Epidemiologic Projections, Demographic Impact, and Resource Allocation in Namibia

Workshop Report

April 2006

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ABBREVIATIONS

AIDS	acquired immune deficiency syndrome
AIM	AIDS Impact Model
ANC	antenatal care
ART	antiretroviral therapy
ARV	antiretroviral
CSW	commercial sex worker
DemProj	Demographic Projection (Model)
DHS	Demographic and Health Survey
EPP	Epidemiological Projection Package
FHI	Family Health International
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GRN	Government of Republic of Namibia
HAMU	HIV and AIDS Management Unit (Ministry of Education)
HAART	highly active antiretroviral treatment
HIV	human immunodeficiency virus
IDU	injection drug user
MOE	Ministry of Education
MOF	Ministry of Finance
MOHSS	Ministry of Health and Social Services
MSH	Management Sciences for Health
MSM	men who have sex with men
MTEF	Medium Term Expenditure Framework
MTPIII	National HIV/AIDS Strategic Plan
NABCOA	Namibia Business Coalition on AIDS
NASOMA	National Social Marketing Association (also known as the SMA)
NDHS	Namibia's Demographic Health Survey
NEPRU	Namibian Economic Policy Research Unit
NPC	National Planning Commission
OI	opportunistic infection
OVC	orphans and vulnerable children
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PMTCT	prevention of mother-to-child transmission
PSI	Population Services International
SME	Small and Medium Enterprises
STD	sexually transmitted disease
STI	sexually transmitted infection
TB	tuberculosis
TRP	The Rainbow Project
TWG	Technical Working Group
UNAIDS	Joint United Nations Program on HIV/AIDS
UNGASS	United Nations General Assembly Special Session (on HIV/AIDS)
USAID	United States Agency for International Development
VCT	voluntary counseling and testing

EXECUTIVE SUMMARY

Background

The POLICY Project facilitated a technical workshop, titled *Epidemiologic Projections, Demographic Impact & Resource Allocation in Namibia,* from February 27–March 2, 2006. Fifteen participants attended, including representatives from the public sector (the Ministry of Health and Social Services, the Ministry of Education, and the Central Bureau of Statistics); nongovernmental organizations (the Social Marketing Association of Namibia); academia (the University of Namibia); and development partners (the Centers for Disease Control and Prevention and the Global Fund to Fight AIDS, Tuberculosis and Malaria). The multisectoral group included public sector planners and other technical experts in demography, epidemiology, and economics.

A large policy forum was conducted immediately following the workshop (March 3, 2006) and brought together 47 participants from a wide range of Namibian and international institutions. The workshop findings were presented and discussed, including how they could be used as an advocacy tool for resource generation and reallocation.

Workshop Goal and Objectives

The overall goal of the workshop was to present tools and strategies to assist the decisionmaking process for national-level resource allocation for HIV/AIDS. The main tool discussed was the Goals Model, an interactive computer-based tool that links budget allocation decisions to their impact on HIV/AIDS program goals. By stressing an evidence-based, multisectoral participatory process, POLICY hoped to build capacity in resource allocation advocacy and modeling skills, deepen local understanding of the strengths and weaknesses of the current HIV surveillance system in Namibia, and project the future course of the epidemic.

Workshop Activities and Achievements

The technical workshop addressed three key issues: (1) the current and projected prevalence of HIV in Namibia, (2) the likely demographic effect of HIV/AIDS, and (3) advice for policymakers on how to effectively allocate their limited HIV/AIDS resources. To address these questions, participants were oriented on the use of three models: the Epidemiological Projection Package (EPP), the SPECTRUM/AIDS Impact Model (AIM), and the Goals Model.

The participants and facilitators felt that the workshop achieved its overall objective of establishing a framework for making decisions on resource allocation in Namibia. In particular, the following outputs were achieved: (1) an EPP projection was drafted to project the future course of HIV/AIDS in Namibia; (2) illustrative Spectrum/AIM files were produced, estimating the likely demographic effect of HIV/AIDS based on the draft HIV/AIDS projections; and (3) a Goals file was produced to assess alternative scenarios for generating and allocating resources. Curricula for the EPP, SPECTRUM, and Goals Model were well-received.

Recommendations

The participants and facilitators recommended that additional data be collected and proposed changes to Namibia's HIV sentinel surveillance program, an upcoming Demographic and Health Survey (DHS), and the collection of unit cost estimates.

INTRODUCTION

The POLICY Project facilitated a four-day technical workshop, titled *Epidemiologic Projections, Demographic Impact & Resource Allocation in Namibia,* in Windhoek, Namibia, from February 27–March 3, 2006. Fifteen participants attended, including representatives from the public sector (the Ministry of Health and Social Services, the Ministry of Education, and the Central Bureau of Statistics); nongovernmental organizations (the Social Marketing Association of Namibia); academia (the University of Namibia); and development partners (the Centers for Disease Control and Prevention and the Global Fund to Fight AIDS, Tuberculosis and Malaria). The multisectoral group included public sector planners and other technical experts in demography, epidemiology, and economics. See Appendix 1 for the participant list.

The subsequent policy forum, conducted on March 3, 2006, included 47 participants from various Namibian and international institutions. At the forum, the workshop achievements were presented and discussed, including how the findings of the completed models could be used as an advocacy tool for resource generation and reallocation.

The overall goal of the workshop was to present tools and strategies for improving the decisionmaking process for national resource allocation using an evidence-based, multisectoral participatory process. Specific objectives included developing a better understanding of the strengths and limitations of the current HIV surveillance system in Namibia and projecting the future course of the epidemic. Participants attended sessions on sentinel surveillance data (Day 1), Epidemiological Projection Package (EPP) projections (Day 2), SPECTRUM modeling (Day 2), and Goals modeling (Days 3 and 4).

Resource allocation for HIV/AIDS, while always critical, has received increased prominence in national policymaking and planning with the advent of the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and the President's Emergency Plan for AIDS Relief (PEPFAR). The GFATM and other consensus documents, such as the Declaration on HIV/AIDS from the United Nations General Assembly Special Session (UNGASS), have emphasized the crucial importance of participatory decisionmaking in HIV/AIDS policymaking, planning, and finance. However, especially in the area of resource allocation, government planners and members of civil society organizations have often lacked the necessary tools to engage in comprehensive, informed decisionmaking and also the experience of working in partnership.

In this context, POLICY viewed the dissemination of the Goals Model, an interactive computer-based tool that links budget allocation decisions to their impact on HIV/AIDS program goals, as a unique opportunity to build capacity in resource allocation advocacy and modeling skills. See Appendix 2 for a description of the Goals Model.

SUMMARY OF WORKSHOP ACTIVITIES AND KEY PRODUCTS

During Days 1 and 2, the team focused on epidemiologic and demographic modeling, and on resource allocation on Days 3 and 4. Highlights of the week's activities are described below. See Appendix 4 for a detailed workshop agenda.

Day 1

The workshop was launched by the keynote speaker, Dr. Abner Xoagub, Chief Health Program Administrator at the Ministry of Health and Social Services (MOHSS). He stressed the importance of resource issues as Namibia enters the next year and noted that Namibia plans to submit a Round 6 GFATM proposal in the next few months, within which resource allocation issues will be a critical component. Within a year, Namibia will conduct a mid-term review of its National HIV/AIDS Strategic

Plan (MTPIII), and it will be particularly important to ensure that resources are being spent in the most cost-effective manner.

The second opening speaker was Mr. Gary Newton, Mission Director, USAID/Namibia. Mr. Newton emphasized that the United States continues to contribute significantly to Namibia's HIV/AIDS response. However, he also emphasized the issue of financial sustainability because the longer term contributions of programs such as PEPFAR remain uncertain. Mr. Newton further noted that USAID and the Government of Namibia are now working jointly to better identify how current resources are being spent and where future resources may be obtained.

Day 1 activities focused on understanding the existing sentinel surveillance data in Namibia. This effort included how data from pregnant women are collected, how new sites have been added over time, where sites are located and the benefits and costs of collecting biological markers during Namibia's next 2006 Demographic Health Survey (DHS).

During the first day, participants compared the HIV prevalence projections developed in 2000 with the published 2004 estimate of HIV prevalence (derived from the pooled sample of pregnant women) and a re-analysis of the 2004 antenatal data with EPP (using the sites, rather than individual women as the unit of analysis). The estimates did not differ greatly, although the 2000 projections were slightly higher than the 2004 findings. The team also concluded that prevalence apparently has reached a plateau, although it is too early to conclude that HIV prevalence has actually begun to decline.

The discussion also focused on the challenges of determining national adult prevalence based solely on a population of pregnant women. In a number of countries where biological markers have been collected in conjunction with a DHS (e.g., Kenya, Tanzania, and Zambia), there were unexpected differences; therefore, the team recommended that HIV testing be done in conjunction with the 2006 DHS.

Day 2

The second day focused on using the EPP and SPECTRUM/AIM models. Dr. Karen Foreit reviewed the national ANC data and discussed some of the challenges with the current data. The team also discussed the 2006 ANC data collection process and made recommendations for ensuring that the use of these figures would allow for a consistent interpretation of the data.

The next step in the process involved projecting the future course of HIV prevalence using EPP with the existing ANC data. The output of the EPP projections suggested that prevalence had peaked in 2001 at a level just below 20 percent (19.9%), with only a slight decline from peak levels (19.4% in 2004).

Participants were then shown the SPECTRUM suite of models, including the Demographic Projection (DemProj) and the AIDS Impact Model (AIM). The population projection originally developed in 2000 with data from the 1991 census was updated with fertility rates based on the 2001 census and HIV prevalence data from the EPP projection. The total population projected for 2001 (incorporating the effects of HIV/AIDS) was quite close to that reported in the 2001 population census. Projected age changes in mortality closely paralleled hospital death patterns reported by the MOHSS. Participants also saw how to address specific demographic and epidemiologic questions using outputs of the SPECTRUM models, such as:

- How many people in Namibia are infected with HIV?
- How will the number of orphans in Namibia change over time?
- What is the lifetime probability of infection with HIV for someone 15 years old?

Day 3

Day 3 began with a general overview of the Goals Model, including a description of how the model works and where it has been applied.

Participants were then given time to practice using the SPECTRUM suite of models. They broke up into groups of two or three and answered specific demographic questions. Once participants had demonstrated proficiency in using SPECTRUM, they were then taught how to transfer demographic data from SPECTRUM into the Goals Model.

At the end of the day, Dr. Klaus Schade, a POLICY Project consultant hired to collect data, explained the procedures he had followed to collect the data required for Goals. Participants reviewed some of the Goals worksheets, noting where there were uncertainties regarding the Namibia data.

Day 4

Day 4 activities focused on building participants' understanding of the different data and modeling components associated with the Goals Model, entering and analyzing the validity and completeness of country-specific data, running initial Goals Model projections, and identifying next steps to complete the data inputs.

In the afternoon, participants determined what scenarios they would like to model using Goals. The four scenarios agreed upon were as follows:

- *Fixed Cost Scenario:* Assumed that the availability of resources would not change from their 2005 levels of $84 million and that no funds would be reallocated from one intervention to another.
- *Reallocation Scenario:* Assumed no additional resources beyond the 2005 levels but that it would be possible to reallocate funds to interventions likely to have the greatest impact.
- *Medium Growth Scenario:* Assumed an increase in funding to $120 million by 2009 and a reallocation of resources to ensure that high-impact interventions would be fully funded.
- *Full Cost Scenario:* Assumed that resources would reach $175 million per year by 2009—the revised estimated total cost of Namibia's MTPIII.

Day 5 (Policy Forum)

A large policy forum was conducted immediately following the workshop (March 3, 2006) and brought together 47 participants from a wide range of Namibian and international institutions. The workshop findings were presented and discussed, including how they could be used as an advocacy tool for resource generation and reallocation.

Participants of the forum recommended that a technical working group (TWG) be formed under the MOHSS. This working group will be responsible for clarifying next steps in the process, including determining how to use the revised epidemiologic projections, implementing the workshop recommendations, and applying the Goals Model to make resource allocation decisions (including for Namibia's Round 6 GFATM proposal).

WHAT WAS ACHIEVED?

According to the workshop participants and facilitators, the workshop achieved its overall objectives of laying the groundwork to facilitate a participatory process for improved resource allocation decisionmaking and to build the technical skills needed to engage in this decisionmaking process.

The workshop participants showed commitment to working together by forming a TWG. The MOHSS agreed to take the lead in maintaining the momentum created by the workshop and will call for a follow-up meeting of the working group. The TWG will write a final report, with assistance from POLICY's facilitators.

The workshop participants achieved the following:

- A good understanding of what the EPP and SPECTRUM and Goals models can do and how they work. As a result, the participants will serve as catalysts for applying the models in Namibia. Additional in-country training will be necessary for more advanced applications of the Goals Model and to reach national consensus on national HIV prevalence projections.
- Progress toward a preliminary application of the EPP and SPECTRUM and Goals models in Namibia.

REMAINING DATA GAPS

Through the process of conducting the epidemiologic, demographic, and resource allocation modeling, a number of gaps were identified.

Epidemiological Data

- ANC surveillance has been collected for a number of years in Namibia and provides a good starting point for indicating some initial trends in the prevalence of HIV among pregnant women. Data from the next surveillance should provide a clearer picture of the course of the HIV/AIDS epidemic in Namibia.
- Additional HIV surveillance data from Namibia's upcoming DHS survey would be extremely useful. Data from other DHS+ surveys suggest that in some cases, the prevalence of HIV in such surveys may differ from ANC data; therefore, it is important to collect data on a national basis.
- The prevalence of HIV among certain vulnerable groups is also important to collect. For example, data on the prevalence of HIV and STIs among Namibian sex workers, men who have sex with men, mobile populations, and so forth would be useful in refining the modeling activities.

Behavioral Data

- It is particularly important to fully understand the size of various groups. While the last DHS was useful in understanding sexual behaviors within Namibia's population, little information was available on the size of certain vulnerable groups (e.g., sex workers, men who have sex with men).
- Circumcision is increasingly recognized as an important factor in the transmission of HIV. However, in the case of Namibia, there were no reliable estimates on the proportion of the male population who were already circumcised. Additional related data would be useful.
- Identifying the proportion of men who pay for sex was another area where data appeared to be unreliable. Part of the problem involved distinguishing between men who pay cash for sex and men who provide gifts or favors to women in return for sex.

Financial Data

- Key data were not available on the current level of HIV/AIDS spending in Namibia. Such information is particularly important in analyzing the existing gap between needed and available funds. While some preliminary estimates were gathered for Namibia's last GFATM application, a more comprehensive analysis would be useful.
- Finally, there was limited data available on the unit costs of various HIV/AIDS prevention, treatment, and mitigation services. In the Goals modeling exercise, it was necessary to use global defaults for some of the unit cost estimates. Future modeling exercises could be greatly improved

(in addition to future applications for additional resources) if Namibia were to have a complete understanding of the unit cost of HIV/AIDS services.

RECOMMENDATIONS AND IMPLICATIONS FOR THE FUTURE

- The process undertaken in the Windhoek workshop was worthwhile and provides an excellent basis for future applications. Participants and facilitators found the synergies among the epidemiologic, demographic, and resource allocation components to be powerful.

- The curriculum appeared well-suited to achieving its objectives, as seen in previous applications. However, it was difficult for participants to fully complete a country-specific model application in one week—more time is needed, perhaps with a break between sessions, to gather additional data.

- Various epidemiologic, behavioral, and financial data gaps were identified throughout the EPP, Spectrum, and Goals processes. It was agreed to continue to review these data gaps and identify ways in which this lack of information could be addressed for future applications. While filling such gaps will be of tremendous assistance in future modeling exercises, it will also be critical for informing future applications for additional resources (e.g., Global Fund requests).

APPENDIX 1: WORKSHOP PARTICIPANT AND FACILITATOR LIST

Name	Organization	Position
Mark Damesyn	Centers for Disease Control and Prevention	Technical Advisor, Health Information Systems
Karen Foreit	POLICY Project	Facilitator
Steven Forsythe	POLICY Project	Facilitator
Rafiu Idris	Public Health Services	ART Logistics
Nelago Indongo	University of Namibia	Lecturer
Randolph Mouton	SIAPEC	Deputy Director
Perry Mwangala	GFATM	M&E Specialist
Victoria Nashandi	National Planning Commission	Statistician
Ndeyapo Nickanor	University of Namibia	Lecturer
Jude Nwokike	Management Sciences for Health	Senior Program Associate
Sandra !Owoses	Ministry of Health and Social Services	HIV/AIDS Focal Point
Sonja Poller	Ministry of Education	M&E Specialist
Klaus Schade	Namibian Economic Policy Research Unit	POLICY consultant
Primus Shilunga	Ministry of Health and Social Services	Health Program Administrator
Martyn Smith	Social Marketing Association	Deputy Director
Jannie Swartz	National Planning Commission	Statistician
Ben Tjivambi	Ministry of Health and Social Services	Policy and Planning

APPENDIX 2: GOALS DESCRIPTION

Purpose

The Resource Allocation Model (Goals) is an interactive computer program used to improve resource allocation decisions for HIV/AIDS programs by enhancing decisionmakers' understanding of the effect of budget decisions on the achievement of HIV/AIDS goals. The model can be used to explore answers to questions such as:

- How much funding is required to achieve the goals of the HIV/AIDS strategic plan?
- What is the best way to allocate resources if the total budget is fixed?
- What goals are achievable given available funding? The goals may include reductions in HIV incidence or prevalence and increased coverage of essential prevention, care, treatment, and support services.

Use of the Resource Allocation Model (*Goals*)

The Goals Model is designed to support the decisionmaking process. It does not specify how resources should be allocated. The intent is to improve resource allocation decisions by providing better information to decisionmakers about the consequences and trade-offs involved in resource allocation decisions. There are five major steps involved in using the Goals Model.

1. ***Form a national team to implement the model.*** A national team must implement the model and should be trained to use model and apply it to the national strategic plan. The team will generally receive some initial training and then extensive on-the-job training as the model is set up and used.
2. ***Collect data on HIV prevalence, sexual behavior, and the costs of prevention and care programs.*** The Goals Model contains a large amount of information obtained from published studies on the cost and impact of prevention and care programs. This information can be used or replaced with local available data. It also requires national data on the population size and distribution, adult HIV prevalence, and sexual behavior (condom use and number of partners).
3. ***Adapt the model to the national strategic plan.*** The model is designed to show the consequences of allocating funds to various prevention, care, and treatment programs. It needs to be adapted to the activities in the strategic plan. This may require adding some line items for activities that are in the plan but not in the model or mapping the budget categories in the plan to those used in the model.
4. ***Conduct a resource allocation workshop.*** For most applications, the model will be used in a workshop with decisionmakers. The workshop will be an interactive session where participants will test different resource allocation strategies and see the consequences. Participants may use the model to examine different types of issues, such as "Which prevention interventions are most cost-effective?" "How much funding is required to achieve national coverage for the most cost-effective interventions?" "How much funding is required to provide palliative care to everyone who needs it?" "How many people can be treated with HAART with available funds? How would that change if drug prices were lower?" As various options are tested, the participants will gain a better understanding of the trade-offs involved and the amount of funding required to achieve the goals.
5. ***Follow up on the workshop outcomes.*** A variety of workshop outcomes are possible. Ideally, the model is applied as part of the overall planning process. In this case, the model may be used continuously as goals are revised and funding plans are prepared. The workshop may result in a new budget for the plan or a commitment to raise additional funds to pay for essential programs.

Reports and presentations may be necessary to disseminate the results to national decisionmakers, donors, and program partners.

Case Study: Strategic Planning and Resource Allocation in Lesotho

The HIV/AIDS epidemic has hit hard in Lesotho. By 2000, about 25 percent of adults ages 15–49 were infected with HIV. As part of its response to the epidemic, the Government of Lesotho developed a National AIDS Strategic Plan for 2000/2001–2003/2004. The plan set the following goals:

- Reduce HIV prevalence by 25 percent
- Reduce HIV incidence by 50 percent
- Delay the onset of sexual activity
- Increase condom use by 50 percent
- Reduce the number of people with multiple sexual partners
- Increase care, support, and counseling programs to provide services to all who need them
- Enact a gender-sensitive national HIV/AIDS policy

The plan includes comprehensive activities designed to achieve these goals. An initial budget was prepared for its implementation by costing the specific activities. This budget called for a vast increase in funding—beyond the level that donors and the national budget were likely to support.

The initial application of the Goals Model took place in August 2001. The objectives were to (1) review the initial budget by comparing unit costs estimates with international norms and relating the scale of activities to the need, (2) create alternative budget scenarios, (3) examine the feasibility of achieving the stated goals, and (4) prepare an analysis of funding needs and goals that could be presented to potential donors.

To apply the model, a team of experts, led by the Lesotho AIDS Program Coordination Authority, was formed and included members from the Ministry of Development and Planning, Positive Action, the Lesotho Anti-AIDS Alliance, and the Joint United Nations Program on HIV/AIDS (UNAIDS). The POLICY Project provided technical assistance. The team was trained to use the model, quickly adapted it to the Lesotho strategic plan, and then used it to review the draft budget and examine the implications of various budget scenarios for the achievement of the plan's goals.

This work resulted in significant revisions to the draft budget and a better understanding by policymakers of the resources required to achieve the plan's goals. This initial work led to the preparation of two funding scenarios that were presented to donors in late 2001. One scenario showed the funding requirements to achieve maximum impact on prevalence and maximum coverage of care and support services. The second scenario looked at the most effective way to allocate a fixed budget that represents the team's best estimate of actual available resources. The team continued to use the model to explore resource allocation options and used it to update the plan's activities and goals once the final funding levels were set.

Necessary Support and Training

The Goals computer model and its accompanying manual are available on the Futures Group website. The model requires data on demography (number of adult men and women, number of school age children, annual number of births), epidemiology (prevalence of HIV and sexually transmitted infections (STIs)), sexual behavior (proportion engaging in commercial and casual sex, number of partners per year, condom use) and healthcare (percent of STIs treated, percent of women visiting antenatal clinics). Additional data on unit costs and the effects of prevention and care programs can be provided, if available, or default values can be used. The model application may require many interactive workshops

with decision makers to explore the consequences of alternative resource allocation strategies. Guidance for collecting data, selecting default values, and using the model in a workshop with policymakers is included in the manual.

APPENDIX 3: EPP AND AIM DESCRIPTION

The *Estimation and Projection Package* (EPP) was created by the UNAIDS Reference Group on estimates, models, and projections and programmed at the East West Center. EPP is used to estimate and project adult HIV prevalence from surveillance data collected from pregnant women from various sites and years. The EPP allows the analyst to classify sites by urban and rural locations if desired and by regions of the country. The prevalence projection produced by EPP can be transferred to Spectrum to calculate the number of people infected, AIDS cases, AIDS-related deaths, and so forth.

The EPP application developed during the workshop did not distinguish between urban and rural zones and was created for the country as a whole without specifying sub-epidemics or geographic regions. Because Namibia's epidemic is thought to be characterized principally by heterosexual transmission of HIV, the "generalized" epidemic option was selected (EPP has two standard options—generalized or concentrated epidemics; the latter option is more appropriate for epidemics with high transmission through injecting drug use and/or men who have sex with men).

Site-specific HIV prevalence rates were introduced for all sites and all years, as taken from the published 2004 surveillance report. Information on the number of cases by site was available for only the 2002 and 2004 sentinel rounds. Constants (300 cases per site) were used for all other years.

Once the prevalence data were entered, the projection was run by fitting the model to the individual data points ("all data" option); the start date of the epidemic was set to 1984—the commonly-accepted beginning date for the epidemic in Namibia. No other calibrations were performed.

The *AIDS Impact Model* (AIM) is part of the SPECTRUM suite of policy models that project the need for reproductive healthcare services and the consequences of not addressing that need. AIM projects the consequences of the HIV/AIDS epidemic, including the number of people living with HIV/AIDS, new infections, and AIDS deaths by age and sex, as well as new cases of tuberculosis and AIDS orphans. The EPP and AIM are used together by UNAIDS to make the national and regional estimates of HIV/AIDS that are published every two years.

The AIM application created during the workshop used the results of the EPP projection as the input values for HIV prevalence. All other input parameters (progression from HIV infection to death from AIDS-related causes, HIV age and sex distribution, mother-to-child transmission, etc.) were set to the AIM defaults based on data from other countries in the sub-Saharan Africa region. AIM allows the analyst to include service statistics on the number of adults and children receiving treatment, prevention of mother-to-child transmission services, and opportunistic infection prophylaxis; while such data are available in Namibia, they were not included in the orientation exercises but could be entered at a later date.

APPENDIX 4: PARTICIPANT NOMINATION CRITERIA

Participants' Criteria

- Formal education and training in economics, public health, public administration, epidemiology, demography, statistics, social sciences, or related fields
- Affiliation or association with an agency, institution, or organization
- Thorough familiarity with and interest in HIV/AIDS programs
- Competency in the English language
- Mastery of Microsoft Excel software
- Availability to apply models within context of job responsibilities in future months and years

APPENDIX 5: DETAILED AGENDA

HIV/AIDS Epidemiologic/Demographic Projections and Resource Allocation

Windhoek, Namibia

February 27–March 3, 2006

"The complexities of HIV sometimes have led governments to attempt planning for all eventualities….A more strategic approach concentrates on planning in priority areas, through identifying the epidemic's most important determinants."

-UNAIDS, 2000

WORKSHOP OVERVIEW

Day 1—February 27, 2006

Time	Session	Facilitator(s)
8:30-10:00	**Group welcomed by USAID** **Opening and Introductions** **Introductions of the participants, introduce the facilitation team, introduce participants to one another** **Facilitators will set the context for the training by explaining the linkages between the GOALS model and its use in advocacy efforts.**	Gary Newton Karen Foreit Steven Forsythe
10:00-10:15	**MORNING TEA**	
10:15-11:00	**Guest Speaker** **Speaker will present views and examples of the importance of resource allocation and HIV/AIDS**	Abner Xoagub
11:00-1:00	***Sentinel Surveillance*** ▪ **What is sentinel surveillance?** ▪ **How representative are the data?** ▪ **What can we use sentinel surveillance for?**	Karen Foreit
1:00-2:00	**LUNCH**	
2:00-4:30 includes a 15 minute tea break	***Introduction to Epidemic Projection Package*** ▪ **Epidemic Projection Package (EPP)**	Karen Foreit
4:30-5:00	**Wrap-Up and Preview of the Next Day**	Karen Foreit

Day Two—February 28, 2006

Time	Session	Facilitator
9:00-9:30	**Review of Day One**	Course participants
9:30-10:30 (including 15 minute tea break)	**EPP Exercise**	Karen Foreit
10:30-10:45	**Morning tea**	
10:45-1:00	**Introduction to projections and the SPECTRUM family of models**	Karen Foreit
1:00-2:00	**Lunch**	
2:00-4:30	**Exercises on population growth (DemProj) and AIDS impact (AIM)**	Karen Foreit
4:30-5:00	**Wrap-Up and Preview of the Next Day**	Steven Forsythe

Day Three—March 1, 2006

Time	*Session*	*Facilitator*
9:00-9:30	**Review of Day Two**	Karen Foreit
9:30-10:30	**Overview of the Goals Model**	Steven Forsythe
10:30-10:45	**Tea**	
10:45-1:00	**Use of the Goals Model**	Steven Forsythe
1:00-2:00	**Lunch**	
2:00-3:00	**Transferring Epi Projections to Goals**	Steven Forsythe
3:00-3:15	**Tea**	
3:15-3:45	**Impact Matrix**	Steven Forsythe
3:45-4:45	**Costs**	Steven Forsythe
4:45-5:00	**Wrap-Up and Preview of the Next Day**	Steven Forsythe

Day Four—March 2, 2006

Time	Session	Facilitator(s)
9:00-9:30	**Review of Day Three**	Course participants
9:00-9:30	**Care and Treatment**	
9:30-10:00	**Coverage Calculations**	Steven Forsythe
10:00-10:15	**Tea**	
10:15-1:00	**Considerations of Epidemiological and Behavioral Data**	Steven Forsythe
1:00-2:00	**Lunch**	
2:00-2:30	**Budgets**	Steven Forsythe
2:30 – 4:30 (15 minute tea break included)	**Exercise:** **What would Namibia do with US$10 million per year?**	Steven Forsythe
4:30-5:30	**Team Presentations of Simulation and Lessons Learned**	
5:30-6:00	***Wrap-Up and Preview of the Next Day***	

Day Five—March 3, 2006

Time	Session
Project Forum	
10:00-10:15	**Opening Address by Norbert Forster**
10:15-11:00	**Findings from Epidemiologic and Demographic Projections**
11:15-12:00	**Findings from Goals Modeling Projections in Namibia**
12:00-12:45	**Questions and Discussion**
12:45-1:00	**Closing by Norbert Forster**
1:00-2:00	**LUNCH**

APPENDIX 6: DATA COLLECTION FORM TO GATHER COUNTRY-SPECIFIC DATA FOR THE GOALS MODEL APPLICATION

The following table was completed by Klaus Schade, the consultant from NEPRU.

Much of the behavioral data was collected from Namibia's DHS, while much of the demographic information was collected from Namibia's 2001 Census. Data on HIV prevalence was collected from the Ministry of Health's ANC surveillance report from 2004. Limited information was available regarding HIV prevalence by subpopulation (e.g., sex workers). Unit cost data were more difficult to collect, although some information was available from the Ministry of Health, GFATM, and various international nongovernmental organizations (e.g., the Social Marketing Association).

To help address questions about the quality of the data input into the Goals Model, the sources for all data were listed.

Finally, information on current HIV/AIDS spending is difficult to obtain. UNAIDS currently keeps a matrix that is used to monitor current HIV/AIDS spending by donors. The U.S. government also produces an estimate of its own HIV/AIDS spending as part of the PEPFAR program. The Ministry of Health published a gap analysis in 2005, indicating its best estimate of HIV/AIDS spending in Namibia.

Namibia demographic Data	Formula	Value	Publication/Source	Page	Institution
Population - Vision 2030					**Central Bureau of Statistics, National Planning Commission**
2001	**2001 PHC Figure**	**1,830,330**		**p. 24 & 26**	
2002		**1,862,544**	**GRN, Sep 2005, Population projections 2001-2031, draft, Median Variant**		
2003		**1,895,325**			
2004		**1,928,682**			
2005		**1,962,627**			
2006		**1,997,169**			
2007		**2,035,715**			
2008		**2,075,004**			
2009		**2,115,052**			
Number of men (15-49)					**Central Bureau of Statistics, National Planning Commission**
2001	**2001 PHC Figure**	**423,313**		**p. 24 & 26**	
2002		**439,568**	**GRN, Sep 2005, Population projections 2001-2031, draft, Median Variant**		
2003		**456,448**			
2004		**473,975**			
2005		**492,176**			
2006		**511,075**			
2007		**525,897**			
2008		**541,148**			
2009		**556,841**			
Number of women (15-49)					**Central Bureau of Statistics, National Planning Commission**
2001	**2001 PHC Figure**	**450,996**		**p. 24 & 26**	
2002		**466,510**	**GRN, Sep 2005, Population projections**		

2003		**482,558**	**2001-2031, draft, Median Variant**		
2004		**499,158**			
2005		**516,329**			
2006		**534,091**			
2007		**548,138**			
2008		**562,554**			
2009		**577,349**			
Number of youth (10-19)					**Central Bureau of Statistics, National Planning Commission**
2001	**2001 PHC Figure**	**432,586**		**p. 24 & 26**	
2002		**441,627**	**GRN, Sep 2005, Population projections 2001-2031, draft, Median Variant**		
2003		**450,857**			
2004		**460,280**			
2005		**469,900**			
2006		**479,721**			
2007		**478,953**			
2008		**478,187**			
2009		**477,422**			
Proportion of youth in school (10-19)?	**2001(10-19) total = 432,586 while in school= 343,458**	**79.4%**	**2001 Population and Housing Census**	**2001 Population and Housing Census page xvii**	**Central Bureau of Statistics, National Planning Commission**
Average number of wives per husband		**1.04 wives**	**NDHS 2000**	**Page 81**	**MoHSS**
Proportion of adult males (15-49) that are circumcised?		**NA**			
Annual births					
2002		**59,788**	**GRN, Sep 2005, Population projections 2001-2031, draft, Median Variant**	**Crude birth rate of 32.1 to 32.3 per thousand**	**Central Bureau of Statistics, National Planning Commission**
2003		**61,029**			

2004		**62,296**			
2005		**63,393**			
2006		**64,509**			
2007		**65,550**			
2008		**66,815**			
2009		**67,893**			
Percentage of pregnant women with access to antenatal care		**93%**	**NDHS 2000**	**Page 117**	**MoHSS**
Percentage of men between 15 and 49 that are sexually active?		**89.4%**	**NDHS 2000&2001 HPS**	**Page 88**	**MoHSS&NPC**
Percentage of women between the ages of 15 and 49 that are sexually active?		**85.5%**	**NDHS 2000&2001 HPS**	**Page 87**	**MoHSS&NPC**
Labor force participation rate (male)		**62.0%**	**Namibia Labour Force survey 2000**	**Page 9**	**Min of Labour**
Labor force participation rate (female)		**47.4%**	**Namibia Labour Force survey 2000**	**Page 9**	**Min of Labour**
Percentage of 15-49 employed in formal sector	**Labour force 541,447, informal 132,607, 408,840 15-49 formal**	**75.5%**	**Namibia Labour Force survey 2000 and Namibia Informal Economy Survey 2001**	**Labour Survey 2000 page 39**	**Min of Labour**
Epidemiologic Data:					
Prevalence of syphilis among ANC attendees		**NA**			**MoHSS**

ANC HIV Prevalence	**among 4370 pregnant women, 867 tested positive**	**19.8%**	**2004 Sentinel Survey, MEDIA RELEASE, 2004 HIV/AIDS SENTINEL SERO SURVEY RESULTS**		**MoHSS**
HIV Prevalence among CSWs		**75%**	**65%, Hilde Mukundja: HIV/AIDS epidemic, 2002. Others reported 85%.**		
HIV Prevalence among high risk men		**NA**			
HIV Prevalence among married men		**NA**			
HIV Prevalence among married women		**NA**			
Behavioral Data:	-				
Percentage of men (15-49) who paid for sex in last year		**10%**	**Less than 1% according to SMA VCT statistics**		Rough estimate based on: CD rom on Namibia HIV research Final baseline household survey p.92, and other reports on the CD. (Final baseline reports)
Number of paid sex acts per year	**3,200 CSW, about 2,5 customers per day**	**2,920,000**			**Based on information from Ms R. Namises , Father Hermann, Ms Hubbard**
Percentage of paid sex acts that are protected (condom use)		**67%**	75% Source: CD rom on Namibia HIV research Finalhouseholdcomparisonchart…, p. 35 referring to spouse DHS indicates two thirds of paid sex acts are protected.		**According to Ms R. Namises, it is 25%**
Average number of CSW partners for men who pay		**10**			**Ms Rosa Namises**

for sex					
Percent of men (15-49) with a casual partner (excluding men who pay for sex)		**41.70%**	**MoHSS, Draft report on Voluntary Testing and…, 2003 (CD provided), Table 4.2**		**13.9% accoring to SMA VCT statisticis**
Number of sex acts with casual partner per year					
Percentage of condom use with casual partners		**49%**	**UNGASS 2002, p.4 & p.11, MoHSS, Draft report on Voluntary Testing and…,2003 (CD provided), Table 4.2 (80%) According to SMA statistics 59.4% (sometimes or always)**		about 66% Source: CD rom on Namibia HIV research Finalhouseholdcomparisonchart…, p. 35 referring to spouse
Average number of partners per year for men who have casual partner(s)		**1.5**	**SMA: 1.92 during past three months**		Rough estimate based on: CD rom on Namibia HIV research Final baseline household survey p.95 (OOR) (2.0), ANR p.149 (1.28), KK.. P.195 (1.52)
Percent of men (15-49) with only a steady partner		**54.6%**	**SMA VCT statistics (last three months)**		
Number of sexual acts with steady partner (per year)					
Percentage of condom use with steady partners		**60.0%**	**CD-Rom on Namibia HIV/ Research, Workshop April 18-19, 2005 MoHSS (16.7%), Draft report on Voluntary Testing and…,2003 (CD provided), Table 4.2 (60%) According to SMA: 41.8%**	Source: Finalhouseholdcomparisonchart…, p. 35 referring to spouse (16.7%)	**John Hopkins**
Number of CSWs		**4,000**			**Ms R. Namises (Ms Hubbard guesses actual number much higher)**

Percentage of CSWs that are reached with interventions?		**25.00%**	**Probably 50% in Windhoek and much less in the regions if at all**		
Percentage of CSWs that can be reached with interventions in a particular year					**Father Hermann, Catholic hosp Chapelain Pleriminary**
Annual (or daily) number of partners that CSWs have	**CSW have 2-3 partners per day**	**2.5 daily**			
Percent of all condoms that are female condoms	**232,718 out of 7,936,446**	**2.8%**	**UNGASS, Namibia Country Report Jan-Dec 2002**	**Page 9**	**MoHSS**
Proportion of condoms distributed by social marketing	**3,551,244 out of 8,169,164**	**43.5%**	**UNGASS, Namibia Country Report Jan-Dec 2002**	**Page 9**	**MoHSS**
Education Sector:					
Number of primary school teachers (urban):		**4,567**			**RED, MoF Budget document, p.138**
Number of primary school teachers (rural):		**11,444**			**RED, MoF Budget document, p.138**
Number of secondary school teachers (urban):		**2,538**			**RED, MoF Budget document, p.140**
Number of secondary school teachers (rural):		**2,904**			**RED, MoF Budget document, p.140**
Percentage of teachers that can be trained in HIV/AIDS in a year (urban):		**%**			**HAMU, Min Edu**
Percentage of teachers that can be trained in HIV/AIDS in a year		**%**			**HAMU, Min Edu**

(rural):					
Number of out-of-school youth (urban):		**21,483**	**Based on PHC Table 2.2**		
Number of out-of-school youth (rural):		**67,645**	**Based on PHC Table 2.3**		
Percentage of out-of-school youth that can be reached in one year (urban):		**%**			
Percentage of out-of-school youth that can be reached in one year (rural):		**%**			
Health Sector:					
Percentage of entire population with access to health services	**Within 10km radius of public health facility**	**80%**	**Health in Namibia, progress and challenges, P.22**		**MoHSS**
Percentage of ANC syphilis cases treated		**4.90%**		**2002**	**FHI**
Percentage of male symptomatic STDs treated at clinic		**%**			**MoHSS**
Percentage of female symptomatic STDs treated at clinic		**%**			**MoHSS**
Number of women attending ANC clinic per year		**19,480**	**Period 1Apr04 to 31Mar05**		**PMTCT Annual report, June 2005, page: 11**
Percent of sexually active population that gets tested for HIV		**5.33%**	**VCT: 14,254 first time testers Jan-Sep 05 - see extra spreadsheet for calculation**		**MoHSS**

Number of units of blood required per 1,000 people	**Units of whole blood distributed in 2004**	**8,708**			**Blood Transfusion Service of Namibia**
Proportion of blood supply tested		**100%**			**Blood Transfusion Service of Namibia**
Percentage of pregnant women that are tested for HIV		**90.0%**			**PMTCT Annual report, June 2005, page: 11**
Percentage of HIV+ pregnant women that are able to complete their drug regimen		**100%**			**Dr Frisch - MoHSS**
Percentage of HIV+ women that agree and successfully use formula feeding		**15%**	**Mothers who started replacement feeding**		**PMTCT Annual report, June 2005, page: 20**
Percentage of MSMs reached per year		**3%**			**TRP**
Current percentage of need for clean needles met in the health system		**100%**	**Ms Frisch - MoHSS**		**MoHSS**
Private Sector					
Percentage of workplaces with access to peer education		**17%**	**Companies representing about 26,000 employees are member of Nabcoa. 54% of these companies have work place programmes/peer education. SMEs usually do not have workplace programmes. See separate calculation.**		**NABCOA**
Number of condoms distributed at the workplace		**60,000**			**NABCOA**

Percentage of workplaces that offer access to STD treatment		**0**	**Companies often provide Medical Aid that would cover, amongst others, STD treatment**		**NABCOA**
Percentage of symptomatic STDs that are treated		**0**	**Treatment at government or private health facilities but not at company. Exception: Hospitals run by Namdeb and Rosh Pinah mine.**		**NABCOA**
Unit Costs:	-	-	-	-	-
Cost per teacher trained in HIV/AIDS					**HAMU, MoE**
Cost per out-of-school youth reached with peer education					
Cost per CSW reached					
Cost per male condom	**SMA: NAD0.31 (USD0.05)**	**1.18**			**NASOMA**
Cost per male condom distributed	**SMA: NAD0.50 (USD0.08)**	**1.71**	**Includes distribution costs, admin costs**		**NASOMA**
Cost per female condom		**6.80**			**NASOMA**
Cost per female condom distributed		**7.33**	**Includes distribution costs, admin costs**		**NASOMA**
Cost per STD treated			**USD6.80 acc to GOALS model report**		
Cost per woman screened for syphilis					
Cost per client of VCT	**SMA: NAD124.00 (USD20.00)**	**N$748.8**	**USD115.20, exchange rate USD1:NAD6.5**		**SMA, PSI calculation**
Cost per person reached through workplace programs		**N$58.00**			**NABCOA**

Cost per condom distributed at workplace intervention sites		**Free**	**Condoms provided by MoHSS. Distribution costs neglectable.**		**NABCOA**
Cost per unit of safe blood	**Available but confidential**				**Blood Transfusion Service of Namibia**
Cost per pregnant woman screened					
Cost of drug regimen per HIV+ pregnant woman identified					
Cost per month of formula feeding per HIV+ pregnant woman identified					
Cost per person reached via mass media campaign					
Cost per community worker trained		**7,000**	**Based on information from Child Line Life Line. See separate sheet for calculation.**		
Cost per MSM reached		**1,000**			**TRP**
Annual cost of palliative care	**per person**				
Annual cost of treatment for opportunistic infections	**per person**		**TB only: USD15 per person drugs only. Management costs per person about USD200 to USD350.**		**Dr Jeroen van Gorkom**
Annual cost of prophylaxis for opportunistic infections	**per person**				
Annual cost of ARVs	**per person**	**N$1,920 per adult - N$8,774 per child**	**to be verified - ART presentation T. Mbeeli 11Nov05**		
Unit cost of providing clean needles in health system? (if appropriate disposable)					

Budget Expenditure-Public (and if possible, private)		**BUDGET Expenditures**	**Private**		**Source**
		(most recent actuals)			
ITEM	**2003**	**2004**	**2004**		
Human rights		**441,000**	**441,000**	**Page 20**	**The national Strategic Plan on Hiv/Aids Medium Term Plan II 1999-2004**
Stigma	**3,652,500**		**MTP III**		**Refers to first year of MTP III - presumably 2005**
Community mobilization					
Mass media					
VCT					
Social marketing					
CSW					
MSM					
IDU					
Youth: in-school					
Youth: out-of-school					
Blood safety					
Condoms	**3,360,883**	**3,865,016**	**calculation based on MTPII, Appendix C, page 4**		**The national Strategic Plan on Hiv/Aids Medium Term Plan II 1999-2004**
STI treatment					
Workplace programs			**N$120 per employee per annum**		
PMTCT	**672,886,000**				**MTEF 2005/06 p.163, inc.: PMTCT, HAART**
Palliative care					
Treatment of Opportunistic Infections					

(Ois)					
HAART					
Tuberculosis		**4,450,000**			
Orphanage care					**MTEF p. 154, but no figures**
Community support for OVC					
School support for orphans					
Management and coordination	**2,011,000**			**MTP III**	**Refers to first year of MTP III - presumably 2005**
Monitoring and evaluation	**1,500,000**			**MTP III**	**same as above**
Research	**2,065,980**			**MTP III**	**same as above**

APPENDIX 7: SAMPLE GOALS SUMMARY SHEET

Resource Allocation	Interactive Budget 2008 (Millions)	Plan Budget (Millions)	Coverage
Budget category to display (A, B, C or D)		A	
Year to display		2008	
Total costs		**21.1**	
Supportive policy environment	52%	11.00	
Policy		-	0%
Human rights		11.00	
Stigma		-	
Community mobilization		-	0%
Mass media		-	0%
Behavior change	0%	-	
VCT		-	0%
Social marketing		-	26%
Vulnerable populations	0%	-	
Sex worker / high risk population		-	0%
MSM		-	0%
Harm reduction for IDUs		-	0%
Youth: in-school		-	0%
Youth: out-of-school		-	0%
Service delivery	37%	7.84	
Blood safety		7.84	100%
Condoms		-	26%
STI treatment		-	0%
Workplace programs		-	0%
PMTCT		-	0%
Infections averted by 2010 =		-	
Number HIV+ under care including OVC in 2008 =		-	
Number receiving ART in 2008 =		-	
Total expenditures (Million $) =		$ 288	
Prevalence in final year =		6.47%	
Prevalence reduction in final year =		0.0%	
Incidence in final year =		0.7%	
Prevention cost per infection averted (US$) =			

Menu

	Interactive Budget 2008 (Millions)	Plan Budget (Millions)	Coverage
Care and treatment	0%	-	
Palliative care		-	0%
Treatment of OIs		-	0%
Prophylaxis of OIs		-	0%
ARV		-	0%
Tuberculosis		-	0%
Mitigation	0%	-	
Orphanage care		-	0%
Community support for OVC		-	0%
School support for orphans		-	0%
Program support	11%	2.29	
Management and coordination		-	0%
Monitoring and evaluation		-	0%
Research		-	
Capacity building		2.29