

Research article

Open Access

## A Process and Outcomes Evaluation of the International AIDS Conference: Who Attends? Who Benefits Most?

Bernadette Lalonde\*<sup>1</sup>, Jacqueline E Wolvaardt<sup>2</sup>, Elize M Webb<sup>2</sup> and Amy Tournas-Hardt<sup>3</sup>

Address: <sup>1</sup>University of Washington, Department of Health Services, School of Public Health and Community Medicine, Seattle, Washington, <sup>2</sup>School of Health Systems and Public Health, University of Pretoria, South Africa and <sup>3</sup>Department of Public and Community Health, University of Maryland, College Park

\* Corresponding author

Published: 9 January 2007

*Journal of the International AIDS Society* 2007, **9**:6

This article is available from: <http://www.jiasociety.org/content/9/1/6>

### Abstract

The objective of the study was to conduct a process and outcomes evaluation of the International AIDS Conference (IAC). Reaction evaluation data are presented from a delegate survey distributed at the 2004 IAC held in Thailand. Input and output data from the Thailand IAC are compared to data from previous IACs to ascertain attendance and reaction trends, which delegates benefit most, and host country effects. Outcomes effectiveness data were collected via a survey and intercept interviews. Data suggest that the host country may significantly affect the number and quality of basic science IAC presentations, who attends, and who benefits most. Intended and executed HIV work-related behavior change was assessed under 9 classifications. Delegates who attended 1 previous IAC were more likely to report behavior changes than attendees who attended more than 1 previous IAC. The conference needs to be continually evaluated to elicit the required data to plan effective future IACs.

### Introduction

The first International AIDS Conference (IAC) was held in 1985. Its purpose was to share research and medical findings about the human immunodeficiency virus (HIV) and the acquired immune deficiency syndrome (AIDS). This event was held annually through 1994, and then every 2 years. Prior to 2000 the conference was held only in developed countries including Canada, France, Germany, Holland, Italy, Japan, Sweden, and the United States. Beginning in 2000, the International AIDS Society (IAS) made a decision to rotate the conference between developed and developing countries. Since then the conference has been held in Durban, South Africa; Barcelona, Spain;

Bangkok, Thailand; and, most recently, Toronto, Ontario, Canada in August 2006.

The IAC is an enormous and costly undertaking. Millions of dollars in sponsorships, exhibition sales, and registration fees are raised to support the conference; the latter covers approximately half of the total cost. The IAC is undoubtedly one of the largest health-related conferences in the world: The XV IAC held in Thailand in 2004 was attended by approximately 16,500 delegates; it provided nearly 3000 scholarships, and it accepted and orchestrated 490 oral presentations grouped into 75 sessions and 5 conference tracks (ie, Basic Science; Clinical

Research, Treatment and Care; Epidemiology and Prevention; Social and Economic Issues; and Policy and Program Implementation). Given the cost of planning and implementing the IAC, as well as the cost in terms of delegate time away from work and travel, accommodation, and registration fees, is it worth it? The conference has never been systematically evaluated. Some input, output, and reaction data were inconsistently collected beginning in 1998, but not published/reported, and the conference's outcomes effectiveness (ie, purported changes the delegates make in their HIV/AIDS work as a result of attending the conference) has never been assessed.

A limited budget was set aside by the XV IAC for evaluation. An evaluation team from the United States and South Africa volunteered their time to conduct a process and outcomes evaluation of the IAC using Kirkpatrick's paradigm for evaluating training programs.[1] Reaction data from the XV IAC were evaluated, and the input and output evaluation results were compared with available data from 2 previous IACs (ie, the 2000 XIII IAC in Durban and the 2002 XIV IAC in Barcelona) to determine the continued viability of the conference. Some of the important questions to ask include: Who attends the conference? Who benefits most? What is the impact, if any, of hosting the conference in a developed vs developing country? Is the focus of the IAC moving too far away from science to continue to attract scientists and researchers? Can the IAC continue to successfully compete with the IAS Conference on HIV Pathogenesis and Treatment and other science- and treatment-focused world conferences in attracting the attention and participation of prominent scientists and researchers? If not, what is its current niche? Is this conference's 5-track system necessary, or is there sufficient mobility between tracks to reduce or eliminate the track system? This article provides preliminary data addressing these questions and investigates the outcomes of the conference.

The first IACs focused on the scientific understanding of HIV and AIDS. With no supporting outcomes data, the degree to which major advances in our understanding of HIV/AIDS can be attributed to the IAC is unknown and, as such, evidence supporting what might be considered some of the greatest outcomes of the IAC have been irrevocably lost: eg, key research studies on the pathogenesis, host immune responses, prevention and treatment of the disease, and the more widespread use of antiretroviral therapies in developing countries. The outcomes of more recent IACs are presented in this article.

## Methods

The study used a convenient, random sample of delegates attending the XVI 2004 conference in Thailand. Process (including input, output, and reaction data) and out-

comes data were collected via a self-report delegate survey. Additional outcomes data were collected via a standardized intercept interview.

### Delegate Survey

The delegate survey, written in English and composed of both qualitative and quantitative questions, was developed by the study team and pretested on a sample of South African University students for understandability. The survey included demographic data (eg, primary employment role, country of work, years worked in the HIV/AIDS field), the number of IACs attended, reactions to the conference, and an outcomes evaluation question asking delegates what they planned to do differently in their HIV/AIDS work as a result of attending the XV IAC. The Theory of Reasoned Action[2] supported this outcomes approach.

### Intercept Interviews

A semistructured interview guide was developed to individually interview a random selection of delegates. The outcomes evaluation question asked delegates to think about the last IACs they had attended and specify what changes, if any, they had made in their HIV/AIDS-related work as a result of attending the previous IACs. A short background section determined delegate eligibility (eg, attendance at a previous IAC) and gathered demographic data.

### Data Collection Methods

The survey sampling design allowed conference tracks to be sampled equally by randomly selecting an equal number of sessions per track to survey in both morning and afternoon sessions on 3 days beginning on the second day of the conference. Not all tracks had sessions in the morning and afternoon on each day of the conference, in which case twice the number of surveys was available for distribution the first time the track had a session (Table 1). The design controlled for multiple surveys being administered to the same delegate by sampling within concurrent sessions and displaying a slide before each session informing delegates of the purpose of the survey and requesting their participation if they had not already completed a survey. This message was reinforced by each session Chair. A cadre of 30 Thai University students was trained to distribute and collect the surveys as intended. In total, 7890 surveys were distributed over the 3 days. Surveys were collected at all the exit doors of the session rooms, and volunteers removed any remaining surveys from the session rooms. Intercept interviews were conducted before, during, and after the conference program over the last 2 days of the conference. Delegates were intercepted randomly at a variety of locations (eg, lounge areas, taxis, and Internet terminal queues). Interceptors informed delegates that they were part of the research

**Table 1: Number of Surveys Available for Distribution and Rounded Valid Percent Distributed by Track and Conference Day**

| Track                             | Number of Surveys Available for Distribution and Percent Distributed |            |            |           |            |
|-----------------------------------|--|------------|------------|-----------|------------|
|                                   | Day 2  |            | Day 3      |           | Day 4      |
|                                   | PM   | AM         | PM         | AM        | PM         |
| Basic science                     | 500 (38%)  | 500 (100%) | 500 (100%) | 500 (69%) | 300 (27%)  |
| Clinical research, treatment/care | 500 (87%)  | 500 (100%) | 500 (100%) | 500 (97%) | 300 (59%)  |
| Epidemiology/prevention           | 500 (81%)  | 500 (51%)  | 500 (37%)  | 500 (55%) | 300 (100%) |
| Social/economic issues            | 1000 (65%)   | 500 (77%)  | 0          | 500 (69%) | 0          |
| Policy/program implementation     | 500 (51%)  | 500 (80%)  | 500 (66%)  | 500 (74%) | 300 (59%)  |

team evaluating the conference and asked delegates if they would participate. Those consenting were interviewed on the spot.

**Analyses**

Delegate survey quantitative data were entered into an EpiData file[3] and validated by double entry. To investigate delegate mobility between tracks, the session in which the participant was sampled was compared to their stated track of interest. Input data (ie, income from delegate fees, total sponsorships, total conference income, number of abstracts received by track) and output data (ie, the number of registered delegates) from the Barcelona and Durban IACs were obtained from the Report on the XV International AIDS Society Conference (an unpublished International AIDS Society report) and were compared to the data from the Thailand IAC. Historical input data from IACs prior to the one held in Durban were not consistently available. EpiData,[3] EpiInfo,[4] and the STATA[5] were used to conduct the analyses, which included descriptive statistics, the chi-square statistic, and regression analyses. Countries of work were collapsed into continents according to the Population Reference Bureau.[6] Nationality of respondents was grouped according to regions and assigned a developed vs developing country code using the Australian Government Overseas Aid Program divisions.[7] Qualitative verbatim responses on the delegate survey were transcribed into Microsoft Word as separate data records per respondent. Following review of delegate responses, broad classifications of self-reported intent to change behavior were identified by one member of the research team and concurred by a second member. These two team members then independently coded the delegates' comments under 1 or more broad change classifications. Multiple behavior/practice changes on a survey were coded as separate intentions. Inter-coder reliability was assessed using Cohen's kappa coefficient of

agreement for nominal scales.[8] Qualitative data collected via the intercept interviews were recorded on a standard interview response worksheet. These data were transcribed into MS Word as separate documents per interviewee, and imported into NVivo 2.0 qualitative analysis software.[9]

**Results**

**Response Rate**

Of the questionnaires distributed, 2598 were completed and returned for an overall response rate of 33%. Two invalid questionnaires were discarded, yielding 2596 valid responses. Table 2 shows the response rate by track. Response rates varied significantly by track [ $\chi^2(4, N = 2596) = 15.77, P < .01$ ]. Significantly fewer respondents in the basic science and clinical research/treatment/care tracks returned questionnaires compared with the epidemiology/prevention and social/economic tracks. A response rate for the intercept interviews could not be determined as the number of persons approached who declined to participate was not recorded. A total of 108 participants were surveyed via intercept interviews lasting between 5 and 10 minutes. Nearly half did not meet the inclusion criterion of having attended a previous IAC and were discarded from analyses, leaving 59 viable interviews. Survey and intercept statements describing non-behavioral benefits (eg, perceived change in knowledge and attitudes, and feeling supported by peers) were excluded from analyses.

**Delegate Characteristics**

Half of the survey delegates indicated their primary employment role as either researchers/scientists or hands-on clinical care providers (eg, doctors, nurses), and approximately another quarter indicated that they were program/facility administrators/managers or teachers/trainers/educators (Table 3). Respondents' part- or full-

**Table 2: Delegate Survey Response Rate by Track**

| Track                             | Surveys Distributed (N) | Completed Surveys Returned (N) | Response Rate (%) |
|-----------------------------------|-------------------------|--------------------------------|-------------------|
| Basic science                     | 1617                    | 554                            | 34                |
| Clinical research, treatment/care | 2099                    | 593                            | 28                |
| Epidemiology/prevention           | 1427                    | 503                            | 35                |
| Social/economic issues            | 1376                    | 530                            | 39                |
| Policy/program implementation     | 1371                    | 416                            | 30                |
| <b>Total response</b>             | <b>7890</b>             | <b>2596</b>                    | <b>33</b>         |

time experience in the HIV/AIDS field ranged from 0 to 25 years with a mean and mode of 4 years. Significantly more respondents were comparatively inexperienced, with 0 to 4 years of HIV/AIDS experience [ $\chi^2(2, N = 2515) = 1040.32, P < .01$ ]. The vast majority of respondents reported having 'good' or 'proficient' English. Overall and within each track, significantly more respondents were from developing than developed countries [ $\chi^2(1, N = 2428) = 171.35, P < .01$ ], and the majority of these delegates were from Asia [ $\chi^2(4, N = 2472) = 38.31, P < .01$ ]. The majority of African respondents were from Southern Africa (94%); the largest number from Asia were from Thailand (46%) and, of those from North America, the majority were from the United States (90%). Most survey respondents had not attended any previous IACs [ $\chi^2(1, N = 2515) = 7.23, P < .01$ ] and significant differences [ $\chi^2(2, N = 2515) = 205.89, P < .01$ ] were found between the number of respondents who were first-time delegates (53%), those who had attended 1 to 3 previous IACs (32%), and those who had attended 4 or more previous conferences (15%). The intercept delegates were primarily administrators/managers (32%) and researchers/scientists (29%). The remainder were policy-makers, clinical/service providers, community workers, and media representatives. Approximately one third were from North America (31%), one quarter were from Europe/Middle East (24%), and the rest were from Africa (21%) and Asia/South Pacific (19%).

### Input Findings

Significant differences (all  $P$  values  $< .001$ ) were found between the Durban 2000, Barcelona 2002, and Bangkok 2004 IAC conferences in terms of total conference income, income from delegate fees, total sponsorships, and the value of exhibition sales. In general, the Barcelona conference received significantly higher total conference income than either Bangkok or Durban (12% and 41% higher, respectively); significantly more delegate fee incomes (3% higher than Bangkok and 43% higher than

Durban), and higher exhibition sales incomes than either Bangkok or Durban (21% and 18% higher, respectively). In general, total sponsorships increased significantly each year over the past 3 conferences. Bangkok generated significantly more income from total sponsorships than either Durban or Barcelona (57% and 14% higher, respectively). The value of sponsored items (ie, donations from pharmaceutical and other donations) has decreased significantly each year over the past 3 conferences. Durban generated significantly more income from sponsored items than either Barcelona (29% higher) or Bangkok (39% higher). Expenditures of the Bangkok conference, on the other hand, were approximately 35% higher than Barcelona and 38% higher than Durban, with major cost drivers being in specific expenditure line items (eg, miscellaneous, press/communication). The expenditure difference between Barcelona and Durban was 7%.

Of the total number of abstracts submitted for the Bangkok conference ( $N = 10,060$ ), 27% were in the social and economic issues track, 23% pertained to policy and program implementation, 22% to epidemiology and prevention, 22% to clinical research, treatment and care, and 7% were in the basic science track. Figure 1 illustrates the number of abstracts submitted by track and conference location as presented in the IAS unpublished 2004 Report on the XV International AIDS Conference.

Number of abstracts submitted by track and conference location. Data are from the IAS unpublished Report on the XV International AIDS Conference; Bangkok, Thailand; July 11-16, 2004. (Permission to reproduce this figure was obtained on 10/31/06 from W. W. Wolvaardt, author of the report and Senior Advisor to the IAS.)

### Output Findings

The exact number of delegates attending the IAC is not known, but the IAC estimated that approximately 16,500 delegates attended the Bangkok conference. Significant

**Table 3: Demographic Characteristics of Delegates Completing and Returning the Delegate Survey**

| <b>Characteristic (Number Responding)</b>     |   | <b>Rounded Valid %</b> |
|---|---|------------------------|
| Primary employment role (n = 2588)            | Researcher/scientist                      | 27                     |
|   | Hands-on clinical care                    | 23                     |
|   | Program/facility administrator or manager | 15                     |
|   | Teacher/trainer/educator                  | 11                     |
|   | Government official/policy maker          | 8                      |
|   | Students                                  | 4                      |
|   | Other healthcare worker                   | 3                      |
|   | Community/religious/traditional leader    | 2                      |
|   | Journalist/media                          | 2                      |
|   | Pharmaceutical rep/manufacturer           | 2                      |
| Years worked in HIV/AIDS field (n = 2497)     | Other                                     | 2                      |
|   | 0-4                                       | 30                     |
|   | 5-9                                       | 28                     |
|   | 10-14                                     | 22                     |
|   | 15-19                                     | 13                     |
| Level of English (n = 2547)                   | > 20                                      | 7                      |
|   | Proficient                                | 63                     |
|   | Good                                      | 28                     |
| Country of work (n = 2469)                    | Limited                                   | 9                      |
|   | North and Central America                 | 22                     |
|   | South America                             | 2                      |
|   | Europe                                    | 18                     |
|   | Asia                                      | 32                     |
|   | Middle East                               | <1                     |
|   | Pacific                                   | 3                      |
| Country of work development status (n = 2428) | Africa                                    | 24                     |
|   | Developed                                 | 44                     |
|   | Developing                                | 56                     |

**Table 3: Demographic Characteristics of Delegates Completing and Returning the Delegate Survey (Continued)**

|   |      |    |
|---|------|----|
| Number of IACs previously attended (n = 2515) | 0    | 53 |
|   | 14   | 36 |
|   | 59   | 7  |
|   | 1014 | 4  |

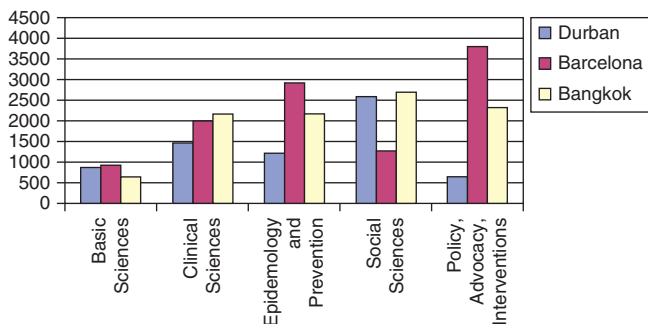
across-track mobility differences were found [ $\chi^2(1, N = 3221) = 285.17, P < .01$ ]. More than three quarters of the survey respondents (77%) who registered 'basic science' as their interest track were surveyed while attending basic science track sessions. The percentage of other track delegates surveyed within their registered track of interest ranged from 41% to 48%. Comparing the 3 conferences, Bangkok and Barcelona attracted approximately the same number of accredited media representatives and both attracted significantly more than Durban.

**Reaction Findings**

Respondents were asked to rate the conference in terms of conference value, content usefulness, difficulty level of sessions, and whether they would recommend the conference to a peer. Of those responding, 39% rated the conference as 'very useful' to their work and 58% rated it 'somewhat useful'; 66% found the content difficulty level to be 'about right,' and 25% found it 'way' or 'a little too easy'; and 85% said they would recommend the IAC to a peer. A Pearson correlation table indicated highly significant linear correlations between how respondents rated these variables. Of delegates who rated the conference information as 'very useful' to their work (N = 981), 35% were in the clinical sciences track, 46% were in the social

sciences track, 67% worked in Sub-Saharan Africa or Asia, 33% had between 0 and 4 years of experience in the HIV field, and 60% had not attended any previous IACs. Of the 82 delegates who rated the conference information as 'not at all useful,' 34% worked in North America, 40% were researchers/scientists, and 31% listed clinical sciences as their conference track of interest. Approximately equal thirds rated the XV IAC conference as being 'more useful,' 'about the same,' or 'less useful' than other non-IAC AIDS conferences. Of the 608 delegates who found the content 'a little' or 'way too easy,' one third (34%) were basic scientists and one third were from the clinical sciences track. Of those who found the content 'a little' or 'way too difficult' (n = 224), three quarters worked in developing countries, especially Asia (64%), and had fewer years of HIV/AIDS experience.

Logistic regression analyses (Table 4) showed that survey respondents working in developing countries were twice as likely as those working in developed countries to rate the Thailand conference as useful to their work, and first-time attendees were 3 times more likely. Both variables were significant predictors of usefulness (both P values = .001). Although researchers/scientists were less likely than other professional groups to rate the conference useful to their work, professional group was not a significant predictor of conference usefulness to work. Working in a developing country and fewer years (ie, 04 years) of HIV/AIDS experience were significant predictors of recommending the IAC to a peer. Being a researcher or scientist was a significant predictor of *not* recommending the IAC to a peer. Comparing developing vs developed countries, logistic regressions (Table 5) found that respondents from a developing country were 6 times more likely to have never attended a previous IAC, twice more likely to have no or limited HIV experience, and nearly 3 times more likely to be a teacher/trainer or program/facility manager (all P values = .001). They were significantly less likely to be a researcher or scientist (P = .001). There was no difference between the number of hands-on clinical care and other healthcare provider respondents from developing vs developed countries. Only 547 (21%) survey respondents completed the qualitative section of the survey asking delegates to identify missing conference content. A total of 637 comments were coded but centered on quality issues



**Figure 1**  
**Number of abstracts submitted by track and conference location.** Data are from the IAS unpublished Report on the XV International AIDS Conference; Bangkok, Thailand; July 11-16, 2004. (Permission to reproduce this figure was obtained on 10/31/06 from W. W. Wolvaardt, author of the report and Senior Advisor to the IAS.)

**Table 4: Logistic Regression Analyses (Unadjusted) of Variables Predicting IAC Conference Usefulness and Recommending the IAC to a Peer**

| Variable   | OR   | CI (95%) | SE   | P    |
|--|------|----------|------|------|
| <i>Usefulness</i>                                    |      |          |      |      |
| Working in developing countries                      | 2.17 | 1.363.46 | .517 | .001 |
| First-time attendee at an IAC                        | 2.99 | 1.705.27 | .862 | .001 |
| Researcher/scientist                                 | .52  | 0.270.99 | .173 | .049 |
| <i>Peer recommendation</i>                           |      |          |      |      |
| Working in developing countries                      | 1.85 | 1.462.36 | .226 | .001 |
| Researcher/scientist                                 | .45  | 0.320.63 | .079 | .001 |
| Hands-on clinical care and other healthcare provider | .68  | 0.470.97 | .126 | .035 |
| 04 years HIV/AIDS experience                         | 2.38 | 1.763.24 | .371 | .001 |
| 510 years HIV/AIDS experience                        | 1.67 | 1.292.18 | .223 | .001 |

CI = confidence interval; IAC = international AIDS conference; OR = odds ratio; SE = standard error

rather than missing content (eg, improving the quality of presentations, especially the basic science presentations; assuring the balance between scientific/clinical and the social/policy/prevention content; and the desire for more interactive sessions).

The top 2 factors influencing decisions to attend the IAC were conference content (25% of those responding) and networking opportunities (21%). 'Tourist value,' 'recommended by a peer,' and 'close to home' were lowest

ranked (4%8%). When asked what component of the IAC was most responsible for changes in behavior following past IACs attended, respondents identified all forums: didactic (39%), interactive (33%), and informal interactions (29%).

#### **Outcomes Findings**

Forty-one percent of the survey respondents (n = 1062) answered the question, "What will you do differently in your practice, service setting, community or area of

**Table 5: Logistic Regression Analyses (Unadjusted) of Variables Predicting Working in a Developing Country**

| Variable  | OR   | CI (95%)  | SE   | P    |
|---|------|-----------|------|------|
| <i>HIV/AIDS experience</i>                      |      |           |      |      |
| 04 years  | 2.69 | 2.17 3.33 | .293 | .001 |
| 510 years                                       | 3.57 | 2.99 4.39 | .374 | .001 |
| <i>Primary employment role</i>                  |      |           |      |      |
| Researcher/scientist                            | .72  | .56 .92   | .085 | .005 |
| Teacher/educator/facility administrator/manager | 2.74 | 2.12 3.57 | .365 | .001 |
| <i>Number of previous IACs attended</i>         |      |           |      |      |
| None  | 6.17 | 4.73 8.05 | .836 | .001 |
| 13  | 3.66 | 2.78 4.84 | .519 | .001 |

CI = confidence interval; IAC = international AIDS conference; OR = odds ratio; SE = standard error

research as a result of this conference?" Of these, 100 indicated no intention to do anything differently and were removed from further analyses. The demographic profile of those who did not indicate an intended behavior change did not differ significantly from the profile of those who did indicate an intended behavior change: ie, two thirds were either researchers/scientists (36%) or hands-on clinical care providers (35%); approximately one third were from the Americas and another fourth were from Europe; and the majority (42%) had attended 1 to 4 previous IACs. Significantly more delegates from developing vs developed countries reported an intended behavior change [ $\chi^2(1, N = 1110) = 82.37, P < .01$ ].

Participants indicating an intended behavior change (n = 962) cited 1220 statements of intent to change a behavior. One hundred statements reflected change in knowledge and skills and were discarded from further analyses. The remaining 1120 statements were coded under one of the following 9 broad classifications of behavior change. Cohen's Kappa coefficient of agreement for nominal scales inter-rater reliability was 0.845.

- Programming: intent to change/increase HIV/AIDS programming efforts (eg, increased prevention activities, build program capacity [n = 335 (30% of all statements made)]);
- Educating others: intent to change the amount of education done with other persons in the HIV/AIDS field, mentoring other clinicians [n = 216 (19%)];
- Treatment: intentions to change patient management and/or treatment including conducting more risk assessments and counseling, changing treatment plans [n = 134 (12%)];
- Advocacy: intentions to change or increase advocacy for HIV patients (eg, advocate for drug access, treatment for all) and programs (eg, prevention-of-mother-to-child programs) [n = 120 (11%)];
- Involvement with persons living with HIV/AIDS (PLWHA): changes, increases in involvement with, and assistance to PLWHA [n = 97 (9%)];
- Increased policy involvement: more effort to influence policy at organizational, local, regional, or international levels [n = 81 (7%)];
- Collaboration: intentions to increase and establish new collaborations with other researchers, programs, and clinicians [n = 67 (6%)];
- Self education: intentions to seek more information [n = 50 (4%)]; and

- Funding: intentions to seek more funds to further their work [n = 20 (2%)].

Eighty percent of the intercept interview sample cited a behavior change as a result of attending a past IAC. Of these, 31% worked in North America, 24% in Europe and the Middle East, and 21% in Africa; 32% were administrators/managers and 29% were researchers/scientists. They reported attending between 1 and 7 previous IACs; roughly equal percentages had attended 1 (39%), 2 (27%), or 3 or more IACs (34%). The behavior changes cited were similar to those reported in the delegate survey: programming [n = 19 (40%)]; educating others [n = 11 (23%)]; treatment [n = 6 (13%)]; advocacy [n = 4 (9%)]; and increased policy involvement [n = 2 (4%)]. The only behavior change category cited in the intercept interviews and not in the delegate survey was a change in research approach [n = 5 (11%)]. With the exception of number of previous IACs attended, no demographic variables were significant predictors of whether or not an example of behavior change was reported. Respondents who had attended just 1 previous IAC were significantly more likely to report making a change in their HIV/AIDS work as a result of attending a past IAC than those who attended more than 1 IAC [ $\chi^2(1, N = 59) = 6.99, P < .05$ ].

## Discussion

### Process Evaluation

Discussions centering on where to have the conference have to take cost and revenue issues into consideration. The conference cannot operate at a loss. With the available data to date, host country does not appear to be a factor related to the cost of implementing the IAC nor the amount of income generated. The Bangkok IAC cost significantly more than either Durban or Barcelona, but cost increases were in line with progressively increasing costs for service, number of delegates attending, number of past participants who receive IAC announcements and programs, and number of scholarships awarded (eg, significantly more local and international scholarships were awarded at Bangkok compared with the 2 previous IACs [ $\chi^2(2, N = 6100) = 326.7, P < .01$ ]). The Barcelona conference received more income than either of the developing country sites, but the difference between Barcelona and Bangkok was dramatically less than it was between Durban and Barcelona, with Durban receiving less income. This finding may be related to South Africa being the first developing country to host the IAC and possible concerns about the quality of the conference. Quality concerns being allayed at Durban may explain the much smaller discrepancy between the incomes and sponsorships generated by the Barcelona and Bangkok IACs. Factored in is the steady reduction in the value of sponsored items (ie, donations from pharmaceutical companies) over the past 3 conferences. This, too, may not be a function of hosting the conference in a developing vs developed country, but rather



due to pharmaceutical companies pulling in their belts in general.

Host country does not appear to affect the number of people who attend. Delegates attend for the conference content and the networking opportunities rather than tourist value and travel distance. Despite the epidemic being in its third decade, IAC attendance has increased over the past 6 years.

Informal networking is considered to be as useful as the sessions. Professional conference organizers monitored 109 sessions and rated the level of attendance (ie, room was full, half-full, or had few attendees). Forty percent of the sessions had few attendees and 35% were half-full. Were delegates networking outside of the sessions, sight-seeing, or working elsewhere? The current data do not support any conclusions on this front. The data do support with the exception of the basic sciences track considerable between-track mobility, perhaps indicating delegates' desire for an integrated experience or the perception that the track content was highly integrated. Either way, the mobility and session attendance data support reducing the number of tracks in subsequent conferences.

Host country may affect the number and quality of basic science IAC presentations, who attends, and who benefits most. Only 7% of the abstracts submitted to the Thailand conference were basic science. This might be a product of the paucity of new basic science, lack of international travel funds in federally/nationally funded research money, dissatisfaction with the quality of the basic science component at the 2 previous IACs, and/or the decision to present basic science data at the IAS Conference on HIV Pathogenesis and Treatment and other science-focused conferences rather than at the IAC. The lack of international travel funds in federal grants is definitely an issue for scientists from the United States, but it is unknown whether this also explains the paucity of researchers/scientists attending from Europe. Some data support concerns for basic science quality when the conference is held in a developing country: the regression analyses in this study demonstrated that being a researcher/scientist was a significant predictor for not recommending the IAC to a peer, and the qualitative comments referring to the lack of science, the low quality of the science presentations, and the need to balance psychosocial and policy content with clinical and research content.

Bangkok was ideally located to allow substantial numbers of delegates from HIV-burdened developing countries to attend. The number of people attending by country is not known, but the largest number of survey respondents

were either from sub-Saharan Africa (24%) and Asia (32%). Using survey response as a proxy indication of attendance by country is problematic but, at this point, no other data are available. Abstract data by country of work are not available for previous conferences but, anecdotally from persons attending, the majority of delegates attending the South Africa IAC were from developing countries, and noticeably fewer delegates from developing countries attended the Barcelona conference.

Comparative data from the Toronto 2006 IAC are needed to determine whether host country really does affect the number of basic science abstracts submitted and the quality of basic science presentations. The authors of this paper did not evaluate the Toronto IAC nor did they attend, but it is known that some evaluation was conducted. It is hoped that the results will be published allowing comparisons to be made.

Overall reactions to the XV IAC were positive. The majority of survey respondents rated the conference as useful to their work, the content difficulty level as 'about right,' and would recommend the IAC to a peer. Working in a developing country, first-time IAC attendees, and delegates with less HIV/AIDS experience were significant predictors of usefulness to work and recommending the IAC to a peer. The latter 2 variables, however, were highly associated with developing country status: Delegates from developing countries were 6 times more likely to have never attended a previous IAC, and twice more likely to have no or limited HIV/AIDS experience. Again, data from the Toronto IAC are needed to determine the effects of host country. Did substantial numbers of delegates from developing countries arguably those likely to benefit most attend the Toronto conference or did the combined registration and travel costs greatly limit their attendance? The Toronto registration fee for developing country delegates was significantly reduced, but was it enough to reduce economic barriers?

Given where the epidemic is globally in terms of infection rates and who seems to benefit most, the IAC's niche may be to focus world attention on government discrepancies in responding to the HIV/AIDS epidemic, and the scaling up of currently known prevention and treatment activities in developing countries. Following the Durban IAC and criticisms aimed at the South African government's lack of response to its HIV/AIDS crisis, IAC press coverage increased dramatically. The Thailand conference attracted a record number of journalists (ie, more than 2500) and written articles about the conference (ie, over 2700), with positive coverage (ie, favorable reviews) exceeding negative coverage by a ratio of 2:1. Given that the burden of the epidemic is in developing countries, the possible effect of host country in allowing developing country delegates to

attend the conference, and the Thailand IAC data indicating that developing country delegates have the most to gain and do benefit most, perhaps all or more than half of future IACs should be held in developing countries. The rapid scale-up of known prevention and treatment activities in developing countries has not lived up to expectations and, perhaps, rather than trying to compete with the IAS Conference on HIV Pathogenesis and Treatment and other science- and treatment-focused conferences, the IAC should focus on the dissemination of information on known prevention and treatment activities to emerging countries.

### Outcomes Evaluation

The survey outcomes data indicated that 91% of the delegates who answered the question indicated they intended to change their HIV/AIDS work as a function of attending the XV IAC, and 80% of the valid intercept interviewees indicated they had changed their behavior as a result of attending past IACs. In hindsight, Kirkpatrick's model may not have been the best evaluation model to employ. It recognizes behavior change, but does not consider that no intention to change behavior might also constitute an outcomes success if the conference validated/reinforced what attendees already do. Nevertheless, 7 broad intended changes in HIV/AIDS work behavior domains were reported by survey respondents. Respondents attending previous IACs reported they had made changes in these same broad behavior change categories, and attributed the changes to attending the IAC conference. Survey respondents who had attended just 1 previous IAC were significantly more likely to report making a change in their HIV/AIDS work as a result of attending a past IAC than those who attended more than 1 IAC. With the exception of development status of country of work, no other provider background variables significantly predicted behavior change. More survey delegates from developing rather than developed countries reported an intention to change their behavior as a result of attending the XV IAC.

A major limitation of the process and outcomes evaluation is the lack of delegate data collected via the IAC registration form. Without knowing the demographics of the entire delegate population, one cannot gauge whether the survey respondents were representative of all registered delegates. Other limitations of the study include the low overall survey response rate in general, and the low response rate to the outcomes question in particular. Two thirds of the sample did not complete and hand in the questionnaire and, of those who did, 41% did not answer the outcomes question. Given the demographics of those participating in the evaluation, the outcomes are more representative of delegates from developing than developed countries, those with lesser experience in the field of

HIV/AIDS, and delegates attending either their first or second IAC.

### Conclusion

If host country is not a factor related to the cost of implementing the IAC, the amount of income generated, and the overall numbers attending, but is a factor in allowing delegates from emerging and developing countries (ie, those most likely to benefit) to attend, the IAC might reconsider its plan to host the conference every other year in a developed country. It is recommended that systematic evaluation data from future IACs be collected and analyzed to confirm or negate the trends found in this study and thereby provide the IAC with the necessary information to decide future country locations based on who attends and who benefits most.

### Authors and Disclosures

Views expressed in this paper are those of the authors and are in no way attributable to the institutions in which they work, nor to the persons acknowledged.

Bernadette Lalonde, PhD, has disclosed no relevant financial relationships. Jacqueline E. Wolvaardt, MPH, has disclosed no relevant financial relationships. Elize M Webb, MPH, has disclosed no relevant financial relationships. Amy Tournas-Hardt MAA, MPH, has disclosed no relevant financial relationships.

### Funding Information

Authors contributed their time to the development and implementation of the study. Travel and registration to attend the XV International AIDS Conference in Thailand, where the study was conducted, was contributed by the IAS.

### Acknowledgements

The authors thank the IAS for the opportunity to attend the conference and, with the exception of staff and Thai University student volunteer time, for supporting costs associated with implementing the evaluation. The authors also thank the Thai University student volunteers who contributed significantly to the success of the project, G.G. Wolvaardt for providing the authors with an understanding of historical IAC events contributing to the explanation of some of the findings, and E.C. Webb for his assistance with the data analyses.

### References

1. Kirkpatrick DL: *Evaluating Training Programs: The Four Levels* 2nd edition. San Francisco, Calif: Berrett-Koehler; 1998.
2. Ajzen I, Fishbein M: **Understanding Attitudes and Predicting Social Behavior**. Englewood Cliffs, NJ: Prentice-Hall; 1980.
3. Lauritsen JM, Bruus M: **EpiData: A Comprehensive Tool for Validated Entry and Documentation of Data Version 3**. Odense, Denmark: The Epi Data Association; 2003.
4. Epi Info™ 6: **Centers for Disease Control and Prevention Web site**. [<http://www.cdc.gov/epinfo/>]. Accessed January 3, 2007
5. StataCorp LP: [<http://www.stata.com>]. Version 9. Accessed January 3, 2007
6. 2005 World Population Data Sheet of the Population Reference Bureau: [[www.prb.org/Template.cfm?Sec](http://www.prb.org/Template.cfm?Sec)

tion=Population\_TrendsI&template=/Ecommerce/Product  
say.cfm&ProductID=391]. Accessed January 3, 2007

7. **Australian Government Overseas Aid Program Web site** [[www.ausaid.gov.au/ngos/develop\\_list.cfm](http://www.ausaid.gov.au/ngos/develop_list.cfm)]. Accessed January 3, 2007
8. Cohen J: **A coefficient of agreement for nominal scales.** *Educational and Psychological Measurement* 1960, **20**:37-46.
9. **Pugh Computers Limited Web site** [[www.pugh.co.uk/ProductsQSR/Index.htm](http://www.pugh.co.uk/ProductsQSR/Index.htm)]. Accessed January 3, 2007

Publish with **BioMed Central** and every scientist can read your work free of charge

*"BioMed Central will be the most significant development for disseminating the results of biomedical research in our lifetime."*

Sir Paul Nurse, Cancer Research UK

Your research papers will be:

- available free of charge to the entire biomedical community
- peer reviewed and published immediately upon acceptance
- cited in PubMed and archived on PubMed Central
- yours — you keep the copyright

Submit your manuscript here:  
[http://www.biomedcentral.com/info/publishing\\_adv.asp](http://www.biomedcentral.com/info/publishing_adv.asp)

