

# Moving Science to Service

Advanced Communication Technologies  
to Disseminate Evidence-Based  
HIV Prevention Interventions to Providers



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Supported by Grants R01-MH62982 and P30-MH 52776  
from the National Institute of Mental Health (NIMH)

# Purposes of the Research

- Is it possible to use advanced communication technology to create training curricula and consultation that will enable service providers to carry out HIV prevention interventions found efficacious in the research arena?
- Can this be done on a global scale?
- When research-based interventions are placed in the hands of international service providers, how are they adapted and used?

# **Over the past 15 years, behavioral science research has established the efficacy of interventions to reduce HIV risk behavior and disease incidence.**

- A substantial number of well-designed, controlled, randomized trials have demonstrated substantial efficacy.
- These include trials undertaken with MSM, women, adolescents, drug users, and other vulnerable populations.
- These include trials undertaken with individual, couple, small-group, and community-level prevention interventions.
- Many NIH and CDC panels have reached positive conclusions about the efficacy of certain HIV prevention approaches and recommended their use by service providers.

# What usually happens following successful completion of an HIV prevention intervention research study?

- An article describing the trial and its results are published in a scientific journal and it becomes known to others in the research community.
- Findings are presented at scientific conferences.
- The investigational team uses the findings to get another grant.
- An intervention manual may be produced and sent to providers who ask for it.
- There may possibly be some training workshops for providers.

# **The scientific community has for too long relied on a “trickle down” approach to research dissemination.**

- The publication of research findings in scientific journals is essential for helping the scientific field to advance but does not constitute an adequate strategy for reaching service providers.
- Journal articles rarely describe interventions at the procedural detail level needed for session providers to successfully replicate an intervention.
- Providing information about a new technique (for example, through manual distribution) is not usually sufficient to promote successful provider adoption, especially of a complex new approach such as an HIV prevention intervention.

**The research literature on continuing professional education indicates that provider adoption of a new approach is greatest when:**

- Providers are initially dissatisfied with the adequacy of present methods.
- Skills for carrying out a new method are taught in an interactive, learning-based manner.
- Ongoing practical consultation, problem-solving, and support in new program adoption are provided by sources considered credible and authoritative.
- The provider is successful in using the new approach and finds it beneficial.

# Similar findings have been shown in the area of HIV prevention technology transfer to AIDS service providers.

- A national sample of AIDS service providers was trained to carry out a science-based cognitive-behavioral group intervention using one of three dissemination methods.
  - Provision of high-quality intervention manuals, or
  - Provision of manuals plus an on-site, two-day CBO staff training in the new approach
  - Provision of manuals, staff training, plus ongoing telephone followup consultation
- 75% of CBOs that received the three-component dissemination program were adopted and offered the science-based intervention one year later.

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

# **Non-governmental organizations (NGOs) are leading providers of HIV prevention services throughout the world.**

- Community-based NGOs have experience, understanding, and credibility with populations vulnerable to AIDS.
- Throughout the world, NGOs deliver HIV prevention programs to communities as a whole and to specific population subsets including drug users, commercial sex workers, MSM, youth, women, and other groups.
- As nongovernmental entities, NGOs are able to carry out programs that governmental bodies may be unable or unwilling to conduct.

# **AIDS NGOs in developing and transitional countries have very little direct access to training in advances made in the HIV prevention research area.**

- Journals are rarely accessible, are probably written in the wrong language, and do not include practical implementation information.
- Didactic instruction is unlikely to produce successful adoption of new science-based models.
- Traditional skills training vehicles such as workshops are inefficient, costly, likely to be “one shot” in nature, and unlikely to be able to reach the thousands of AIDS NGOs worldwide.
- Research-based interventions cannot simply be “trained.” Interventions must be culturally tailored and adapted, and this requires ongoing dialogue between researchers and providers.

# **Advanced distance communication technology carries the potential for bringing training and consultation in new intervention models to service providers worldwide.**

- Computer-based training packages can be made interactive and can incorporate a wide range of techniques for training staffs of provider agencies.
- Internet access is available nearly worldwide and can be used to provide training and program development assistance.
- Personalized, individualized consultation and dialogue between researchers and service providers can potentially be carried out using distance communication technology.

# The Global AIDS Intervention Network (“GAIN”) Project: Study Design Overview

- Participants in the study were 86 AIDS NGOs from 78 countries in Africa, Central/Eastern Europe and Central Asia, Latin America, and the Caribbean.
- NGOs were randomized into an experimental technology transfer program as a delayed-service comparison condition.
- Experimental condition NGOs received training and consultation, delivered using distance communication technologies, in how to carry out and adapt an HIV prevention intervention of established scientific efficacy.
- At baseline and 12-month followup, assessments were made of the service programs of all study NGOs to determine technology transfer program impact.

# NGO Countries (Cities) in Africa

Algeria (Oran)

Angola (Luanda)

Benin (Porto-Novo)

Burkina Faso (Bobo Dioulasso)

Burkina Faso (Ouagadougou)

Burundi (Bujumbura)

Cameroon (Yaounde´)

Central African Republic (Bangui)

Congo (Brazzaville)

Cote d'Ivoire (Abidjan)

Eritrea (Asmara)

Ethiopia (Addis Ababa)

The Gambia (Banjul)

Ghana (Accra)

Kenya (Nairobi)

Mali (Bamako)

Mauritania (Nouakchott)

Morocco (Rabat)

Niger (Niamey)

Nigeria (Ibadan)

Sao Tome e Principe (Sao Tome)

South Africa (Pietermaritzburg)

Sudan (Khartoum)

Swaziland (Manzini)

Tanzania (Dar es Salaam)

Togo (Lome´)

Tunisia (Sfax)

Uganda (Kampala)

Zambia (Lusaka)

Zimbabwe (Harare)

# NGO Countries (Cities) in Central/ Eastern Europe and Central Asia

Albania (Tirana)	Moldova (Chisinau)
Armenia (Yerevan)	Poland (Szczecin)
Azerbaijan (Baku)	Poland (Zielona Gora)
Belarus (Minsk)	Romania (Bucharest)
Belarus (Svetlogorsk)	Russia (Barnaul)
Bulgaria (Sofia)	Russia (Moscow)
Czech Republic (Prague)	Slovakia (Bratislava)
Estonia (Tallinn)	Serbia and Montenegro (Belgrade)
Georgia (Tbilisi)	Slovenia (Ljubljana)
Hungary (Budapest)	Tajikistan (Khorugh)
Kazakhstan (Almaty)	Turkmenistan (Ashgabat)
Kyrgyzstan (Bishkek)	Ukraine (Kiev)
Latvia (Riga)	Ukraine (Odessa)
Lithuania (Vilnius)	Uzbekistan (Tashkent)
Macedonia (Skopje, two NGOs)	

# NGO Countries (Cities) in Latin America and the Caribbean

Antigua and Barbuda (St. John's)

Argentina (Buenos Aires)

Bahamas (Nassau)

Belize (Belize City)

Bolivia (La Paz)

Brazil (Rio de Janeiro)

Cayman Islands (Grand Cayman)

Chile (Santiago)

Colombia (Bogota)

Cuba (Havana)

Dominican Republic  
(Angel Perdomo)

Ecuador (Guayaquil)

Ecuador (Quito)

Guyana (Georgetown)

Haiti (Port-au-Prince)

Honduras (Tegucigalpa)

Mexico (Mexico City)

Mexico (Monterrey)

Nicaragua (Managua)

Paraguay (Asuncion)

Peru (Lima)

St. Kitts and Nevis (Basseterre)

St. Vincent and the

Grenadines (Kingstown)

Suriname (Paramaribo)

Uruguay (Montevideo)

Venezuela (Caracas)

# **In-depth baseline assessments were conducted with the director of each NGO.**

- These (and all other communications with NGOs) were carried out in English, French, Russian, or Spanish.
- The baseline interview was conducted in two parts, each lasting between two and three hours.
- Part 1 elicited detailed information about the NGO, its organizational characteristics, priorities, and services. Information was obtained about all HIV prevention programs carried out during the past six months.
- Programs that involved community AIDS education, peer education, or that trained community volunteers in AIDS outreach were designated as “candidate programs” and were the subject of more in-depth questions during the second part of the interview.

# **The science-based intervention chosen for dissemination in this trial was the “Popular Opinion Leader” (POL) model.**

- Formative interviews indicated NGO interest in this approach in part because it was consistent with their philosophies favoring community-level interventions that can reach large numbers of people, do not require high levels of professional staffing, and are within NGO resource capabilities.
- Over 10 years of research has shown that—when correctly implemented—POL interventions can produce 30% reduction in the prevalence of high-risk sexual behaviors among MSM and women.
- CDC and SAMHSA panels have concluded that the model should be disseminated to service providers.

# Technology transfer programs for immediate condition NGOs

- All of the same support services provided to delayed condition NGOs
- The technology transfer program activities:
  - Project Orientation Meeting
  - Assignment of a behavioral science distance consultant
  - POL implementation curriculum on CD and in print
  - Ongoing distance consultation in POL program implementation

# Technology Transfer Program: Project Orientation Meeting

- Brought together directors of immediate-condition NGOs to discuss study activities
- Each NGO director discussed AIDS situation, current programs, barriers, NGO priorities in the country
- Allowed the GAIN behavioral science consultant for each NGO to learn about the NGO and its needs
- Allowed the NGO to personalize its relationship with us
- This was our only face-to-face contact with study NGOs.

# Technology Transfer Program: Behavioral Science Distance Consultant

- Each NGO had its own consultant, a member of our study staff.
- Consultants were experienced in HIV prevention, knowledgeable of POL, fluent in the NGO's preferred language, and knowledgeable about the culture of the NGO's region.
- Consultants established distance dialogue with the NGO following the orientation meeting and maintained it throughout the study.
- Consultation was provided by distance communication methods (telephone, email, instant messaging).

# Technology Transfer Program: The POL Intervention Training Curriculum

- Produced on CD in four languages (English, French, Russian, Spanish)
- Organized around training modules and designed to allow agency personnel to progress at their own pace in order to plan and conduct the POL intervention with a population of their choice
- The CD curriculum
  - Described the POL intervention and its core elements
  - Modeled and demonstrated critical techniques
  - Used prompts to engage the user in planning and problem-solving
  - Reinforced mastery of steps toward implementation

# POL Intervention Training Curriculum (continued)

- Used multimedia print, video, animation, and audio voiceover to interact with the user
- Narration explained critical points, planning, and practical implementation issues
- Included printable copies of all materials, handouts, and resources needed to replicate the POL intervention
- At NGO request, print versions of the curriculum were also provided.

# Were experimental condition NGOs more likely to adopt new or modify existing HIV prevention programs at follow-up?

	EXPERIMENTAL	COMPARISON	
	NGOs	NGOs	p=
New HIV prevention program offered in the past six months based on POL	46% (n= 18)	19% (n= 7)	.02
Existing HIV prevention program modified in the past six months to reflect POL core elements	59% (n= 23)	29% (n= 11)	.008
Either developed a new program or modified an existing program in the past six months	68% (n= 27)	36% (n= 14)	.005

# **NGOs functioned as “nodes” and further disseminated what they learned to other NGOs in their countries.**

- 55% of technology transfer NGOs shared the curriculum CD or print manual with other NGOs
  - CDs shared with a mean of 6.8 other organizations (81 total)
  - Print manuals shared with a mean of 6.8 other organizations (143 total)
- 29% of NGOs held formal training for other in-country provider organizations (mean=6.1 or a total of 73 additional organizations trained)
- 45% of NGOs had meetings with their governments about the science-based model
- In 26% of countries, the model was adopted into national or local government HIV prevention strategic plans

# Implications

- Publication of practice-related findings in journals can no longer be the endpoint of research.
- Implementation packages to train providers is a critical bridge for science-to-service translation.
- The need for rapid transfer of effective models to providers worldwide is especially critical in AIDS because service providers rarely have direct access to research advances.
- These findings demonstrate the feasibility of using advanced communication technologies for such transfer.

# The “Virtual Training Center”

An infrastructure model that can rapidly and continuously move new scientific advances in a field directly to service providers on a global scale. Advantages:

- Cost-effectiveness
- Continual access to training for new staff
- Equity of opportunity for training by organizations in resource-poor countries
- Updated new curricula as new models are shown efficacious
- Self-paced training available “on demand”
- Systems capable of reaching thousands of providers