Project:
  - Identified 86 leading AIDS prevention nongovernmental organizations (NGOs) in capital cities of 78 countries in Africa, Eastern Europe, Central Asia, Latin America, and the Caribbean
  - Solicited NGO input on the type of prevention programs most needed, arriving at community-level approaches
  - Selected for dissemination the “Popular Opinion Leader” (POL) intervention because of its cross-cultural adaptability and suitability with multiple populations

Source: JA Kelly, AM Somlai et al., “Distance communication transfer of HIV prevention interventions to service providers,” 2004, *Science*, **305**, 1953-1955.

## **EACH NGO DIRECTOR WAS INTERVIEWED AT BASELINE TO ESTABLISH ANY USE OF THE POL INTERVENTION OR PROGRAMS WITH ITS CORE ELEMENTS.**

- The POL intervention includes 8 core elements, and the presence or absence of each POL core element was measured in all community-level HIV prevention programs carried out by the NGO in the past 6 months.
- The 86 NGOs were then randomized within each world region to a distance training condition or a lagged control condition.
- Control NGOs received a computer, subsidized Internet access, information about the POL intervention, and fact sheets about HIV prevention topics requested by them.

# THE DISTANCE DISSEMINATION PROGRAM

- Directors and staff of experimental program NGOs received a distance dissemination program with three main components:
  - Electronic POL training curriculum
  - Individualized distance cultural consultation
  - Encouragement of networking with other NGOs in the same condition
- All communication, materials, the training curriculum, consultation, and assessment interviews were provided in the NGO's preferred language:
  - English
  - French
  - Russian
  - Spanish

# THE POL ELECTRONIC TRAINING CURRICULUM

- The curriculum was used by NGO directors, managers, and frontline staff, individually or in groups at each agency.
- The curriculum included multiple brief segments grouped into modules for planning/preparing for; implementing; and sustaining the POL intervention with a community target population selected by the NGO.
- Modules made use of instructional text and narration; video segments modeling critical intervention techniques; interactive problem-solving exercises; printable manuals and materials; and self-evaluation guides.
- NGO staff progressed at their own pace, and could either use the computer curriculum or print the materials.

# DISTANCE CULTURAL CONSULTATION

- Each NGO was linked throughout the project with a Cultural Consultant.
  - A CAIR-affiliated behavioral scientist experienced in implementing the POL intervention
  - Fluent in the NGO's language
  - From the NGO's region or familiar with its cultures
- Consultants initiated and offered contact biweekly to NGO staff by telephone, email, or other modalities.
- Consultation focused on core elements of the POL model, tailoring and adapting the intervention to meet local need, handling implementation problems, reinforcing NGO efforts, and assisting the NGO in its efforts.

# NGO NETWORKING CHANNELS

- NGOs in the distance condition were encouraged to share experiences, implementation issues, problems, and solutions with one another through direct contact and via project website communications.
- Dialogue involved location of funding sources.
- NGOs shared approaches with target populations including (depending upon the region) MSM, drug users, youth, students, factory workers, CSWs, worker unions, and other groups.

# NGO USE OF THE DISTANCE TRAINING PROGRAM

- The curriculum was used by an average of 11.7 staff at an NGO.
- NGO personnel used the electronic curriculum for an average of 7 hours and viewed 69% of its content.
- 93% of NGO personnel who printed curriculum materials spent an average of 16 hours reading them.
- The mean number of consultations provided was 6 per NGO (range 1–17).
- 72% of NGO directors rated the electronic curriculum as very useful, as did 88% for the print materials and 67% for the consultation.
- 88% of NGOs held staff meetings about the intervention, 81% selected target populations, and 57% wrote program funding applications.

# ADOPTION OUTCOMES

- At 15-month followup, NGO directors in both the distance training and control conditions were re-interviewed concerning community-level HIV prevention programs carried out in the past 6 months. At followup:
  - 43% of distance training NGOs (17% of controls) had developed a new program based on the disseminated model.
  - 64% of distance training NGOs (34% of controls) had either developed a new program or modified an existing program based on the model.
  - Distance training NGOs incorporated more POL core elements into new or modified programs than control NGOs.
  - 55% of distance training NGOs networked with other NGOs in the countries by sharing electronic or print curricula (to 164 other NGOs) or by themselves conducting training for other NGOs (to 73 other agencies).

# CONCLUSIONS

- Advanced communication technology can bring on-demand training and consultation in implementing new HIV prevention approaches to service providers in a cost-effective manner.
- The number of agencies that can be reached is almost limitless.
- Distance methods permit bidirectional communication and dialogue between researchers and service providers.
- These approaches permit training access even to smaller agencies and those in regions far-removed from other training approaches.

# THE BIGGER PICTURE

- Traditional face-to-face training methods are limited in their potential scale, scope, number of providers that can be reached, and number of programs that can be disseminated.
- By contrast, it is possible to envision the development of “Virtual Training Centers” that use advanced communication, Internet, and web-based technologies to link AIDS service providers anywhere with flexible, on-demand, and whenever-needed distance training in new program models.
- One can envision providing program development assistance in a cost-effective way to thousands of agencies, including those far-removed from other forms of training.

# THE VIRTUAL TRAINING CENTER INFRASTRUCTURE

- The model is more than placing intervention manuals on a website.
- When new interventions are shown efficacious and represent models sought by providers, interactive distance training curricula can be developed.
- One could foresee an array of self-paced intervention curricula available to providers. Providers could choose interventions most appropriate to their needs. On a global level, distance curricula can be developed in multiple languages.
- Our studies show that individualized cultural and behavioral science consultation are critical, as are opportunities for provider networking. Even using distance methods, the “human touch” is essential.

- We know a great deal about the effects of HIV prevention interventions when studied in highly-controlled research studies.
- We need to learn much more about the effects of the same interventions when they are offered by providers to real-world settings to real-world clients and community populations.

Source: JA Kelly, F Spielberg, & TL McAuliffe. "Defining, designing, implementing, and evaluating Phase IV HIV prevention effectiveness trials for vulnerable populations," *Journal of Acquired Immune Deficiency Syndromes*, 2007, in press.

- Interventions transferred from the research arena to service providers must be the kinds of interventions wanted by service providers.
- Much greater provider input is needed in the development of intervention models that researchers research.

- Means of providing training and technical assistance in carrying out evidence-based interventions must be accompanied by sufficient funding of providers to implement them.

- Although we know a lot about the effects of many HIV prevention interventions with many populations, we must remember that there is a lot we still don't know. Among our greatest public health priorities are:
  - Interventions that can reach ethnic and racial minority MSM
  - Interventions for sexual risk intertwined with illicit drug use
  - Interventions for women with high-risk male partners
  - Interventions that promote maintenance of behavior change, not just its initial enactment
  - Interventions that can reach persons with very recently-acquired acute or primary infection who may not even yet test positive on antibody tests

- The development of a repertoire of effective HIV risk reduction interventions is one of the great public health research achievements of the past 25 years.
- However, these achievements can only contribute to the Mission of stopping HIV/AIDS when interventions are placed in the hands of service providers, can be successfully used by providers, and bring about positive health and social outcomes in the community.