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Evaluating the national HIV counseling and testing (CT) program of St. Lucia: a study to
determine coverage, utilization, successes, and gaps in service delivery

By Anjabebu S. Asrat

A dissertation submitted in partial satisfaction of the
requirements for the degree of
Doctor of Public Health

in the
Graduate Division
of the
University of California, Berkeley

Committee in charge:
Professor Amani Nuru Jeter, Chair
Professor Thomas Rundall
Professor Joan Bloom
Professor Ann Swidler

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Abstract

Evaluating the national HIV counseling and testing (CT) program of St. Lucia: a study to determine coverage, utilization, successes, and gaps in service delivery

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Doctor of Public Health

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Professor Amani Nuru Jeter, Chair

This dissertation presents findings from an evaluation of the national HIV counseling and testing program of St. Lucia. The research methods used include: semi-structured interviews, written document analysis, record reviews, and participant observations. Findings from the study will support decision making to assist in the improvement and expansion of CT service provision in the country.

The findings from this research provide evidence that there are many gaps in the national program. The major gaps include: 1) the lack of a full time coordinator to manage the CT program, 2) inadequate CT data collection, analysis, and use for decision making, 3) the absence of accurate denominator data (total tests conducted) from all sites providing CT services, 4) incomplete antenatal testing data, 5) absence of a training needs assessment or training plan, 6) shortages of personnel at all levels, 7) inadequate referral networks and linkages to support services for People Living With HIV/AIDS (PLWHA), 8) insufficient prioritization of the labs in all areas of planning, budgeting, personnel, renovations/refurbishments, training, and storage needs, 9) lack of adherence to national, regional, and international guidelines in rapid test use, 10) lack of evaluation of testing promotions and campaigns to determine reach, 11) inadequate space and infrastructure for CT service provision, and 12) insufficient inclusion of the private sector into all areas of the national program including dissemination of protocols, data collection forms, reporting structures, and training.

Detailed and specific recommends are made to address each of the identified gaps. In summary, these recommendations are that: 1) a full time coordinator is recruited for the national level for oversight and coordination, 2) new data collection instruments and processes for recording and reporting CT are developed, 3) all facilities conducting testing are required and supported to report to the national level, 4) systems are put in place to capture pregnant women and ensure that they are tested, receive their results, and that these are reported accordingly, 5) training needs and a training plan are developed and used to identify and train relevant staff, 6) additional personnel are hired to meet all needs including lab personnel, 7) referral networks are strengthened to ensure a continuum of care for patients in need, 8) labs are included during planning processes, 9) national guidelines are disseminated, 10) promotional efforts are evaluated, 11) infrastructure for CT service provision are improved, and 12) the private sector is included into all areas of the national program.

Keywords: St. Lucia, HIV, counseling and testing, evaluation



Acronyms

AIDS	Acquired Immune Deficiency Syndrome
AIS	AIDS Indicator Survey
CAREC	Caribbean Regional Epidemiology Center
CARICOM	Caribbean Common Market
CDC	Centers for Disease Control and Prevention
CHAI	Clinton HIV/AIDS Initiative
CSW	Commercial Sex Worker
DHS	Demographic Health Survey
ELISA	Enzyme-linked Immunosorbent Assay
HBM	Health Belief Model
HCT	HIV Counseling and Testing
HIV	Human Immunodeficiency Virus
IEC	Information Education Communication
IRB	Institutional Review Board
KAPS	Knowledge, Attitude, Practice Survey
MOH	Ministry of Health
NAPS	National AIDS Program Secretariat
NGO	Non-Governmental Organization
OI	Opportunistic Infections
OECS	Organization of Eastern Caribbean States
PAHO	Pan American Health Organization
PICT	Provider Initiated Counseling and Testing
PLWHA	Person Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
STI	Sexually Transmitted Infections
TB	Tuberculosis
UNAIDS	Joint United Nations Program on HIV/AIDS
UNFPA	United Nations Fund for Population Activities
VCT	Voluntary Counseling and Testing

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CHAPTER 1. INTRODUCTION

Nearly 34 million people worldwide are infected with Human immunodeficiency virus/Acquired immunodeficiency syndrome (HIV/AIDS)¹. Strategies to slow the spread of the disease have focused on two primary efforts, prevention for people who are sero-negative and treatment and care for people who are infected. HIV Counseling and Testing (CT) is an intervention that accomplishes both of these tasks. It provides prevention counseling to help people maintain a negative status and links people who are positive to care and treatment which can prolong their life and improve its quality.

Numerous studies have demonstrated the effectiveness of CT in increasing knowledge, improving self-efficacy, and changing behavior. It has been demonstrated that early knowledge of HIV infection is a key strategy for controlling the spread of the disease². Evidence indicates that people who become aware of their HIV status decrease behaviors that transmit the disease to others³ compared to people who are unaware of their infection⁴. While studies demonstrating effective approaches to prevention through CT abound, translating these studies into programs in the context of the real world can be challenging. Accordingly, the need for evaluating programs becomes imperative to ensure that they are being implemented as intended and producing the desired outcomes.

Program evaluation is a tool for examining the effectiveness of social programs. Evaluation provides valuable information for decision-making. For example, stakeholders such as donors are interested in determining if resources are being spent wisely. Other key stakeholders are interested in knowing if programs are being implemented as intended, such as whether they are reaching the target audience and making an impact. While evaluation is increasingly becoming an integral element of programming, there is often limited capacity for its implementation. As a result, stakeholders often have little understanding of programs and have inadequate information to make financial and programmatic decisions for their improvement, expansion, and/or replication.

This limited evaluation capacity and lack of necessary data for decision making is evident in St. Lucia's national HIV CT program. While the program has been ongoing since 1985, no evaluation has been conducted to date. In consultation with the Director of the National AIDS Program Secretariat (NAPS) and other key stakeholders, an evaluation of the national HIV CT program was designed using the Centers for Disease Control and Prevention's (CDC) framework. In this dissertation, I will explain this framework and its use for the evaluation of the national CT program of St. Lucia⁵.

This research has two goals. The first goal is to provide a framework for conducting a national process evaluation, which can be used to evaluate other components of the national HIV program in the country and/or to evaluate other national programs in the Eastern Caribbean. The second goal is to gather credible evidence, synthesize findings, and develop concrete recommendations that can be used by stakeholders, (e.g., the Government of St. Lucia, donors and funders, program managers, and health care workers) to improve and expand the national program. The aim of this project is to provide data that will support better service provision of CT in the

country and contribute to preventing the further spread of HIV/AIDS in St. Lucia and the Caribbean.

Epidemiological Background

A. Global HIV/AIDS

Of the 33.4 million people living with HIV/AIDS worldwide in 2008, 31.3 million were adults, 15.7 million were women, and 2.1 million were children under the age of 15⁶. New infections accounted for 2.7 million cases in 2008 and in the same year nearly 2 million people lost their lives to the disease⁷.

The burden of HIV/AIDS is disproportionately distributed. An estimated two-thirds of People Living with HIV/AIDS (PLWHA), 22.4 million, are living in Sub-Saharan Africa, which has an overall prevalence of 5.2%, although this ranges significantly between countries⁸. Table 1 illustrates the ten global regions, their corresponding prevalence rates, and the number of people infected with HIV/AIDS⁹.

Table 1: HIV/AIDS Burden of Disease by World Region, 2009

Region	HIV infected adults/children	HIV prevalence rates
Sub-Saharan Africa	22.4 million	5.2%
Caribbean	240,000	1.0%
Eastern Europe/Central Asia	1.5 million	.7%
North America	1.4 million	.6%
Latin America	2.0 million	.6%
South/South East Asia	3.8 million	.3%
Oceania	59,000	.3%
Western/Central Europe	850,000	.3%
Middle East/North Africa	310,000	.2%
East Asia	850,000	<.1%

The pandemic's impact on the lives of individuals, families, and whole communities around the world has been devastating. In addition to mortality, HIV has affected countries economically, socially, and developmentally. It has reduced average economic growth rates by 2 – 4% a year across Africa due to the reduction in labor supply and productivity of the work force¹⁰. The pandemic has also brought significant burdens on societies where the loss of heads of households have left families vulnerable to poverty and has placed greater burdens on grandparents and extended families. Countries in the developed world have controlled the spread through prevention education, effective interventions to reduce transmission, and provision of treatment and care to those already infected. Alternatively, countries in the developing world are experiencing rising incidence of HIV infection. In Sub-Saharan Africa in 2004, 2.4 million people were newly infected¹¹. Two years later in 2006, 2.6 million people were newly infected¹². The pandemic threatens to reverse hard won gains in economic and social development as it robs the youngest and most productive segments of society of their health, livelihoods, and eventually their lives.

B. HIV/AIDS in the Caribbean

While Africa bears the greatest burden of disease with 63% of global cases on the continent, the Caribbean is the second most affected region in the world as indicated in Table 1. New infections continue to increase. In 2004, an estimated 25,000 new infections were reported in the Caribbean. This rose to 27,000 in 2006, with the disease claiming 19,000 lives¹³. Other data show that the number of PLWHA in the Caribbean rose from an estimated 240,000 in 2004 to 250,000 in 2006, an increase of approximately 4%¹⁴, contributing to its high burden of disease. Surveillance data regarding infectious diseases in the Caribbean is often limited, and HIV is not an exception. The reported increase in HIV/AIDS prevalence from 2004 to 2006 in the Caribbean is 10,000 which do not correspond with incidence data reporting an estimated 27,000 case increase in 2006 alone. Prevalence includes both existing and new cases and should therefore be greater than the incidence rate. This discrepancy may be due to the high mortality rate, as indicated by the 19,000 HIV/AIDS related deaths in 2006. Whichever figure is used, the fact remains that HIV/AIDS is a significant problem in the Caribbean. Even using the more conservative estimate of a 4% increase in prevalence within two years, there is cause for concern underscoring the need to improve strategies to prevent and control HIV/AIDS in the region.

St. Lucia belongs to a grouping of countries that are tied together for strategic political, historical and economic reasons. The fifteen countries which make up the Caribbean Community and Common Market (CARICOM) include: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Lucia, St. Kitts & Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. The World Health Organization (WHO) and the Joint United Nations Program on HIV/AIDS (UNAIDS) define a generalized epidemic as one in which the prevalence rate is consistently above one percent¹⁵. Among CARICOM countries, the national adult HIV prevalence is above one percent in seven countries as indicated in Table 2¹⁶.

Table 2: Six high prevalence countries in CARICOM, 2006

Country	HIV Prevalence
Haiti	3.8%
Bahamas	3.3%
Trinidad and Tobago	2.6%
Guyana	2.4%
Barbados	1.5%
Jamaica	1.5%
Dominican Republic	1.1%

The primary mode of transmission in the Caribbean is heterosexual contact. Several factors may contribute to this including: gender inequality, social norms of multiple sexual networks, and a thriving sex industry. While less is known about male-to-male homosexual transmission due to social stigma, it is estimated that unsafe sex between men may be responsible for between 10 – 12% of reported cases¹⁷.

Despite increased incidence and prevalence rates in many countries in the Caribbean, there is some cause for guarded optimism. Countries such as Haiti, the Dominican Republic, Barbados and the Bahamas have experienced declines in the rates of HIV infection among pregnant

women and Commercial Sex Workers (CSW)¹⁸. Such declines have been attributed to improved efforts by national and Non-Governmental Organizations (NGO), as well as positive behavior changes in at-risk target populations. HIV infection levels have decreased in urban parts of Haiti and the Bahamas, and have remained stable in neighboring Dominican Republic and Barbados. Expanded access to antiretroviral treatment in the Bahamas and Barbados appears to be reducing AIDS deaths in those countries¹⁹.

While progress such as improved prevention and treatment efforts in some countries and declining prevalence among some sub-groups in other countries is promising, these improvements have not been enough to undo the Caribbean's status as the second-most affected region in the world. AIDS remains the leading cause of death among adults (15-44) in the Caribbean²⁰.

C. Overview of St Lucia

St. Lucia is an island country in the Eastern Caribbean with a population of 156,635²¹. While it is considered a developing country, many of its social indicators are similar to those of many developed nations. The total fertility rate is 2.21 children born per woman²². Life expectancy is high with a female life expectancy of 77.42 years and a male life expectancy of 70.05 years. The infant mortality rate on the island is 13.53 deaths/1,000 live births²³.

D. HIV/AIDS in St Lucia: prevalence, incidence, demographic profile

There are several reasons to focus on St. Lucia's HIV epidemic including: increasing prevalence and incidence rates, a high case-fatality rate, and a disproportionate burden of disease on the youngest and most productive citizens of the country. St. Lucia's HIV prevalence rate is reported at 0.12%²⁴. The original source of this prevalence rate is a 1995 anonymous and unlinked survey conducted by the Ministry of Health (MOH) in collaboration with the Caribbean Regional Epidemiology Center (CAREC) and the Pan American Health Organization (PAHO). This survey had a sample size of 849 pregnant women and its findings are still consistently used to report on St. Lucia's prevalence rate. However, this rate is thought to represent only 26% of the 'true' number of HIV cases²⁵. A more recent cohort screening of 774 pregnant women who were tested for HIV in 2002 yielded a sero-prevalence rate of 1.94%²⁶. The sampling methodology of the 2002 cohort screening is not known and therefore the results are not used as a proxy for national prevalence. However, if the findings of this survey were to be considered, it would indicate a 16-fold increase in HIV prevalence between 1995 and 2002, a period of only 7 years.

While the true prevalence rate of the country remains debatable, the rising incidence rates as reported by national surveillance data provide a clear picture of the need for improved prevention services in the country. The first HIV case in St. Lucia was reported in 1985. The average number of new cases of HIV reported in the first decade of the epidemic, from 1985 - 1995 was 14.2, based on surveillance figures obtained from the NAPS²⁷. The average number of new cases from the second decade of the epidemic, from 1996 - 2006, was 40 - more than twice that of the previous decade²⁸. Looking at new cases for individual years, in 2005, 77 new cases of HIV were recorded, compared to 45 in 2003, just two years prior, and 19 in 2000²⁹, suggesting that incidence rates in the country have almost quadrupled from 2000 to 2005.

In addition to rising incidence, the case fatality rate among AIDS patients in St. Lucia is alarmingly high. In 2002, the fatality rate was as high as 88%³⁰. This implies that many people are diagnosed in late stages of HIV infection and may not have access to the appropriate medications to control their disease. It also further substantiates the importance of early diagnosis, which can result in early access to care and treatment and eventually reduced morbidity and mortality.

The demographic profile of HIV infection in St. Lucia mirrors that of many countries. In 2002, the most affected age group was between 15 and 49 years of age, with a 2% prevalence rate³¹. This group accounted for 76% of the reported cases and 88% of deaths in the country. People between 25 and 34 years of age accounted for a total of 32.5% of all HIV infections in St. Lucia. Women are infected and/or diagnosed at an earlier age than men. The most affected age group for women is 25-29, while the incidence rate is the highest among men aged 30-34. Prevalence among pregnant women is on the rise and approximately 10% of the total reported AIDS cases occur among infants and children³². Surveillance data from the MOH indicate that from 1990 to 2001, HIV prevalence among women attending antenatal clinics ranged from 0.6% - 4.0%. At the end of 2002, there was an overall male to female ratio of 1.06:1 (184 males/173 females)³³. According to surveillance figures obtained from the NAPS, 546 HIV/AIDS cases were reported in St. Lucia from 1985 when testing began, through October 2006³⁴. Of the cases, 268 are male, 239 female, and the gender of the remainder are unknown. The primary mode of transmission of HIV in St. Lucia is heterosexual contact. HIV transmission from blood and blood products represents 2% of all reported AIDS cases

While 546 cases may seem minor in light of the estimated 39.5 million people infected worldwide (2006) and the estimated 250,000 people infected in Caribbean (2006), for a small island like St. Lucia, 546 cases of 156,635 people is concerning for a number of reasons. The prevalence rate may be minimal; however, the incidence and case fatality rates are alarming. The number of known cases –546- is only representative of those who have been tested. No population-based studies have been undertaken to date that can be generalized to the population at large. Consequently, the number of true HIV cases in St. Lucia is likely to be significantly higher than what is known, as a result of under-testing, underreporting, and the lack of population based surveys which can give some indication of national prevalence. Further, the incidence rates are rising, the case fatality rate is high, and the youngest and most productive are hardest hit. These realities are compelling and provide ample rationale for concerted efforts to be made to combat HIV/AIDS in St. Lucia.

E. HIV/AIDS Knowledge, Attitude, Practice

Given the dearth of research on HIV/AIDS in St. Lucia, stakeholders must utilize the existing sources of data in the country. These include the 1995-prevalence study among 849 pregnant women mentioned in the prior section, and a second cohort screening in 2002. While no Demographic Health Surveys (DHS) or AIDS Indicator Surveys (AIS) have been conducted in the country to date, the United Nations Fund for Population Activities (UNFPA) funded a Knowledge, Attitude, and Practice Survey (KAPS) in 2004 with a sample size of 238³⁵. This study included four communities in the country: Gros Islet, Dennery, Vieux Fort, and Canaries. These communities represent an equal geographic distribution of the country in the North, East,

South, and West respectively. The survey sampled 60 respondents from each community with females representing 53.8% and males representing 44.1% of the sample.

The study found that between 56 – 60% of the population in the target communities had ever heard of HIV, with the main source of information (89.5%) being the television. Of the 238 respondents, 54.2% indicated that they were sexually active. However, only 58.4% of those who were sexually active had ever used condoms. The study also provides information on testing practices and found that 35% of the respondents had ever been tested for HIV, while 62% of them thought that they *should* get tested. While the study's sample size of 238 was small, it does provide some indication of HIV knowledge, attitudes, and practices including HIV testing history and demand.

Testing history and demand is relevant because it is estimated that 90% of people worldwide lack an awareness of their HIV sero-status. In St. Lucia, this lack of knowledge of sero-status is estimated at 35%, as indicated by the KAPS. This provides evidence that it is necessary to increase access and availability of CT services to meet the demand of St. Lucia's population. Furthermore, of the 238 respondents, 62% thought that they should get tested which is encouraging and indicates a health demand for the service.

Despite the limitations in HIV surveillance and the lack of nationally representative prevalence data described above, the .12% and 1.94% prevalence from the above mentioned studies, as well as the 88% case fatality rate imply that HIV is of great concern to this small island nation. In addition, the KAPS survey implemented by UNFPA showed that 35% of the study sample had been tested, indicating a need to promote CT services in the country. Given current knowledge that CT can decrease risk behavior and promote safe practices amongst clients, it is important to promote and evaluate the effectiveness of CT services in the country.

Problem Statement

There were several needs identified to conduct this evaluation. They include: 1) there is an existing CT program which has been in operation since 1985 and has never been evaluated, 2) there are plans for expansion of the program to increase program coverage and access to CT services, and 3) no evaluation or review of the existing program has been done to inform where and what types of services are needed. For the adequate assessment of a program's effectiveness in reaching its intended objectives, a program review or evaluation is always recommended. In addition, for program expansion, it is always relevant to understand the existing program's strengths and its weaknesses to avoid duplicating a program's limitations and to facilitate building on its strengths.

The evaluation presented in this dissertation was implemented to assess the effectiveness of the current CT program, so that the people of St. Lucia are ensured quality CT services and access according to the national strategic plan. The lack of any assessment of the program to date does not allow for use of evidence based decision making for program planning and expansion. Findings from this evaluation can guide decision and policy making and will create a roadmap for the way forward.

Significance/Rationale

Significance of CT in the HIV/AIDS response

It is estimated that only 10% of people worldwide know their sero-status. This reality has severe implications for both individuals and the public. On a micro level, the lack of knowledge of HIV sero-status increases the likelihood that individuals who are infected will continue high-risk behaviors, putting themselves and their partners at risk of infection. It also decreases the possibility of early diagnosis, which can lead to early death. On a macro level, the lack of knowledge of sero-status enables the uncontrolled transmission of the virus and the pandemic continues to propagate. The availability and accessibility of CT services can help individuals learn their HIV status and take the necessary steps to access care and treatment. Similarly, countries can prevent and control the spread of HIV/AIDS and avoid the associated social and economic consequences of a generalized epidemic.

G. Rationale for evaluating St. Lucia's national program

St. Lucia has been conducting HIV testing since 1985. To date, there has been no evaluation of the CT program. It is known that CT services are available in both the public and private sectors. An outreach model of CT services exists where teams from the capital are dispatched to locations to the South and East of the country for service delivery. The public sector facilities are funded and managed by the Ministry of Health (MOH). The National AIDS Program Secretariat (NAPS) is responsible for coordination and monitoring and evaluation of all HIV programs, including CT services.

While some things are known about the CT program, there is much that is not known. There are very limited documents at the national level either describing the program or providing any description of how it is designed, managed, implemented, or evaluated. There is even less documentation at the site level to describe or explain how CT is implemented on the ground. There are no documents describing the various structures and government entities which are involved in the running of the program. There is also a lack of information about CT coverage throughout the country and information about the population's access to services is limited. There is little information about who is accessing services and how the uptake of services varies across facilities, regions, genders, and over time. No diagrams are available which describe the process from when a client enters a facility, blood is drawn, samples are sent for testing, and returned for provision of results. There is also limited data regarding staffing and human resource allocation for services.

One key reason for conducting an evaluation of St. Lucia's national CT program is to describe the program so that it can be evaluated and recommendations can be made that will inform the development of the expansion program. It is only through a detailed description of the program's functioning that an adequate assessment of it can be conducted. It is imperative to measure the performance of the national program in order to determine its strengths, weaknesses, and to make concrete recommendations for improvement. With impending plans for the expansion of the national program, it is critical that a formal evaluation is undertaken to understand how the national program is functioning and what improvements can and should be made to improve existing services. Furthermore, an evaluation can provide necessary findings to provide decision makers with key information that can be used in expansion plans.

The Government of St. Lucia, the NAPS, and the Bureau of Health Education in the MOH continue to plan and implement campaigns to promote HIV testing in the country. These campaigns include: Public Service Announcements, radio jingles, advertisements in local print media, promotional posters using popular local music stars, and billboards. The purposes of these Information Education Communication (IEC) campaigns are to promote HIV testing and to increase knowledge of sero-status amongst people in the country. These promotional campaigns can lead to an increased demand for CT services. Therefore, it is also important to assess the program's capacity to handle the potential increased demand through an assessment of human resources available to provide adequate services to the population of St. Lucia.

CHAPTER 2: LITERATURE REVIEW

Evaluation Framework

A. What is evaluation?

Evaluation is the systematic application of social research procedures for assessing the conceptualization, design, implementation, and utility of social intervention programs³⁶. Formal evaluation is “based on systematic efforts to define explicit criteria and obtain accurate information about alternatives³⁷”. Evaluation has also been described as the systematic process for the objective determination of merit, worth, or value. Without such a process, there is no way to distinguish the worthwhile from the worthless³⁸. Policy makers, decision makers, program managers, and funders use the findings from evaluations to guide crucial decisions, such as whether to continue, abolish, alter, or replicate a program. At its core, evaluation is the relationship between an *expected outcome* and an *actual outcome*.

While all of the above definitions contribute to an understanding of evaluation, the one I will use is that of renowned qualitative researcher Michael Quinn Patton. Patton defines evaluation as “... the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve a program's effectiveness, and/or inform decisions about future programming³⁹”. Patton's definition of evaluation is most appealing to me because it extends beyond the academic realm and approaches the evaluation process from a practitioner's perspective. He gets to the root of why we do evaluation, which is to provide information to make improvements in current and future programs. In accordance to Patton's definition, this evaluation is designed to systematically collect information about the activities, characteristics, and outcomes of the national HIV CT program of St. Lucia in order to draw appropriate conclusions. Most importantly, I am conducting this evaluation in order to provide information to stakeholders and decision makers who can use the findings to make improvements to the existing CT program and to inform expansion plans.

B. Why do evaluation?

Policy makers, donors, program planners, program managers and other stakeholders require information to make key decisions. They need to determine if programs are useful in order to plan, design, implement, eliminate, alter, improve, or expand programs. Questions must be asked such as: Is the program being implemented as intended? Is the target audience being reached? Is the intervention having a desired outcome and/or impact? ⁴⁰. In order to find answers to these

questions, stakeholders conduct or commission an evaluation with the hopes of finding answers to the above questions which they will then use to make decisions about the program. Evaluation is applied research the purpose of which is to inform action, enhance decision-making, and apply knowledge⁴¹.

Evaluations generally fall into two categories: formative or summative. Formative evaluation is conducted *during* the course of a program for the purpose of making changes to improve it⁴². Summative evaluation usually occurs towards the end or after the close of a given intervention to determine its effectiveness, and to provide information as to whether it should be continued or replicated. The evaluation described in this dissertation is a formative one. It is being conducted during program implementation in order to provide information to decision makers for program improvement purposes.

C. Types of evaluation

According to Rossi, there are four types of evaluation⁴³. The first is **process evaluation**, which provides documentation during program implementation to make adjustments for improvement of the program or reports on how the intervention occurred for use during replication. The second is a **cost effectiveness assessment**, which describes and contrasts costs and outcomes of a course of events expected to occur with an intervention versus without. The third is **outcome evaluation**, which assesses the overall effectiveness of a program in producing favorable knowledge, attitudes, behaviors, health status and/or skills in target population; indicates immediate or intermediate effects. The final type is **impact evaluation**, which determines whether the program met the stated long-term goals and objectives, such as a reduction in mobility or mortality rates of the population or an improvement in quality of life. This dissertation proposes a process evaluation, whereby data collection and assessment of the acquired information is being done during the program's implementation in order to make improvements to the program. This evaluation is not designed to measure cost (cost benefit analysis of CT), outcome (changes in behavior), or impact (reductions in HIV incidence). An outcome evaluation would be the next logical step for this program and will be further discussed in Chapter 5, Discussion and Future Directions.

D. Evaluation Frameworks

Numerous frameworks for program evaluation have been developed in the past four decades as the field has grown, four being most prominent in program evaluation research. These four frameworks include: 1) the social science research model, 2) goal-based evaluation, 3) goal-free evaluation, and 4) empowerment evaluation⁴⁴. An evaluator must decide, depending on the nature of the research question, which framework to utilize. Each framework has strengths and limitations. The social science research model uses rigorous social science methods to prove causality by the use of randomized research methods and statistical tests. The framework's strength is that the evaluator can use causal relationships and measures of statistical significance to prove the effectiveness of a given intervention. The framework's limitations are that the approach is costly, resource intensive, and is not feasible in most situations.

The second framework, goal-based evaluation, relies upon the stated goals of the program and measures the actual outcomes against these stated goals. The strengths of this approach are that the program staff are able to articulate their intended goals and objectives and then are held

accountable to them. One critique of this approach is that the findings from these types of evaluations are heavily focused on *whether* or not the stated goals and objectives have or have not been met, instead of *why* they were or were not met.

Goal-free evaluation allows the evaluator to analyze all of the program's outcomes, both those related directly to the goals of the program as well as other unintended consequences. The evaluator presents all of the outcomes of the program to the staff who then decide if the actual outcomes correspond with the anticipated outcomes. Decisions can consequently be made to alter the program accordingly. The strength of this framework is that the scope is broadened beyond looking not only at the stated goals and objectives of the program, but instead to all of its consequences. One limitation to this approach is that the evaluator does not have as defined goals, objectives, and targets with which to compare outcomes. Some evaluators may find this lack of goals to serve as a comparison challenging.

Perhaps the newest and most innovative evaluation framework is empowerment evaluation. This approach requires an intense collaboration between the evaluator and the program stakeholders. It requires that the evaluator step back from the traditional role of "evaluator" and instead serve as a "facilitator" or "consultant" to a group of stakeholders who decide upon all aspects of the evaluation. The strength of this participatory approach is that it is empowering to the intended recipients of a program, and often enhances feelings of ownership by communities that have traditionally been marginalized and disempowered. The weakness of this approach is that it can take a long time to implement, involves many more actors and therefore takes considerable coordination, and removes the evaluator's control over the design and implementation of an evaluation. Empowerment evaluation is new and while much has been said and written about it as an innovative approach to program evaluation, documentation and guidelines in its use are still evolving.

E. CDC's Evaluation framework

The CDC has developed an evaluation framework that borrows elements from many of the above-mentioned approaches. It describes a six-step process that is logical, easy to follow, and walks the evaluator through a step-by-step process from inception to dissemination of findings. I have chosen to use this evaluation framework because it is straightforward and can be easily understood and followed even by those without specialized evaluation training. Furthermore, while this framework provides a step-by-step process to follow, it does not prescribe any particular evaluation design, but instead can accommodate any one that the evaluator chooses as most suitable. Its strength therefore lies in its simplicity, ease of use, and practicality.

The six steps of the program evaluation process are illustrated in Figure I and include: 1) Engage stakeholders, 2) Describe the program, 3) Focus the evaluation design, 4) Gather credible evidence, 5) Justify conclusions, and 6) Ensure the use and sharing lessons learned⁴⁵. The steps and standards of the framework are described briefly in Table 3. I will demonstrate how each step has and will continue to guide this evaluation in greater detail in Section VI, Research design.

At the center of the framework and inherent in all steps are the standards for effective evaluation. The Joint Committee on Standards for Educational Evaluation has identified a set of 30 standards

for effective evaluation and has organized them into the four categories: 1) utility, 2) feasibility, 3) propriety, and 4) accuracy, as described in Table 3. They were developed and approved by the American National Standards Institute and were endorsed by the American Evaluation Association and 14 other professional organizations⁴⁶. Utility refers to information needs of intended users that should be served. Feasibility refers to the concepts of being realistic, prudent, diplomatic, and frugal. Propriety refers to behaving legally, ethically, and with due regard for the welfare of those involved and those affected. Accuracy refers to revealing or conveying technically accurate information. (See Table 3).

Figure I: Framework for Program Evaluation⁴⁷

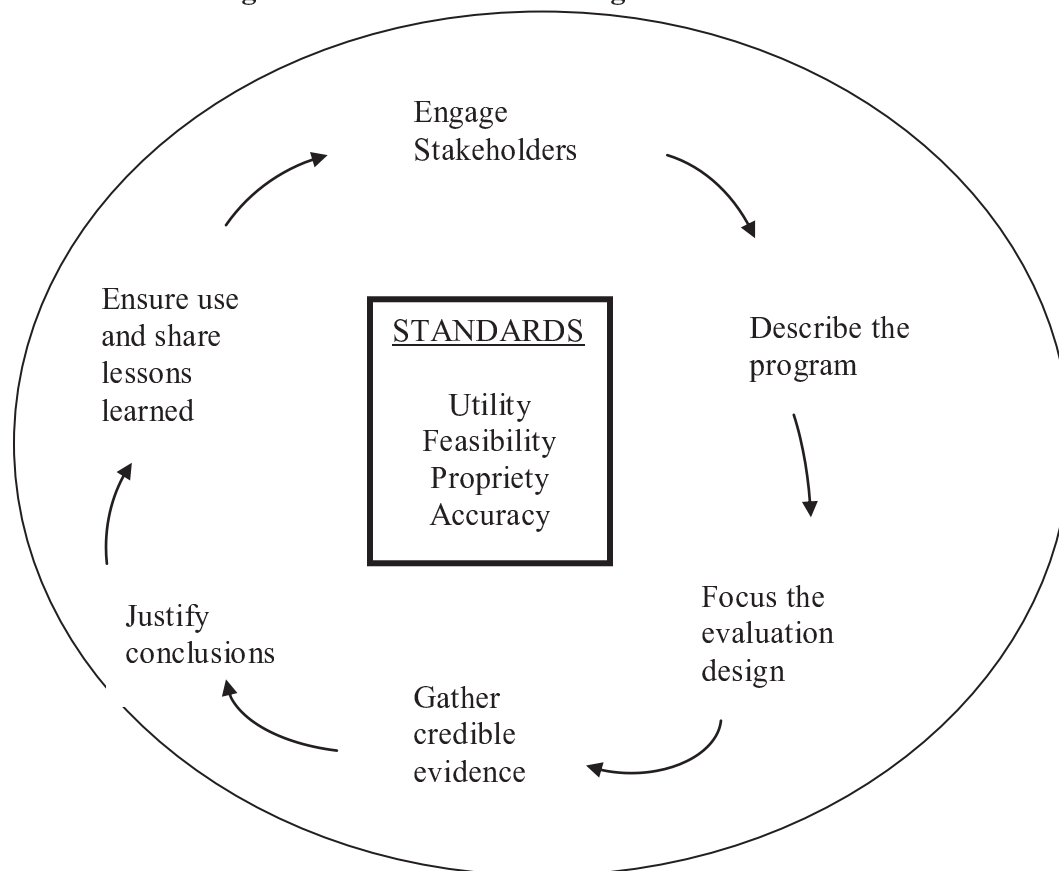


Table 3: Steps in evaluation practice and standards for effective evaluation

Steps in Evaluation Practice	Standards for Effective Evaluation
Engage stakeholders Those involved, those affected, primary intended users	Utility Serve the information needs of intended users
Describe the program Need, expected effects, activities, resources, stage, context, logic model	

Focus the evaluation design Purpose, users, uses, questions, methods, agreements	Feasibility Be realistic, prudent, diplomatic, and frugal
Gather credible evidence Indicators, sources, quality, quantity, logistics	
Justify conclusions Standards, analysis/synthesis, interpretation, judgment, recommendations	Propriety Behave legally, ethically, and with due regard for the welfare of those involved and those affected
Ensure use and share lessons learned Design, preparation, feedback, follow-up, dissemination	
	Accuracy Reveal/convey technically accurate information

COUNSELING AND TESTING BACKGROUND

Counseling and Testing Background

F. Counseling and Testing

What used to be referred to as Voluntary Counseling and Testing (VCT) is now commonly known as Counseling and Testing (CT). This is because HIV testing is no longer limited to the traditional model of a stand-alone center where an individual *voluntarily* requests an HIV test. The term CT is more inclusive of all the types of testing which are in use today including: *voluntary* or *self-initiated* testing, provider-initiated testing, as well as mobile, home-based, and diagnostic testing. The three components of counseling and testing include pre-test counseling, testing, and post-test counseling. During the pre-test counseling session, a trained counselor: describes the test, clarifies knowledge, discusses prevention, and seeks informed consent to perform the HIV test⁴⁸. The second component of CT is the actual test. Testing methods include the traditional and rapid test. Traditionally, the enzyme-linked immunosorbent assay (ELISA) has been used and western blot method used for confirmation of positive results. Improvements in diagnostic technology have increased the use of rapid tests which ensure same day results. Rapid tests have reduced the barriers of transport, cost, psychological distress of a long wait, as well as the time that it takes to arrange to return for results. The third component of CT is the post-test counseling session. This includes: disclosure of results, risk-reduction counseling and referral for care, treatment, and psychosocial support if positive. HIV positive women are counseled on the risks of pregnancy. Treatment for the mother may be provided as well as medical interventions to reduce the risk of HIV transmission to the baby. Counseling on infant feeding is provided and women are also referred for Prevention of Mother to Child Transmission (PMTCT) services⁴⁹.

G. Theories behind CT

Two theories often cited in the literature guiding CT are the Health Belief Model (HBM) and the Stages of Behavior Change, both of which are individual level behavior change theories. The HBM makes three primary assumptions: 1) a negative health condition can be avoided, 2) action can be taken to prevent a negative outcome, and 3) the individual believes that he/she can take a recommended step with confidence. CT uses the theoretical concept of the HBM because it assumes that an individual: 1) can avoid transmission through knowledge and awareness of one's

status HIV status and that of partners, 2) can take risk reduction steps, such as consistent condom use, to avoid acquiring the virus, and 3) believes in his/her ability to reduce risk for transmission and seek care and treatment if positive. The HBM has six main concepts: 1) perceived susceptibility is the perception of one's own risk for acquiring a disease or condition, 2) perceived severity is the belief about the seriousness of a health condition and its consequences, 3) perceived benefit(s) is the perception of the positive consequences that arise from taking a particular action, 4) perceived barrier(s) is the assessment of the costs that are associated with taking a particular action, 5) cues to action are the strategies to activate readiness, and 6) self-efficacy is the confidence in one's abilities to take action⁵⁰.

The second model of behavior change, which has been heavily relied upon in the development of CT strategies, is the Stages of Change theory developed by James Prochaska⁵¹. A clinical psychologist, Prochaska grappled with the steps that people go through to change behavior and narrowed these down to five stages: precontemplation, contemplation, preparation, action, and maintenance. **Precontemplation** describes the stage at which there is no awareness about a problem and therefore no intention to change. **Contemplation** is the stage in which people become aware that a problem exists and are thinking about overcoming that problem. **Preparation** is a stage where an individual is both aware of the problem and intends to take action. **Action** is the stage in which an individual modifies behavior to overcome a problem. Action involves the most overt behavioral changes and requires considerable commitment of time and energy. **Maintenance** is the stage in which an individual commits effort to prevent relapse. This theory is utilized in the client-centered counseling and testing method recommended by the CDC. Counselors are trained to assess their clients' stage of readiness and provide support and advice to assist their clients to move from one stage to the next.

H. Counseling and Testing: the evidence for behavior change

CT for HIV is internationally recognized as an effective strategy for prevention and as a gateway to care, treatment, and support. Early knowledge of HIV infection is recognized as an essential component of a comprehensive strategy to slow the spread of the disease⁵². Research has demonstrated that CT is a cost-effective strategy for facilitating behavior change and is an important entry point for referrals to care, treatment, and psychosocial support for those who test positive. Studies have demonstrated that people who are informed of their positive status decrease behaviors that transmit infection to their sexual and needle sharing partners⁵³. This has been demonstrated even amongst high-risk groups such as injecting drug users⁵⁴. Other studies have demonstrated that HIV-infected homosexual men who become aware of their infection reduce their sexual risk behavior⁵⁵. Conversely, people who are unaware of their HIV sero-status do not reduce their risk behaviors⁵⁶. A paper, which synthesized the entire body of research on CT to date in a comprehensive meta-analysis, concluded that HIV testing does result in a reduction in risk behaviors for persons who are HIV infected as well as for sero-discordant couples⁵⁷.

While the majority of studies on CT were observational cohort studies, two randomized clinical trials have confirmed the efficacy of the interactive approach in changing behavior. The first study was conducted from 1993 – 1996 in public sexually transmitted disease (STD) clinics in five cities in the United States. This study compared an interactive HIV/STD counseling method with a didactic one that was the standard in the 1990s⁵⁸. The finding demonstrated that at 3 and

6-month follow-up, self-reported 100% condom use was higher among those receiving the interactive counseling sessions than those receiving the didactic method. To corroborate these self reports with biomarker data, it was found that there were 30% fewer STD among participants in the interactive arm. At 12 months, there were 20% fewer STD in the interactive arm. This seminal trial substantiated previous findings that CT interventions based on an interactive, personalized risk reduction approach are effective at reducing risk behavior.

The Voluntary HIV-1 Counseling and Testing Efficacy Study Group took these domestic findings and conducted a multi-country international study, to provide further evidence of the efficacy of CT for behavior change⁵⁹. The study was carried out in: Nairobi, Kenya; Dar es Salaam, Tanzania; and Port of Spain, Trinidad and Tobago. This randomized, intervention trial compared a health-information only format with a personalized, client-centered counseling approach, which included the administration of a personalized risk assessment and the development of a personalized risk-reduction plan. Findings showed that people enrolled in the client-centered arm were significantly more likely to reduce unprotected intercourse with non-primary partners. The differential between the CT arm and the health-education only arm in the proportions of participants reporting unprotected intercourse was significant. Of the men, 35% in the CT group vs. 13% in the health education only group reduced unprotected intercourse. Of the women, 39% in the CT group vs. 17% in the health education only group did the same. This study confirmed the beneficial effects of CT on HIV related risk behavior and established that the effects observed have important public health implications for infections averted.

While the overwhelming majority of research to date has provided evidence of the benefits of CT, other research indicates that there is some level of risk associated with knowing one's status. Some studies have sited the potentially negative consequences of CT, including family and relationship disruption, sexual violence, stigma, and discrimination⁶⁰. A study conducted in Rwanda discussed the negative consequences of CT for women who enrolled as a couple vs. as individuals. The findings showed that the women who were enrolled as a couple suffered negative life consequences including physical beatings and the break up of the relationship, especially if the spouse was HIV negative⁶¹. Keough and colleagues reported common signs of depression in women who found out that they were infected with the virus⁶². So, while the benefits of CT have been well documented in changing behavior, referring people for care and treatment, and enabling people to take action to decrease the likelihood of transmission to partners, there has been documentation of potential risks to CT including violence and stigma.

While some research has documented the potential risks to individuals of knowing and disclosing their HIV status, there is significant evidence from both observational and randomized clinical trials, in the United States, as well as internationally, demonstrating that HIV CT is effective at changing behavior. In order to change behavior, however, adequate implementation of CT services must be ensured. With a rising HIV rate in the country of St. Lucia, and with a nascent epidemic that has yet to reach a one percent generalized prevalence rate, St. Lucia has the opportunity to implement a CT program that may have the potential to contribute to the reduction of the transmission of the virus in the general population.

CHAPTER 3: RESEARCH QUESTIONS AND METHODS

Specific Aims and Research Questions

The framework described above will be used to guide the evaluation and will answer the specific aims and research questions outlined below.

1. AIM: To document the national CT program of St. Lucia.
 - a. What are the roles and responsibilities of the key coordination, implementation, training, and evaluation personnel/entities?
 - b. What are the inputs, outputs, activities, intended outcomes and intended impact of the program?
2. AIM: To identify achievements and successes of the national CT program.
 - a. What is the coverage (availability/accessibility) of CT services in St. Lucia?
 - b. What is the utilization (demand/uptake) of CT services in St. Lucia?
3. AIM: To determine gaps and areas for improvement.
 - a. Is the CT program meeting its stated goals and objectives?
 - b. Is the CT program adhering to national, regional, and international guidelines for CT program implementation?
 - c. What are the gaps and deficiencies in the program as perceived by management and implementing personnel?
4. AIM: To make recommendations for improvement and expansion of CT services.
 - a. What concrete recommendations can be made for the improvement and expansion of the national CT program based on evaluation findings?

Research Design

A. Study period

Preparatory work for this study, including the literature review, the drafting of the research protocol, the development of the data collection instruments, and the development and submission of the Institutional Review Board (IRB) application took place from May through August of 2006. The data collection and fieldwork was conducted after IRB approval was granted, between August – November 2006.

B. Study setting

As discussed in the Background section, the Caribbean is the second most affected region in the world, after Sub-Saharan Africa, in adult prevalence rates of HIV/AIDS. The prevalence rate in St. Lucia is consistently reported at .12%⁶³. Despite the limitations in the data, the low prevalence rate suggests that the epidemic in St. Lucia is not yet a generalized one. The World Health Organization (WHO) and UNAIDS define a generalized epidemic as one in which the prevalence rate is consistently above one %⁶⁴. A concentrated epidemic is defined as one in which HIV prevalence is consistently above five% in at least one sub-population, but is below 1% in pregnant women in urban areas. Again, data limitations do not allow for an adequate

assessment of prevalence amongst high-risk groups to estimate prevalence in any such sub-population. However, the low prevalence rate does imply that the country has an opportunity to prevent the epidemic from escalating to levels reached in other Caribbean countries such as Haiti, the Bahamas, and Trinidad and Tobago, which all have rates between two to four percent - the highest in the region.

The Government of St. Lucia's response to HIV/AIDS has included prevention measures and limited treatment. In order to intensify its response to the epidemic, the Government has adopted the National HIV/AIDS Strategic Plan 2003-2008⁶⁵. The plan is based on a situation and response analysis of HIV/AIDS in Saint Lucia⁶⁶. It proposes four main strategies: (I) advocacy and policy development; (II) comprehensive HIV/AIDS care for PLWHA, (III) prevention of further transmission of HIV, and (IV) strengthening national capacity to deliver an effective coordinated multisectoral response. The World Bank is funding the implementation of this national plan, titled the St. Lucia HIV/AIDS Prevention and Control Project⁶⁷. The CT program of St. Lucia is one component of this larger project.

C. Study design

This research proposes a process evaluation and provides an assessment of a program during implementation with the purpose of making improvement. This type of evaluation provides useful data for decision makers and can be used to decide on program expansion and/or replication. The multiple data sources used will allow for informed perspectives into the systems, processes, and operations of CT service delivery in St. Lucia.

As indicated earlier, process evaluation is useful in elucidating and understanding the internal dynamics of how a program, organization, or relationship operates⁶⁸. Patton also describes the utility of this method by explaining that process data permits judgments to be made about the extent to which a program operates the way it is supposed to, thereby revealing areas for improvement. Patton concludes that process evaluations help to understand both how programs *operate* and how they can be *improved*. They also help to determine if a program should be replicated. Patton's review of the utility of process evaluation validates the choice of this study design to achieve the four study aims: 1) To document the national CT program of St. Lucia, 2) To identify achievements and successes of the national CT program, 3) To determine gaps and areas for improvement, and 4) To make recommendations for improvement and expansion of CT services.

D. Steps in program evaluation

The program evaluation framework developed by CDC provides guidance to evaluators as they conduct their work. These steps are: 1) engage stakeholders, 2) describe the program, 3) focus the evaluation design, 4) gather credible evidence, 5) justify the conclusions, and 6) ensure use and lessons learned. Each step, as well as how it will be applied to the evaluation described in this dissertation, is discussed below.

1. Engage stakeholders

The first step in program evaluation requires the evaluator to engage stakeholders. Stakeholders are people or organizations that are invested in the program, are interested in the results of the evaluation, and have a stake in how the findings are used⁶⁹. Their needs and interests should be

represented throughout the program planning and evaluation process. Considering the perspectives and interests of the various evaluation findings increases the likelihood that the findings will be accepted and used.

This evaluation engages three categories of stakeholders. The first are decision makers and coordinators at the highest level of government. Findings from this evaluation are expected to provide them with information needed to make decisions about the national program. These include: the Chief Medical Officer, the Advanced Trainer, the Senior Health Educator, the Principle Nursing Officer, the Chief Pharmacist, the Clinical Care Coordinator, the Director of the NAPS, and the National Laboratory Superintendent, and the Director of the Blood Transfusion Service.

The second group of stakeholders consists of service providers/implementers. These stakeholders stand to benefit from knowing the areas in need of improvement. The study provides them with a forum to voice their needs and frustrations with management/coordination and or other components of the national program. People in this group of stakeholders include: managers at each CT site, counselors, the clinical social worker, the STI physician, community health aides, and three lab managers.

The third group of stakeholders includes donors and national/regional technical assistance providers. The findings and recommendations from this evaluation will help donors make decisions regarding the allocation of resources, renewal of funding, and replication/expansion plans. The regional technical assistance bodies can use the findings to determine the technical assistance needs of the national program based on the weaknesses identified through the evaluation. The stakeholders in this group include: the World Bank, CAREC, the Global Fund, the Clinton HIV/AIDS Initiative, CDC Caribbean Regional Office, and the Organization of East African States- HIV/AIDS Program.

Perhaps the group of stakeholders who stand to benefit the most from the findings and subsequent use of the findings for program improvement are clients or users of CT services in St. Lucia. While it was beyond the scope for this evaluation to include users in the study, a subsequent outcome evaluation should include this group. This will be discussed in Chapter 5, Discussion and Future Directions.

2. Describe the program

The second step in CDC's program evaluation framework requires the evaluator to describe the program. This involves the development of a clear and succinct description of the program that helps to clarify the program's purpose, activities, and capacity to fulfill the objectives of the program. This program description will achieve three goals: 1) describe the organizational structure of the national program, 2) elaborate clearly defined roles and responsibilities of each component of the program (i.e. training, national management, national reference lab, etc.), and 3) develop a logic model.

The first goal is to develop an organizational diagram that illustrates the organizational structure of the national program. This will be achieved by conducting a content analysis of various planning documents provided to me by the NAPS. I will supplement this information with

information from the interviews, participant observation, and the record reviews, to ensure that I document not only what was *planned* but also what is actually happening on the ground. I will synthesize these various sources of information to develop a visual representation of the organizational structure of the national program.

The second goal in describing the program is to develop detailed descriptions of the roles and responsibilities of each level of the program: regional, national, and site level. At the regional level, what are the roles and responsibilities of actors such as the technical assistance providers and regional reference labs? At the national level, what are the roles and responsibilities of the policy and decision makers and trainers? At the site level, what are the roles and responsibilities of the site level managers, counselors, lab technicians, and community health aides? Detailed descriptions of the roles and responsibilities of the various program components will facilitate a robust understanding of the expected tasks assigned to each component of the program.

The third goal of this step is to develop a logic model. A logic model is a tool that is used in program planning and evaluation to: 1) identify the short-term, intermediate, and long-term outcomes of the program; 2) link those outcomes to each other and to the program activities; 3) select indicators for measurement; and 4) explain to decision makers why it may take time before you are able to demonstrate long-term outcomes associated with the program⁷⁰. The development of this logic model or one page visual illustration of the program will help the stakeholders and me understand the program, its goals, activities, and intended outcomes.

The description of the national program will result in an understanding of the: organizational structure of the program, the roles and responsibilities of the various actors in the program, and a visual logic model of the inputs, outputs, and expected outcomes. Stakeholders can better understand the program's design, components, and can better assess its intended and actual outcomes.

3. Focus the evaluation design

Focusing the evaluation involves determining the questions to be asked and selecting the methods that are most appropriate in answering the research questions that have been identified. In addition, focusing the evaluation design requires the evaluator to develop or identify the data collection instruments, identify data sources, and finalize the measures to be used.

A process evaluation was selected for several reasons. First, this type of evaluation helps stakeholders understand the operations/process of a program and can help elucidate how to improve a program. Process evaluations can indicate whether inputs and resources have been allocated according to design and if activities are being implemented as planned. They identify program strengths, weaknesses, and areas that need improvement⁷¹. Process evaluations are best studied through qualitative approaches which allow for in-depth understanding and clarification of processes, roles and responsibilities, and program implementation.

4. Gather credible evidence

Once the evaluator has determined the research questions and has decided what should be measured and how, the fourth step involves the actual data collection. This involves the validation of the data collection instruments if necessary and their use for data collection.

This process evaluation uses three data collection instruments. Two instruments were derived from CDC's, * *VCT team's Program Tools for Implementing Voluntary HIV Counseling and Testing*⁷². A third was an interview guide developed by myself. The use of these tools will be described further under Section VI, Research methods. Besides the use of the data collection instruments to conduct the interviews, participant observation notes from the CT training and site visits, the written document analysis, and the record reviews were also conducted. Each of these will yield relevant data and will contribute to the overall findings and recommendations.

5. Justify conclusions

This step includes the organization and analysis of the data collected in the previous step. The evaluator, based on the research design and analysis plan, categorizes and makes meaning of the data collected. The evaluator should always endeavor to make the findings useful to the stakeholders that were identified in the first step. This step also includes the interpretation of findings and development of recommendations to the relevant stakeholders.

In the evaluation described in this dissertation, the data will be analyzed to produce findings that can be used by decision-makers, program implementers, and donors about the program. To date, a preliminary analysis of the data has resulted in some preliminary findings. This was done to ensure that immediate findings were shared with the stakeholders in a timely and responsive manner. A more systematic analysis of all of the collected data will be conducted and formally developed into a final dissertation. This will be an iterative process and interpretations will be developed, checked with key-informants, followed up with questions, and information cross-checked with other forms of data. Discussions with key informants, particularly program implementation staff, throughout the data analysis will enable mutual and collective understanding of and agreement on the interpretations of the findings.

6. Ensure use and lessons-learned

The goal of the last step of the framework is to ensure that the relevant stakeholders use the findings of the evaluation to make changes and improvements to the program, and/or to make decisions regarding future programs. Another aspect to this step involves sharing lessons of the evaluation experience.

Preliminary findings were shared with key stakeholders through an oral presentation and written report in October 2006. The stakeholders who were present at the oral presentation included representatives from the MOH, NAPS, and the Peace Corps. The preliminary report was also disseminated to national and regional technical assistance providers such as the Caribbean CDC, the Clinton HIV/AIDS Initiative, and to the Organization of Eastern Caribbean States Secretariat. It was mailed to those stakeholders who were unable to attend the presentation. Detailed findings will be shared after a completion of the analysis to all of the relevant stakeholders in the form of the dissertation. In addition, a lessons-learned publication describing the use of CDC's Program Evaluation Framework for use in a process evaluation of a national CT program will be developed. The most relevant venue for such a publication is a relevant Caribbean regional

* VCT is used here instead of CT because this is the name of the technical team at CDC which developed this document.

journal which is more likely to be accessed and used by program coordinators, managers and other key stakeholders in the region.

Research Methods

D. Ethical review

The exemption application of IRB full review was developed and submitted to the University of California, Berkeley's Office for the Protection of Human Subjects in June 2006. The Committee for the Protection of Human Subjects granted its approval of Protocol #2006-7-61 on August 11, 2006. While St. Lucia does not have a Committee for the Protection of Human Subjects or equivalent body, I communicated with the leadership of the MOH and the NAPS about the details of the study. The leadership has been provided with all study related materials including the research protocol and the data collection instruments. They have been provided with the opportunity to review and provide feedback, input, and comments to all relevant materials. In addition, I have met with and communicated with the leadership of the MOH and the NAPS throughout the process to provide updates on the evaluation plans.

E. Study participants/Recruitment

Interview participants were identified through discussions with key personnel in the MOH. The inclusion criteria are that the participant be: 1) involved in the CT program as coordinators or trainers at the national level, or 2) involved in the CT program as managers and implementers at the CT site level. This would therefore include the opinions, perspectives, and knowledge of both those who are involved in making policy and decisions about the program as well as people who are managing or providing CT services at the sites. Two lists of personnel who fit the stated criteria were generated and agreed upon by the director of the NAPS and myself.

St. Lucia is a small country. Therefore, it is within reason to include virtually all the decision makers, and implementers of CT services in the country. Of the list of key personnel stakeholders, only three people were not interviewed due to scheduling conflicts and travel during the study period. While formal interviews were not conducted with these three people, informal conversations and dialogue did take place providing their perspectives on the program. The choice of the interview subjects was strategic and designed to include the coordinators and managers who make decisions about not only CT, but also the HIV program including the continuum of HIV prevention, care, and treatment. This will allow for an understanding of the top levels of policy and decision-making about the program. It also allows me to explore the decisions that were made, the reasons behind those decisions, and the vision for the future of the program. National level personnel included in the study at the highest levels of the MOH are: the Chief Medical Officer, the Advanced Trainer, the Senior Health Educator, the Principle Nursing Officer, the Clinical Care Coordinator, the Director of the NAPS, and the National Laboratory Superintendent.

Aside from the highest levels of decision and policy makers, it is also crucial to include site level personnel in the evaluation. This is useful to understand the obstacles, challenges, and strengths that the health care workers face on a day-to-day basis regarding the operations of the CT program. The data gathered from these personnel are expected to enrich my understanding of various aspects of service delivery at the site level and will allow me to get a more

comprehensive picture of CT in St. Lucia. Site level personnel targeted for interview include: the site managers at each CT site, counselors, the clinical social worker, the STI physician, nurse counselors, community health aides, and lab managers.

F. Informed consent

The IRB granted a waiver of documented consent based on the non-sensitive nature of the questions included in the data collection instruments. A recruitment/informed consent script was developed explaining the evaluation project, the purpose of the interviews, as well as the risks and benefits to participation. An explanation of how the results would be used was also discussed. As a routine evaluation, the information collected was for the purpose of gathering evidence for use in program development and the IRB therefore approved the verbal recruitment and consent process as adequate.

G. Interview procedures

Twenty-four semi-structured, one-on-one in-person interviews were planned to include various stakeholders. These interviews were intended to yield valuable information from two tiers of stakeholders. The first tier involves coordinators and managers at the highest levels of the MOH and the NAPS. The second tier includes interviews with site level service providers including: nurses, site managers, counselors, community health aides, lab managers, and lab technicians. The purpose of this was to gather the opinions, perspectives, and knowledge of those involved in developing policy and making decisions about the program. These individuals were best placed to provide insights and perspectives into the planning, resource allocation, decision-making, and policies of the program. It was also important to gather the perspectives of the individuals who were managing or providing CT services at the sites. These people are involved in the day-to-day implementation of the program and are essential to providing insight into daily operational issues.

Semi-structured interviews use general topics or subjects as conversation starters and prompts. This interview structure allows the interviewer the flexibility to create questions throughout the interview. It also allows the interviewee the ability to answer questions and engage in detailed discussions of issues that may not have been raised by the researcher.

The design for conducting the interviews includes taking detailed notes at the interviews and transcribing them immediately afterwards. The interviews with the national level personnel would be conducted in their own offices or in the offices of the NAPS. The health care workers would be interviewed at their places of work at the five health care facilities. The times and dates which would be most conducive and the least busy, often before or after service hours, would be selected. After times and dates are identified, interviews would be conducted at the respective facilities. In some cases, health care workers would be interviewed at the offices of the NAPS for convenience and lack of interruptions. The interviews were designed to last approximately 30 minutes. However, the length of the interviews depend on time-constraint, personality, how much the interviewee has to say, the number of years they have worked in the program, and their level of their engagement in the program.

H. Data collection instruments/measures

Data will be collected using four categories of sources: 1) interviews, 2) record reviews, 3) unpublished and written documents, 4) participant observation notes.

There were three primary data collection tools selected for use in this evaluation. The first two are from the CDC's, Global AIDS Program, *Program Tools for Implementing Voluntary HIV Counseling and Testing*⁷³. The two tools selected from this manual are the: 1) VCT Site Monitoring Tool and 2) the VCT Site Readiness Assessment Tool. These tools were developed, piloted, revised, and validated by CDC's, VCT team. They are widely used in the field and recognized as good measures for monitoring CT programs.

The VCT Site Monitoring Tool was selected for use in interviewing site level managers of facilities with CT services already in their facility. This tool was selected for use at five sites where services were already taking place. The tool is a guide and therefore not all questions are relevant or able to be answered by all of the managers. The categories for assessment with the VCT Site Monitoring Tool include: 1) services offered, 2) target population, 3) convenience and accessibility, 4) privacy and confidentiality, 5) personnel, 6) workspace, 7) data collection, record keeping, and feedback, 8) linkages and coordination of services, 9) outreach counseling, 10) community sensitization and mobilization, 11) quality assurance for counseling, 12) cost and sustainability, and 13) observations of the facility.

The second tool selected for use is the CDC Site Readiness Assessment Tool. This was selected to measure readiness at sites where CT is not yet available. These sites will be evaluated on their readiness to integrate a new service into their existing services. These findings will be used to develop recommendations for the expansion plans of the program and to determine the site specific needs before integration of CT into existing services. The categories for assessment using this tool include: 1) operations, 2) confidentiality, 3) personnel, 4) proposed workspace, 5) community sensitization/mobilization, 6) coordination of services, 7) outreach counseling, and 8) financial resources.

Aside from the two above-mentioned CDC tools, an interview guide was also developed for use with decision-makers. This guide was used to facilitate discussion with people involved in decision-making regarding various components of the program. The guide was adapted relative to the interview subject's relevant technical area of responsibility. Areas for assessment in guide include: 1) decision-making/strategic planning, 2) testing, 3) training, 4) counseling, 5) data collection/analysis/reporting, 6) logistics/infrastructure, and 7) referral networks.

I. Data analysis

Overview

The data were analyzed and synthesized into a preliminary draft report and oral power point presentation communicating study findings, which were presented and submitted to the NAPS on October 31, 2006. A more robust and systematic analysis of the qualitative data, record reviews, and written documents will be conducted using triangulation methodology. Triangulation, as opposed to relying on a single form of evidence as the basis for findings, relies on using multiple

forms of evidence, which check the validity and reliability of the findings⁷⁴. Relying on any one form of evidence may constrain the validity of the findings. As an example, to get a full picture of CT training, I will: 1) analyze information gathered from an interview with the CT Advanced Trainer, 2) review the training curriculum, and 3) examine detailed participant observation notes from the week-long training. By using triangulation through this method of gathering and using evidence from multiple sources, I can get a more comprehensive picture of CT training in St. Lucia⁷⁵.

The analysis plan for the interviews and participant observation tools consists of using open coding and the grounded theory approach to identify emerging issues. Grounded theory is a widely used method for analyzing qualitative data that allows the researcher to conceptualize findings⁷⁶. This approach, developed by Barney Glaser and Anselm Strauss, builds theory out of qualitative data⁷⁷. This analytical method allows the researcher to identify, name, categorize, and describe phenomena found in the text and observation and new “theories” about the material are generated. The research analyst reads and re-reads text and observation notes in order to “discover” or label variables called categories, concepts and properties and their interrelationships. Evaluation researchers also recognize that the inductive approach is particularly appropriate for the conduct of process evaluations because the unique dynamics of a process is best studied without predetermined hypotheses. An open-ended approach permits the strengths and weaknesses of a program to emerge from the process of observations and interviews rather than from the theories and expectations of the researcher⁷⁸.

Record reviews

Another source of data for the evaluation are the record reviews. The data on testing will be retrieved from the inception of the program in 1985 until the present. The purpose of using this data source is to analyze testing trends and will yield data on HIV testing including: coverage, use, and demographics of testers by age, gender, and risk behavior.

Three major labs were selected for the record reviews. These include: 1) the national reference lab in Castries, Ezra Long Laboratory at Victoria Hospital, 2) a large quasi-governmental Catholic hospital in Vieux Fort, St. Jude’s Hospital, and 3) the main, private hospital in Castries, Tapon Hospital. The lab managers were asked during the course of their interviews for permission for me to come back to their labs later for a review of their records. All three lab managers agreed. In some instances, a few days were sufficient to conduct the reviews. In other labs, it took up to several weeks to complete. Lab managers set aside space within their labs for me to conduct these reviews and ensured that no records left the confines of the labs. All of the data reviewed were of aggregated daily, monthly, or yearly HIV testing totals and not individual patient records. Therefore, the confidentiality of individuals was not breached. These record reviews are expected to yield descriptive statistics about testing in St. Lucia as well as pertinent information about the content, completeness, and adequacy of data gathering, storage, analysis, dissemination, and use in the country.

The analysis plan for the record reviews includes using descriptive statistics to provide information on basic associations. The dependent variables will include the number of tests conducted: by year (1985 – present), by region, and by site. The justification for using descriptive as opposed to inferential statistics in this analysis is because the sample includes all

clients of CT services in St. Lucia, and not a randomly selected sample. Consequently, the findings cannot be inferred to the total population of St. Lucia. Independent variables will include numerous categorical variables such as: 1) individual demographics such as age and gender and 2) the source of patients, such as if they are antenatal clients, STD patients, or patients from the maternity wards. Numbers and percentages of positive tests as determined by the national reference lab in St. Lucia will be compared to those tests confirmed as positive by the regional reference lab in Trinidad and Tobago at the Caribbean Epidemiology Center (CAREC). This will allow for an analysis of positive correlations between tests conducted nationally and those retested at CAREC and will assess the reliability and accuracy of in-country diagnostic capacity. Gaps and weaknesses in the surveillance system will be highlighted through these reviews which will yield important information regarding the type of individual level data collected at the sites, as well as issues of data: storage, reporting, completeness, dissemination, and use for decision-making.

Unpublished and written documents

Another source of data for the evaluation are the relevant unpublished and written documents. These documents include: 1) needs assessment consultant report, 2) MOH reports, memoranda, power point presentations, 3) national HIV/STI guidelines/protocols, 4) CT training curricula, 5) external evaluations of other components of the HIV program, 6) strategic planning documents, and 7) World Bank funding documents and audit reports. The purpose of analyzing these documents is to retrieve information regarding the intended goals and objectives of the program as well as to understand the background and need for the program. The national guidelines provide a standard with which to compare the implementation of the program. The funding documents provide insight into the intentions of the donors, which are key stakeholders for the project.

Additional analyses of participant observation notes

The final data source is findings from participant observation notes. Observations and detailed field-notes from two distinct contexts will be analyzed. The first context is from a week-long CT training course in which I participated as a trainee as well as an observer. This analysis will allow me to gain an understanding of: who gets trained, how trainees are trained, what curriculum is used, what pedagogical methodology is employed, and will allow for an assessment of the value, content, length, and process of the pre-service training. The second participant observation context is from the CT sites. Documentation of my observations of the external and internal physical environment of the facilities, the IEC materials on the waiting room walls and in the counseling rooms, as well as the interactions among and between the clients and health care personnel will be analyzed. The purpose of analyzing participant observation notes from the pre-service training and the physical facilities where CT takes place is to add context to these two settings. While a review of the training curriculum and an analysis of testing trends do provide good information, participant observation adds value to understanding those elements of the CT program that cannot be gleaned by record reviews alone.

J. Data dissemination and use

The findings from the semi-structured interviews and record reviews will be utilized to make recommendations for the improvement and expansion of CT services in St. Lucia. The NAPS and the MOH have already been provided with preliminary results for use in improving and

expanding services in HIV CT in St. Lucia. Other important regional bodies as well as the main donors of the national HIV/AIDS program in the country have also received the preliminary report including: the Caribbean CDC, the Clinton Foundation's, Clinton HIV/AIDS Initiative (CHAI), the Organization of Eastern Caribbean States (OECS) -HIV/AIDS Prevention Unit and the World Bank. All of these relevant stakeholders will also be provided with the final dissertation.

CHAPTER 4: RESEARCH FINDINGS

AIM 1: To Document the National CT Program

History of the HIV/AIDS program

The first case of HIV was detected in St. Lucia in 1985. At the time, the health care infrastructure of the country was not prepared to provide care and treatment for those infected by the virus. There were many reports of PLWHA traveling to neighboring Barbados or to Florida to receive care and treatment for their illness. As the epidemic has evolved, however, so too has the ability of the Government of St. Lucia which has articulated a national response through a National Strategic Plan (NSP).

With technical assistance from external consultants, the government developed a national strategic plan (NSP) which serves as a blueprint for the national response. This blueprint hopes to build the necessary health care infrastructure to respond to the epidemic, from prevention, to testing, to care and treatment. The NSP is the document which articulates the planned response and serves as the roadmap for the coordinated efforts covering the time period from 2004 – 2009.

National Strategic Plan

The NSP has an overall goal of reducing HIV transmission and mitigating the impact of HIV/AIDS on all levels of the society. It proposes to do so through four strategies. The first strategy is *Advocacy and Policy Development*. This includes working towards building an informed, proactive, and supportive political directorate which seeks to ensure that the country's leaders are aware of and enact national HIV/AIDS policy with the provision of adequate resources. The second strategy is *Comprehensive HIV/AIDS care for all persons living with HIV/AIDS*. This includes plans for expanding care and treatment and the delivery of free ARV and treatment for opportunistic infections for those infected by the disease. The third strategy is the *Prevention of further transmission of HIV*. This includes prevention activities in CT, Prevention of Mother to Child Transmission (PMTCT), as well as risk-reduction for vulnerable groups such as commercial sex workers (CSW) and men who have sex with men (MSM). The fourth and final strategy is *To strengthen the national capacity to deliver an effective, coordinated, and multi-sectoral response to the epidemic*. This includes strengthening surveillance, monitoring and evaluation, and ensuring adequate response from all sectors, including civil society, Community Based Organizations (CBO), faith-based organizations, and the private sector.

The third strategy of *Prevention of further transmission of HIV* is where this evaluation will focus. The Strategic Activities outlined for CT include: 1) Introduce free CT services in at least one primary health center in all health regions, 2) Ensure that CT service delivery and staff meet

at least the minimum regional and national standards for effective CT services, and 3) Implement a public education and awareness program on the value of knowing one's HIV status and where to access CT services. These three activities will be assessed in addition to implicit goals and objectives which have not been articulated in the National Strategic Plan.

Program funding: internal and external resources

The financial resources for the implementation of the national response to the HIV epidemic, including CT services, come from multiple sources. The main donors include the World Bank, the Global Fund to fight AIDS, Tuberculosis, and Malaria, and the Government of St. Lucia. The World Bank, which is the largest contributor to the country's HIV/AIDS response efforts, approved the Loan Agreement for the National HIV/AIDS Prevention and Control Project, on July 6, 2004. The project provides funds to supplement the national budget for the financing of high priority and cost-effective interventions for HIV/AIDS.

The World Bank's Multi-Country HIV/AIDS Prevention and Control Adaptable Program (MAP) provides funds to six other Caribbean nations including: Barbados, the Dominican Republic, Grenada, Jamaica, St Kitts and Nevis, and Trinidad and Tobago. The World Bank also provides technical guidance and shares best practices obtained through experiences with its other regional projects. The project supports the strengthening of national health care delivery system by: 1) upgrading clinical laboratory services, 2) building surveillance capacity, 3) developing monitoring and evaluation capacity, 4) modernizing procurement, storage and distribution of pharmaceuticals and medical supplies, 5) ensuring effective collection and safe storage of blood and 6) upgrading the technical skills of various categories of health workers. The funding also targets civil society stakeholders who would ordinarily find it difficult to obtain funding for their initiatives.

The project's aim to strengthen the national health care delivery system in St. Lucia supports the CT program in multiple ways including: 1) procurement of laboratory testing equipment, 2) procurement of reagents and other consumables, 3) recruitment of personnel, 4) training of staff, and 5) the capacity development of civil society organizations that can support the CT program via prevention activities, promotions of testing, and provision of CT and/or care and support services for PLWHA.

CT Service Availability by Sector

Table 4.1 illustrates CT service availability in both the public and private sectors. It is evident that CT availability varies by sector and by region. Castries, which is the capital-city, has free CT services available daily. Availability in other locations is much more limited. CT services are available in Soufriere twice a month and in Dennery and Vieux Fort once a week. An urban/rural divide in access and availability exists. The private sector facilities provide CT services with broader reach covering most urban areas of Castries, Vieux Fort, Soufriere, and Rodney Bay, 6 days a week. This also demonstrates that service availability may be prohibitive to those who can afford to pay for them.

St. Lucia currently has a mix of four public sector facilities, nine private sector facilities, and one quasi-government facility. This last facility is a Lutheran Hospital which receives funding from many sources, but currently also receives support from government funds. The public sector

facilities are funded and managed entirely by the Ministry of Health. The National AIDS Program Secretariat is responsible for coordination and monitoring and evaluation. The coordination role includes: strategic planning, resource mobilization, coordination of partners, development of national guidelines and policies, to which all service providers, including private sector sites, are required to follow. In its monitoring and evaluation capacity, it is responsible for measuring the inputs, outputs, outcomes, and impact of the national response.

Table 4.1 HIV Testing Facilities in St. Lucia

PUBLIC SECTOR	LOCATION	SERVICE DATES
Victoria Hospital	Castries	Mon - Fri
Dennerly Health Center	Dennerly	Mondays
Soufriere Hospital/Primary Care Center	Soufriere	1 st & 3 rd Thursdays
Vieux Fort Health Center	Vieux Fort	Tuesdays
PRIVATE SECTOR		
Lab Services and Consultations Limited		
• Tapion Hospital	Castries	Mon- Saturday
• Gablewoods Medical Center	Castries	Mon- Saturday
• Rodney Bay Medical and Dental	Rodney Bay	Mon - Friday
• 44 Brazil St.	Castries	Mon- Saturday
• Bridge Street	Soufriere	Mon- Saturday
• #1 Jesse Street	Vieux Fort	Mon- Saturday
• Beanfield	Vieux Fort	Mon- Saturday
Micro labs	Castries	Mon- Saturday
Fitz St. Rose	Castries	Mon- Saturday
PUBLIC/PRIVATE		
St. Jude's	Vieux Fort	Mon - Friday

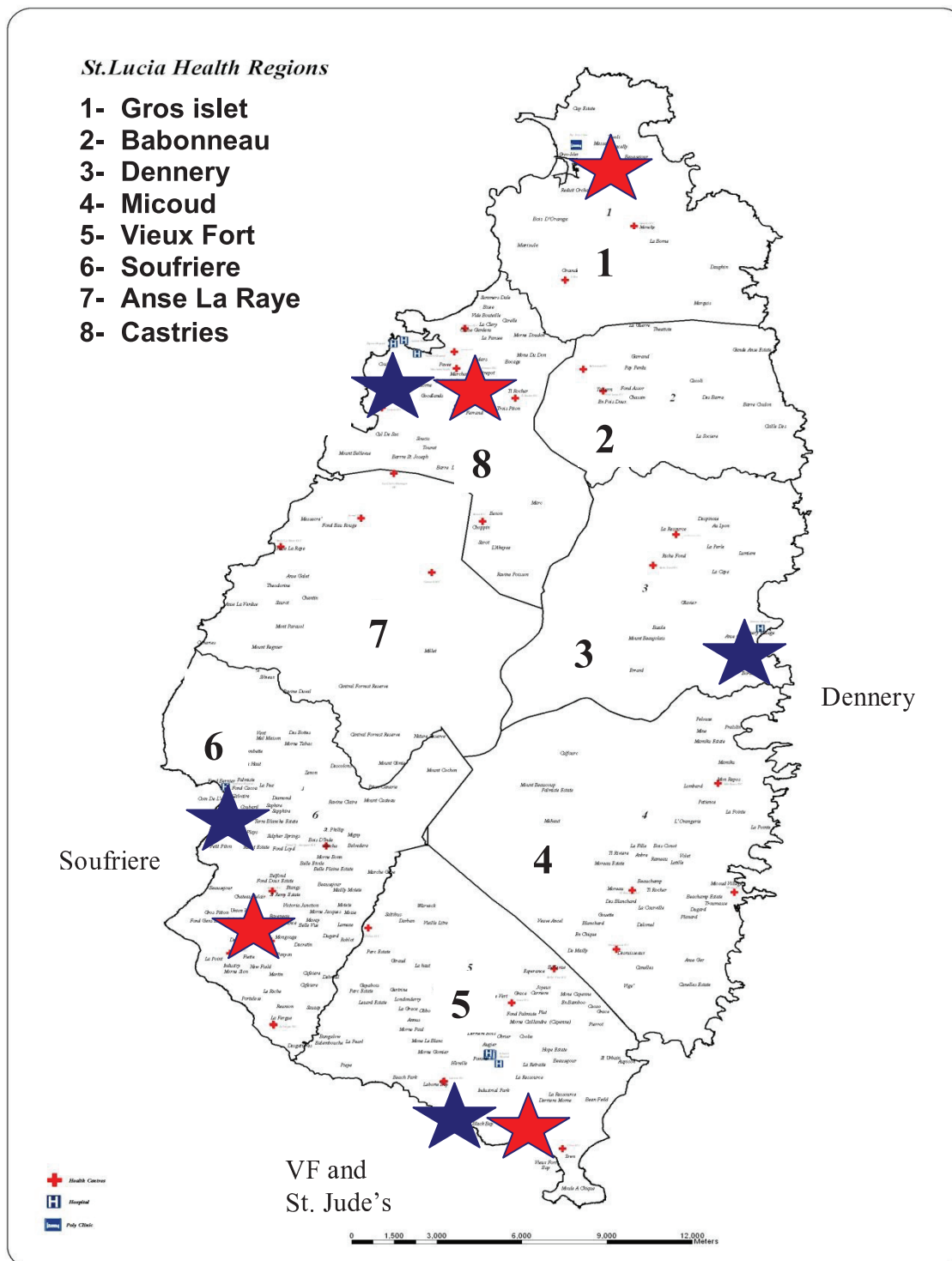
CT Geographic Service Availability

St. Lucia is a small island with a population of 156,635. The country is divided into eight health regions. Public sector sites serve the populations in Regions: 3, 5, 6, and 8. Private sector sites serve Regions: 1, 5, 6, and 8. For those living in Regions 2, 4, and 7, they must travel to one of the other four health regions to access CT services. For those in Regions 1, 2, 4, and 7, they must also travel outside their region to access free CT services. Table 4.2 illustrates the health regions, their respective populations, and service availability.

Table 4.2 Health regions, associated populations, and Service Availability

<i>Current CT Sites</i>	Regional Population	Public Sector	Private Sector
Region 1: Gros Islet	13,033	No	Yes
Region 2: Babonneau	7,110	No	No
Region 3: Dennery	13,351	Yes	No
Region 4: Micoud	15,758	No	No
Region 5: Vieux Fort	27,092	Yes	Yes
Region 6: Soufriere	19,034	Yes	Yes
Region 7: Anse la Raye	10,957	No	No
Region 8 : Castries	52,788	Yes	Yes

★ Represents free CT services in the region ★ Represents private sector CT services



St. Lucia National HIV Testing Data (1988-2006)

HIV testing data from 1998 to 2006 is illustrated in Chart 4.1. The data is derived from Victoria Hospital, the main public hospital in St. Lucia which is located in the capital city of Castries and St. Jude's Hospital, which is located in Vieux Fort- the second most populous city located in the South. The data are submitted by these respective hospitals on a monthly basis and entered into a database which is maintained at the National AIDS Programme Secretariat (NAPS).

According to the NAPS records, since 1988, the number of HIV tests conducted in St. Lucia has hit highs and lows. In 1988, 1331 tests were conducted. A steady increase was observed from 1331 in 1988 to 5167 tests reported in 1992. Subsequent lows in 1997 and 2001 are also observed. It is evident that there are variations in uptake of testing with lows experienced in 1997 and 2002. It is important that decision makers and implementers understand these variations strategize on ways to increase testing uptake and to ensure consistent levels across time.

Chart 4.1

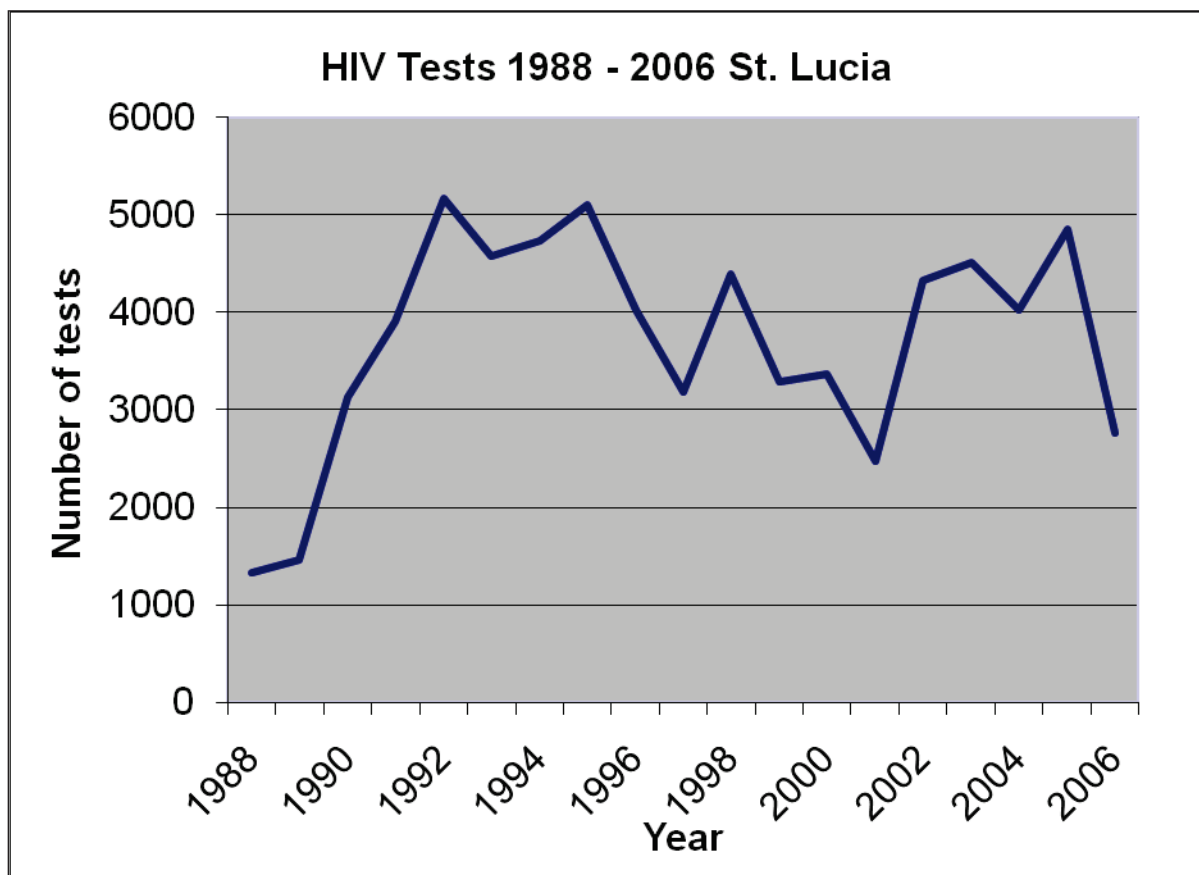


FIGURE 4.2: HIV Testing and Confirmation Protocol

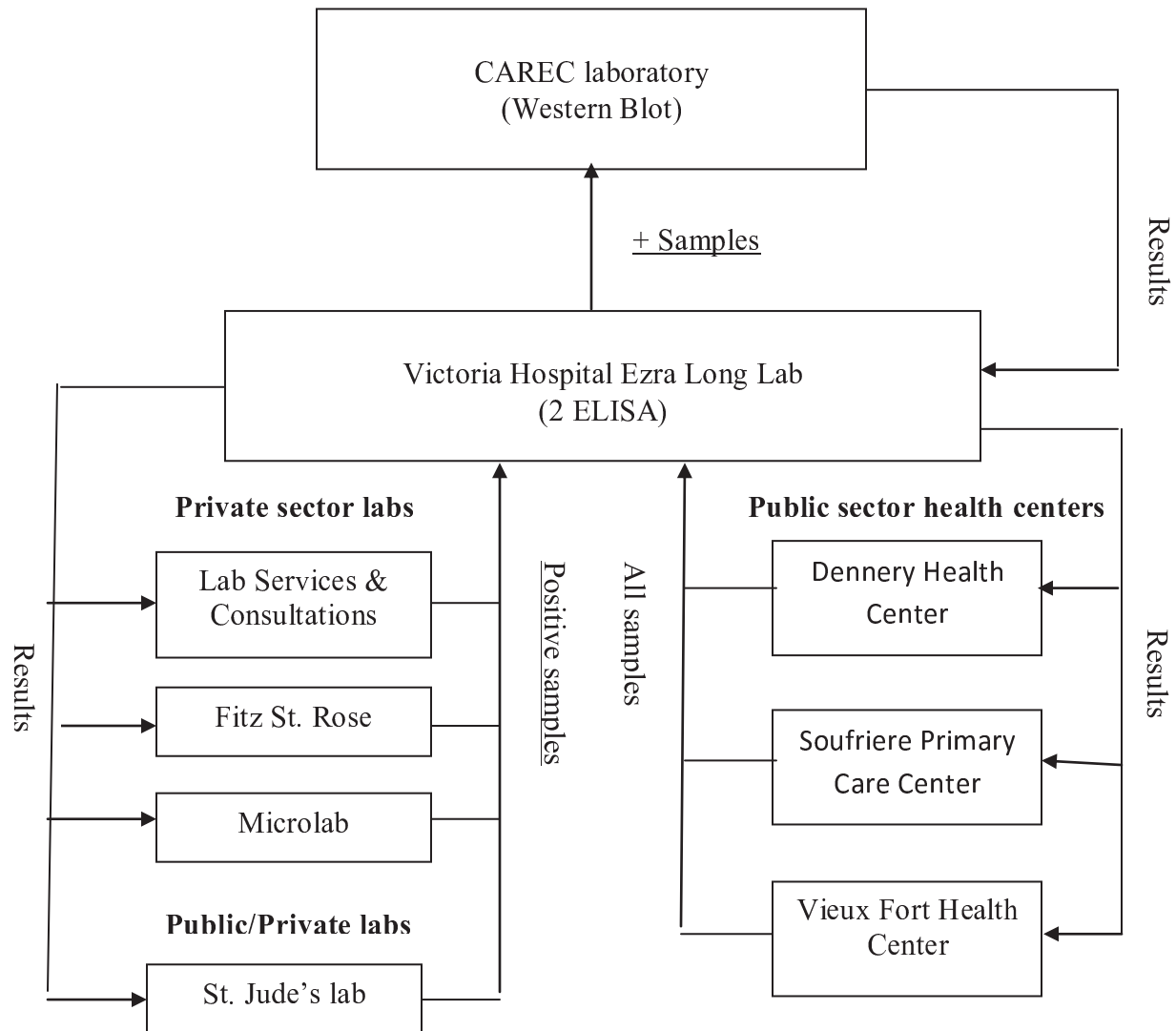
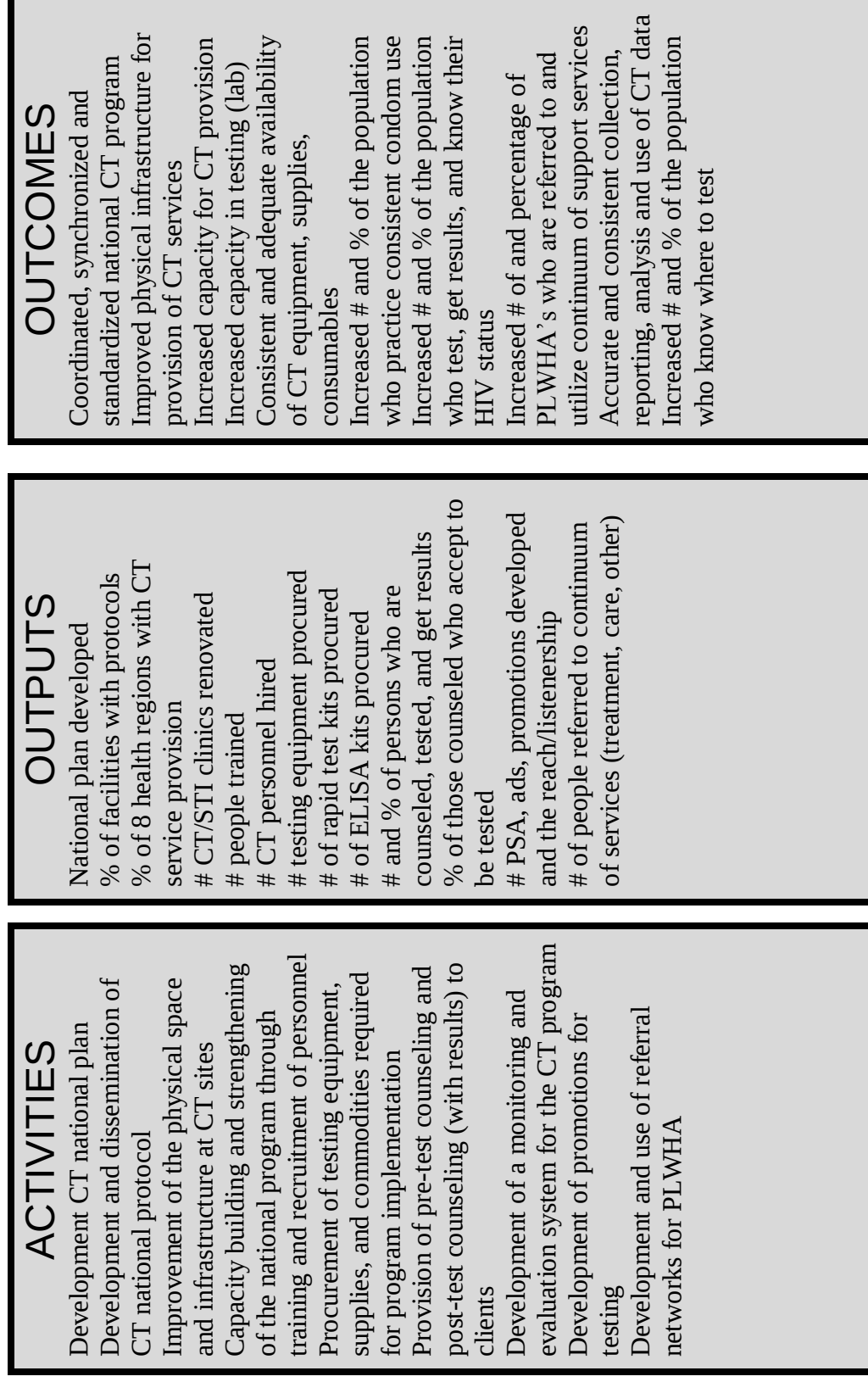


Figure 4.2 illustrates the testing and confirmation procedures in St. Lucia. The three STI clinics, which do not have labs on site (Vieux Fort Health Center, Soufriere Primary Care Center, and the Dennery Health Center), send blood samples to Victoria Hospital Ezra Long Lab for testing. The STI clinic at Victoria Hospital sends samples to their own lab at the hospital.

The private labs: 1) Lab Services and Consultations Limited, 2) Microlab, and 3) Fitz St. Rose conduct HIV tests using their own algorithms and send positive samples to VH. St. Jude's also sends positive samples to VH. Two ELISA tests are conducted at VH and if both are positive, they are shipped by batch to CAREC in Trinidad.

The turn-around time between when samples are extracted from patients, tested nationally, sent to CAREC, and returned for confirmation is between 4-6 weeks. PCR testing for infants is not available in country, and therefore samples are sent to Miami for testing.

Figure 4.3: LOGIC MODEL: ST. LUCIA COUNSELING AND TESTING PROGRAM
INPUTS: Global Funds funding, World Bank funding, Human Resources



AIM2: To Identify Program Achievements and Successes

Program achievements in meeting goals and objectives

As stated in the discussion of the National Strategic Plan, the third strategy of *Prevention of further transmission of HIV* is CT and states the following goals: 1) Introduce free CT services in at least one primary health center in all health regions, 2) Ensure that CT service delivery and staff meet at least the minimum regional and national standards for effective CT services, and 3) Implement a public education and awareness program on the value of knowing one's HIV status and where to access CT services.

As stated in the methods section in Chapter 3, I will utilize a combination of a Goal-Based approach as well as a Goal-Free approach for this evaluation. In keeping with the first approach, I will assess the program's progress regarding provision of CT services in all health regions, training of staff, and implementation of awareness campaigns.

Successes of stated goals

Goal 1: Introduce free CT services in at least one primary health center in all health regions

This goal is connected to success in coverage of CT throughout the country. As demonstrated by Figure 4.1, services are available in four of the eight health regions in the country. These include: Region 3, where a public sector service is operating once a week at the Dennery Health Center, Region 5, where a public sector service is operating once a week at the Vieux Fort Health Center and daily at St. Jude's Hospital, Region 6, with a visiting team from Castries providing service once a month at the Soufriere Primary Care Center, and Region 8, with daily service at Victoria Hospital. As discussed earlier, private sector testing facilities are also widely available in these four regions, as well as in Region 1, Gros Islet.

Goal 2: Ensure that CT service delivery and staff meet at least the minimum regional and national standards for effective CT services,

This goal is related to the capacity of health care staff in implementing services according to regional and national standards. As assessed through my participation in a week-long CT training and through numerous interviews with implementing staff, as well as an analysis of written documents, there has been much progress in standardizing the training to meet national and regional standards. This goal, is however, difficult to assess because it is unclear as to how "meeting minimal standards" is defined. A true measurement of this goal, which is related to the quality of service delivery, would require a different evaluation design such as observations of actual counseling sessions with a content analysis of session. Another approach to measure this is through the use of mystery client studies. Approaches to evaluating the quality of service delivery will be further discussed in Chapter 5.

Goal 3: Implement a public education and awareness program on the value of knowing one's HIV status and where to access CT services.

A national campaign was launched by the NAPS/MOH entitled: "Take the Test, Take Control". This included a Public Service Announcement and a large billboard in the center of town. This

was a valuable initiative to increase testing in the country. Messages of testing have also been displayed, to different degrees and with varied messages, at health centers and hospitals throughout St. Lucia. A national campaign was also launched using local music stars with messages asking St. Lucians to take the test. Various Non-Governmental Associations and Professional Associations such as the St. Lucia Medical and Dental Association of St. Lucia also launched their own awareness campaigns which were frequently played on the radio and on television.

Conclusions of goal-based evaluation

To conclude my assessment of the stated goals of the national program, it is evident that the national CT program has made significant progress towards achieving the goals. The first goal of introducing free CT services in at least one health center in each of the eight health regions is yet to be achieved. Free CT services are available in four of the eight health regions in the country. This indicates that the populations in half of the eight health regions have access to CT services and that four more health regions remain. As a sub-set of the evaluation conducted of existing sites, I also conducted a site-readiness assessment of sites which do not currently offer services. This assessment and the results will enable decision-makers to make key decisions about: 1) the four regions where services are currently not available, 2) the proposed sites where these services can and should be integrated, and 3) the needed staff, equipment, and infrastructure/renovations that will be needed to render the proposed sites ready to deliver CT services. This aspect of this research endeavor is not included in this dissertation. However, the results were disseminated to the MOH/NAPS and were used for Global Fund and World Bank planning for program expansion. This dissertation focuses on evaluating existing services alone.

Goal-free evaluation findings

In addition to the successes of the program with respect to the three stated goals, I will also assess the implicit goals. These include the following: 1) planning and coordination, 2) personnel, 3) training, 4) data collection and reporting, 5) referral networks, 6) private sector, 7) lab and diagnostics, 8) space and infrastructure, 9) target groups, and 10) PMTCT+.

Planning and coordination

The government of St. Lucia has mobilized external and local technical expertise to develop the NSP. As described earlier, the plan has four strategies and attempts to create a blueprint for the country to respond to the epidemic based on best practices from other country experiences. The NSP has served as a guide for implementation of the national response including CT, which is a major component of the third strategy.

The government has also demonstrated political will and commitment to provide universal access to a continuum of HIV/AIDS prevention, treatment, and care services, including CT. This has been demonstrated by the priorities that it has placed on reforming the health care infrastructure by developing and implementing a single-payer, universal health care scheme. This includes the provision of HIV/AIDS prevention, care, and treatment services at no cost to its citizens, in addition to all other health areas of infectious and chronic diseases.

The National AIDS Program Secretariat has developed standardized protocols for STI, CT, and ARV service delivery. These protocols demonstrate concerted planning for the delivery of a comprehensive HIV response, not only through the NSP but through operational protocols of specific service delivery areas such as CT.

The government of St. Lucia has negotiated for and acquired abundant financial resources from a variety of sources for the implementation of HIV/AIDS and CT services for the renovation of sites, recruitment of personnel, procurement of equipment and commodities, and training of staff. This mobilization of external resources takes a great amount of effort, commitment, negotiation and comes along with rigorous planning, reporting, and budgeting requirements. Not only has the country acquired significant financial resources from the World Bank, the Global Fund, and others, it has also invested its own resources to the disease demonstrating its commitment to mounting a comprehensive national response to fight HIV/AIDS.

Personnel

Many staff members of the MOH and the NAPS, as well as those service providers who work at the health centers, laboratories, and hospitals are dedicated to providing high-quality CT services. This dedicated group of people has ensured that, even with limited capacity, St. Lucia has consistently provided HIV testing at public sector sites since 1985. This is an extraordinary accomplishment given resource constraints, personnel shortages, inadequate space and infrastructure, and limited technical guidance. This level of commitment and consistency in testing for HIV provides a solid foundation on which to expand and the existing staff deserves further reinforcement and support in order to continue to provide high-quality services to the people of St. Lucia.

Training

From December 2003 to July 2006, 188 people have been trained in the provision of CT services, as illustrated in Table 4.3. This is an extraordinary accomplishment considering the level of coordination, preparation, and cost that goes into the trainings. Documentation of the trainings include: how many people were in attendance, the professions of the trainees (lab techs, pharmacist, nurse), and the agencies and institutions they represent.

Standardized JPHEIGO CT training curricula are in use. The curricula are well-organized, contain an abundance of relevant information for health care providers, include a pre-and post training test, and are evidence-based. The training protocols have been utilized in multiple countries in the region and each trainee receives the materials as well as accompanying educational materials/manuals. These take-home materials can serve as useful reference guides for counselors once they are back on the job.

The training methods used are fun, transcend theory into practical application, and utilize an interactive learning model including role plays, games, and one-on-one practice with an advanced trainer. The training also includes a useful practicum experience in which trainees are taken to a local health care center and are required to provide a group education session as well as a one-on-one counseling session with a client. This practical aspect of the training is useful in bridging learning with real-world practice and allows trainees to utilize their newly-learned skills.

Table 4.3 CT Training December 2003 – November 2006

Date	Number of persons trained
Dec. 1-5, 2003	23
Feb16 – Feb 20, 2004	20
March 29 – April 2, 2004	21
Mar 10 – March 16, 2005	16
July 25-29, 2005	14
Oct 24 – Oct 28, 2005	22
Feb 13 – Feb. 17, 2006	18
June 8 – Jun 13, 2006	13
July 8, 2006	13
July (2 day -for doctors) 2006	34
July, 2006	7
Total	188

Data collection and reporting

Data collection of relevant CT data includes documentation of training, number of lab tests conducted by month, and the number of positive cases. Positive cases are then all reported to the NAPS which maintains a data base of positive cases by gender and mode of transmission.

Referral networks

While there are no established referral networks, a system of referrals for treatment does exist. Those persons who are identified as HIV positive are referred to the weekly HIV treatment clinic which is held in one location in the country- the Victoria Hospital HIV clinic. In some cases, other PLWHA are referred to the MOH, which in some cases provides additional financial support through payment of rent and/or food for those in need. This occurs in an ad-hoc fashion.

Private sector

The private sector provides services in St. Lucia with coverage in Region 1, 5, 6, and 8. They have developed their own testing algorithms, developed their own standard operating procedures, are using rapid test technology, have developed written informed consent procedures, have developed Quality Control/Quality Improvement (QA/QI) mechanisms for testing, and are providing a much-needed service to the population of the country. Their efforts should be applauded and in some ways, they have developed efficient methods and standards which can serve as a model for public sector sites.

Lab and diagnostics

St. Lucia has acquired sophisticated technologies in HIV testing including ELISA machines and has trained lab technicians in their use. The country's ability to keep up with this diagnostic technology is critical and it has shown capacity to do so even prior to the infusion of external financial resources from the Global Fund and the World Bank. In addition to ELISA machines, rapid test technology has been acquired and is in use at two public sector facilities and all private sector labs.

Space and infrastructure

While severe limitations in space and infrastructure exist for health care service delivery in general, and for CT service delivery specifically, there has been some progress in this regard. The country has acquired a loan from the International Development Bank (IDB) specifically for the development of the health care infrastructure. This will include both renovations of existing health care facilities as well as the building of new ones. Additional World Bank resources will be used for renovations of health care facilities that have not been covered by the IDB loan. While no renovations or building of new facilities have begun, the necessary coordination and planning efforts are underway.

Target groups

To date, due to the high stigma and discrimination that exists regarding Men Who Have Sex with Men (MSM) and Commercial Sex Workers (CSW), little to no activities have taken place regarding these groups. However, the MOH, Community Pediatrician has taken an interest in working to meet the needs of youth in the country and has undertaken several initiatives to identify and meet the needs of this segment of the population. There are also two Civil Society Organizations, one which advocates for the rights and needs of sex workers, and another which is a support group for St. Lucian MSM do exist and can in the future serve as resources for the provision of services to these important high risk groups.

PMTCT+

To date, while very little attention has been paid to address the issue of vertical transmission and the needs of HIV+ pregnant women and their infants, a local obstetrician/gynecologist has been appointed as the PMTCT Advisor. The MOH sent this PMTCT Advisor to a regional training in Jamaica and he has developed a PMTCT proposal as a result of this training.

Inclusion of Civil Society

In addition to the above mentioned strengths, there has been a concerted effort to build capacity and support Civil Society Organizations (CSO) to provide HIV/AIDS services. While thus far, the majority of this involvement has been limited to provision of prevention information, services are beginning to be implemented. In 2006, a pilot project was launched by the St. Lucia Medical and Dental Association. This initiative included the provision of a free rapid test project implemented by its membership as a prelude to the Carnival season. This demonstrated the ability of private physicians to include HIV testing into their services, as well as the readiness of the general public to accept rapid tests. It was a success and increased the number of people tested during that month.

AIM 3: To Determine Gaps and Areas for Improvement

The third aim of this evaluation is to determine the gaps and areas for improvement. These will cover the same areas addressed in Aim 2 including: 1) effective planning and coordination, 2) availability of well-trained and sufficient personnel to meet the demand, 3) standardized and high-quality training, 4) use of a systematic, accurate, reliable, and valid data collection and reporting system, 5) strong referral networks linking PLWHA with comprehensive care and treatment services, 6) inclusion of the private sector in the national CT system, 7) adequate and reliable lab and diagnostics, 8) adequate space and infrastructure, and 9) adequate coverage to target groups.

Planning and Coordination

Dissemination of critical documents

Site assessment visits conducted during this research revealed that the health centers and hospitals did not have key strategy and operational documents including: the National Strategic Plan, the National HIV/AIDS STI Protocols, and the CT JPHEIGO training protocols. While the National Strategic Plan was finalized in 2004, it has not been disseminated to providers of HIV/AIDS services in the country. Similarly, the key operational documents including the National HIV/AIDS STI Protocols and the CT JPHEIGO training protocols which serve as the national guidelines and normative standards for the country, have not been distributed widely to service delivery sites. The lack of dissemination of these key policy and operational documents is a major gap in communication by the coordinating authorities including the NAPS and MOH. This poor communication of the country's national policies and operational procedures leaves implementing staff and providers at the site level with limited guidance and reference documents necessary to provide standardized, high-quality services throughout the country.

National CT Coordinator

There is no focal person at the central level who is responsible and accountable for the coordination and implementation of the national CT program. This void has a negative impact on the national program. Without a person at the national level who is responsible for communication and coordination, CT sites operate on their own, with little direction, guidance, or oversight.

CT National Plan

The CT program has been in operation in St. Lucia since 1988. However, there is no documented national CT plan. There is no vision for where the national CT program is going or a documented plan of what is needed to get there. Aside from donor documents which were developed for funding purposes, and the National Strategic Plan which outlines an overall HIV/AIDS strategy, without a specific national plan for the CT and in fact all other programs within the HIV/AIDS strategy, there is little ability to monitor progress towards achieving goals and objectives.

Subsequently, CT is operating on autopilot, without a plan, and without a focal person who is responsible for its implementation and oversight. The lack of a CT plan and lack of a focal person at the central level to coordinate CT services in the country has led to the implementation of services without the adequate planning, management, supervision, support, and monitoring. As a result, testing is taking place without counseling in some institutions such as private labs, private physicians' offices, hospital wards, and even some public sector facilities. Staff members who are implementing CT services are not all trained, and many who are trained are not implementing the service. A detailed national plan would greatly assist in addressing many of these issues.

Personnel

Currently, there is no organizational diagram describing the structure of the national program, no clearly defined roles and responsibilities, and no documentation of how each component of the program works together to ensure the delivery of high-quality CT services to the population.

According to site level staff interviewed for this evaluation, there is a shortage of personnel needed to implement the CT program according to the national protocol. The national protocol includes pre and post-test counseling, which is intended to last an average of 35 minutes per

person counseled. The pre and post-test counseling components of CT is time-consuming and human resource intensive. According to CT counselors, the current human resources delegated for these tasks are inadequate and as a result of this and patient load, there is not enough time to follow the full protocol⁷⁹.

Counselors indicated that while they do provide pre and post-test counseling, they feel rushed to cover the essential elements including: describing the test, asking about risk-behavior, and providing the results^{80,81}. They indicated that there simply is not enough time to administer the full protocol including exploration of: risk perceptions, communication with sexual partners, issues of disclosure, as well as the development of a risk-reduction plan. Consequently, the CT clients may be getting short-changed in the quality of services they receive. In addition to the shortage of personnel noted by staff at all sites, some sites are particularly affected due to the size of the populations in the catchment area they serve and their patient flow. One example is the Dennery Health Center which reports a patient flow of more than 60 patients per day. Staff at the center report having to turn clients away due to shortage of staff to counsel and test all of the clients⁸². Many sites require additional staff of various categories. There is currently only one STI physician who travels with her team from the capital to Soufriere twice a month and to Dennery once a week to provide outreach services. The expansion of services will over-extend an already stretched staff. The South of the country is severely understaffed. Facilities in this region report the need for one locally-based STI physician to provide expanded STI services in the region, in lieu of the current twice per month visiting model from the capital⁸³.

Labs conduct not only HIV antibody tests, but also CD4 counts and the chemistry work ups for the monitoring of PLWHA and patients on ARV. These lab tests are of critical importance to the care and treatment of patients in the country. Bolstering the capacity of the labs should be an essential component of the national HIV/AIDS response that cannot be relegated to the procurement of equipment and reagents, but must include the hiring of personnel and the training of those personnel to ensure performance at high standards⁸⁴. The increasing demand for testing will necessarily require additional lab personnel to deal with the demand. As demonstrated in Figure 4.3, the number of HIV tests conducted in St. Lucia has risen from 1331 tests per year in 1988 to 4852 in 2005. However, the number of lab personnel employed by the public sector has not kept pace with the increase in demand^{85,86}. The shortage of lab personnel has been identified by public sector facilities as a critical issue which must be addressed.

The gaps in personnel needed for the provision of CT services in the country are clear to those who are currently implementing services. The shortage of personnel includes several health care delivery categories including: nurses/counselors, STI physicians, clinical social workers, community health aides, and lab technicians. This critical gap in human resources has implications for both coverage and the quality of services delivered. It also impacts data collection, data quality, and timeliness of reporting. Addressing these gaps and weaknesses are critical to improving and expanding the national CT program, as well as ameliorating the monitoring of the program.

Training

Training needs assessment

Training of staff in CT began with little to no planning or assessment of training needs. As a result, people were trained who don't provide CT services and staff who do provide the service

have not been trained. A needs assessment prior to the commencement of training should have been conducted and implemented.

Training plan

There is an absence of a comprehensive strategy or plan outlining who will get trained, for how long, on what, why, and when. Trainings take place in a seemingly ad-hoc manner with little planning. These trainings are organized and implemented upon request. People who have received the training cover a wide spectrum of categories of health care and government personnel and a variety of institutions, without any real rationale. Meanwhile, others who are currently providing the service have not been trained⁸⁷. These major gaps and a myriad of other issues regarding training, which will be further articulated below, cannot be addressed without a well-laid out training plan.

Training methods

The training methods used are a mix of formal power point presentations, a series of educational but fun activities, role plays, and a practicum which involves provisions of a group education session in a health care facility, as well as practicing a pre-test counseling session with a client. These training methods are appropriate for adult learning and diverse enough to accommodate multiple learning styles.

Training content

The training staff at the Ministry of Health uses a curriculum developed by JPHEIGO – an affiliate of Johns Hopkins University. This curriculum is taught in multiple countries in the region and each trainee receives the following three documents: 1) Counseling and Testing for HIV, Counseling and Testing Protocol Booklet, 2) Counseling and Testing for HIV, Course Handbook for Participants, and 3) Counseling and Testing for HIV, Reference Manual⁸⁸. The protocol contains questions that are meant to guide both the pre and post test counseling sessions. The course handbook contains an introduction to the course, a pre-test, myths about HIV, as well as role play scenarios. The Reference Manual contains additional information that counselors can use as a reference to better understand the context of HIV CT. The materials are well presented and easy to follow, but the reason behind three different handbooks is unclear.

The curriculum which was developed externally and has been in use in St. Lucia since 2003 has not been revised, edited, or modified to fit the local context. No review committee or technical working group is in-place to determine if there are areas in the curriculum that can/should be eliminated or modified and therefore, the content of the curriculum is not keeping pace with advances in the field and global best-practices. The curriculum was developed in 2003 and is still in use in 2006 with no changes. In the quickly changing world of HIV/AIDS, frequent revisions to incorporate new knowledge and experience in program implementation are essential to ensure relevance and quality programming.

There are critical elements which are missing from the curriculum. One missing element is a description or overview of the CT program in St. Lucia. This includes: where CT services are provided, what categories of personnel provide the services, and how each category of personnel fits into the broader CT picture. This lack of context makes it difficult for trainees to understand how CT works in St. Lucia and how they fit into it.

Another component of the curriculum which should be reconsidered is the pre and post test component. There are 17 pages of pre and post test questions that are meant to guide the counselor through the sessions. The number of questions proposed are too many and seems unrealistic to get through during any single counseling session. The questions are often redundant and the length of time it would take to complete all of them does not seem feasible in a real world context. According to the curriculum, a counseling session should take 35 minutes to complete. However, counselors report that if fully implemented, it would take 45 minutes to one hour depending on the client⁸⁹. This is unrealistic for practical application in the field, particularly at high-volume clinics and at sites which only have the service once or twice a month.

Each counselor interviewed for this study explained that the written risk-reduction plan, which is taught in the training, is not being implemented in practice⁹⁰. The reason cited by counselors is that there are time limitations and while risk-reduction may sometimes be articulated verbally, it is not feasible or practical to write this plan down. This demonstrates a gap between what is taught in the training and what is being implemented in the field.

Each implementing CT site visited during the course of this study revealed that the group education sessions are not taking place due to shortages of personnel⁹¹. While everyone who takes the five day CT course are trained to conduct these sessions and are required to do a practicum on this component as part of the course, this education session is currently not being implemented in the field due to human resource shortages and time constraints. The exception to this is Dennery Health Center where a Peace Corps volunteer conducts the group education session once a week⁹². Group education adds great value to CT and allows the counselor to skip over the basics of HIV/AIDS because the client has already heard these facts. In addition, the client has time to formulate questions after hearing the education session prior to entering the individual CT session. The lack of implementation of the group education session is a gap in the CT program. Alternatives as to who should be trained to conduct this component and who should implement it at the facilities should be reconsidered.

Another critical missing component is a data collection form and training in its use. There is no mention in the training of data collection, or discussion of what variables are collected or how to collect them. This is a major weakness which leads to continued gaps in routine CT data. Data collection will be further discussed below.

The content of the training as it relates to various categories of personnel must also be considered. To provide an example, pharmacists were trained in June 2006 on the full five-day CT curriculum. While the expectations of the pharmacists were that they would "... learn about anti retroviral therapies, medications for opportunistic infections, drug interactions, and first and second line drugs currently in use in St. Lucia⁹³", what they received was a five day training on the JPHEIGO CT curriculum covering how to conduct group education sessions and how to conduct pre and post test individual counseling sessions. The relevance of this particular training to pharmacists who do not have the space or privacy to conduct one-on-one private counseling sessions with clients, and whose job requires that they fill prescriptions and provide guidance and advice to patients regarding use of medications, is questionable.

Training length

The question of the length of training becomes an issue because the current five-day training may not be relevant or possible for all categories of personnel. When the St. Lucia Medical and Dental Association began its pilot project to provide free rapid testing for one month during the Carnival season in July 2006, the group indicated that the physicians do not have the time to take a full five days to undergo the standard JPHEIGO CT training. As a result, the physicians were accommodated and the Advanced Trainer developed a two-day “sensitization” covering many of the issues in CT, and did so in an informal, discussion-based format. This was a unique, one-time abridged version of the training that seemed to work well for the needed purpose. It is difficult for many people to spend a full week in a training workshop, particularly private sector physicians and both public and private lab techs. It would also be extremely difficult for some institutions and labs to allow their staff to be absent for five days. The length of the training remains a real barrier for many and therefore alternatives should be considered.

Target audience

There has been considerable diversity in the target audience for CT trainings. The professional categories of people trained include: community health nurses, family nurse practitioners, contact tracers, retired nurses, health educators, infectious control nurses, desk officers, Peace Corps Volunteers, a graphic designer, physicians, registered nurses, social workers, pharmacists, youth officers, contact tracers, program officers, staff of civil society organizations, retirees, occupational therapists, lecturers, a dental hygienists, family case workers, school counselors, and community members. The reasons behind choice of people who have been trained is unclear and the lack of targeted stakeholders for this training is an issue.

Many institutions and agencies are represented by the people who have been trained. These institutions, agencies, and schools represented include: Babonneau Health Center, Bureau of Health Education, Victoria Hospital, Monchy Health Center, St. Jude’s Hospital, Vieux Fort Health Center, Dennery Health Center, AIDS Action Foundation, Gros Islet Polyclinic, Turning Point, Golden Hope Hospital, Gros Islet Town Counsel, Department of Gender Relations, Division of Human Services, Ministry of Education and much more. While a few of the health centers and hospitals do provide CT services, the majority of the institutions represented are not CT service providers nor is there any consideration of service provision at these institutions. It is therefore unclear why representatives from all of these agencies and government ministries are receiving a week-long training aimed at service providers.

It is unclear how many of the 188 people trained were or are currently providing CT services, particularly in non-clinical settings. Most of the people trained in various professional fields, within various institutions, agencies, and areas of government are not CT service providers. There is little evidence to suggest that training government workers, retired nurses, program officers, teachers, and other non-clinic based personnel on a skills-based course in CT has born any fruit. Although it is helpful to sensitize various stakeholders to the value of CT and the components of the service, it is not an effective use of resources (an average 500 Eastern Caribbean Dollars per head) to provide a full five-day training to people who are not CT service providers.

While all of these categories of professionals representing all these institutions have undergone five-day training on the provision of CT services, this has not corresponded with the launch of actual services at these institutions, offices, or health centers. While 188 people have been

trained, there is essentially a core group of CT service providers: three STI physicians, one Clinical Care Coordinator (also provider of HIV treatment and care for the majority of PLWHA in the country), one clinical social worker, and six nurse/counselors who provide all the CT services in: VH, Vieux Fort, Dennery, and Soufriere.

This assessment revealed not only who is getting trained, but also who is not getting trained. While at Victoria Hospital, a mechanism has been put into place to ensure that people who walk-in directly to the lab are referred to the STI clinic to receive pre and post-test counseling first, this is not the case for some other public sector sites and all private sector labs. Ten lab techs at the public/private facility, St. Jude's, provide HIV testing services on a daily basis and have not been trained. It was not within the scope of this research to visit all private sector labs. However, those included in this research were not providing any type of counseling with the testing. Given the nature of private sector services, and the fact that no private sector lab techs have received any training in counseling, it can be assumed that this may be the case with the majority of other private labs in the country. The private facilities account for a major segment of CT service provision in the country, and this critical gap in identifying and providing standard, national training for personnel of these labs is a gap which must be addressed. In essence, many people who are *not* providing CT services are being trained in service delivery and many who *are* providing the service have not been trained. This is a critical weakness in the training program and the national CT program.

Monitoring and evaluation of training data

During data collection for this evaluation, it was very difficult for the national level CT training staff to retrieve and provide training data. After considerable effort, training rosters were uncovered from dusty piles on shelves. This is an indication that there is inadequate monitoring of training data and that the information is not regularly analyzed, assessed, and most importantly used for planning and decision-making. This lack of monitoring data and management of this information makes it difficult to plan and conduct follow up site visits, or plan for refresher trainings. It also makes it difficult to evaluate the outputs of the national program and compare it to the intended objectives.

While CT training has been taking place in St. Lucia since 2003, there have not been any refresher trainings conducted to date and no plans to do so. As the years progress and guidelines change as well as new best practices with regard to CT become known, it will be difficult for staff trained to access this new knowledge and skills without refresher trainings.

Of the 188 people who have been trained through July 2006, there has been little to no follow up in the field to see if or how the training has translated into practice. While a full evaluation of the training program has not been conducted, in 2005 a follow-up survey was developed and disseminated by the acting Senior Health Educator to people who were trained in CT. Although there was poor response from participants, many of those who did respond indicated that they were not using skills they learned in the training. Many indicated that they were not working in CT. Others sited that there was inadequate personnel, time, and space to provide CT in the manner in which they were trained⁹⁴. This same sentiment was also echoed by many of the site level staff interviews.

Data Collection

Assessing availability, utilization, and quality

It is important to collect data to be able to assess the availability, utilization, and quality of CT services in St. Lucia. Availability has been described in Ch. 2, where both public and private sector services are mapped indicating service coverage. In terms of assessing utilization, current indicators collected for CT in St. Lucia include: 1) the total number of tests conducted, 2) the number of ELISA positives (in country), and 3) the number of Western Blot positives (CAREC). These indicators provide information on utilization of services which have been discussed in Ch 2. A major gap which exists is that there is no data collection or analysis of the quality of the services provided. Approaches and methods to assessing quality will be provided in the recommendations section of this chapter. The gaps in the data collection and reporting process for HIV testing in St. Lucia are discussed in detail below.

FIGURE 4.4: Medical Card

FRONT SHEET	
First Name: _____	No. _____
Surname: _____	Better known as: _____
Date of Birth: _____	Occupation: _____
Address: _____	
LMP	PARA
LSI	F/P
CONSORT	PAP
CONDOMS	DONATED
DRUGS	TRANSFUSED
ALLERGIES	PHSTI
PEN	
ASTHMA	
OVR	TRAVEL

Data collection tool

The current data collection tool in use for CT in St. Lucia is a medical card which was developed for use in STI clinics. The medical card is inconsistent with the JPHEIGO CT protocol, which outlines 17 pages of pre and post test questions. While the protocol is lengthy, redundant, and not entirely practical for full implementation, the above data collection form does not capture even the most minimal requirements of the protocol such as an adequate assessment of the client's and the client's partner's risk, which is necessary to provide targeted counseling. The disconnect between the CT training protocol on which counselors are trained and expected to implement, and the data collection form is substantial. The medical card has many limitations when used in the CT context. Major concerns include: incompatibility with the CT protocol, non-standardized questions, absence of key variables, use of acronyms instead of explicit questions which can be interpreted differently by different counselors, and inclusion of unnecessary variables which can serve as a barrier to CT uptake. In addition to issues with the variables collected on the medical card itself, there are also process issues including the lack of inclusion of the data collection and reporting process in the training as well as limitations in the collection and aggregation of the data for reporting and data use. A CT data collection form can and should serve as a guide during

the counseling process and can simultaneously provide useful information to measure and capture valuable client data. The current tool and system does neither.

Threats to validity

The medical card uses single words and acronyms as variables. This lack of specificity leaves ample room for the subjective interpretations by the counselor. It brings into question the reliability of the data collected because there is no guarantee that the one word variables are being interpreted the same way, by different counselors, in different facilities, in different parts of the country. In addition, because data collection is not included in the training, it cannot be assumed that training clarifies the lack of specificity. As an example, the variable on the medical card labeled O, V, R stands for “oral, vaginal, rectal”. This is intended to obtain information from clients about sexual risk. However, the lack of specificity of the variables can be interpreted by different counselors in multiple ways such as: “Do you have oral, vaginal, or rectal sex?” or “Have you ever had oral, vaginal, or rectal sex?” or “During your last sexual encounter, did you have oral, vaginal, or rectal sex?” Counselor interpretations can vary across facilities and even across counselors within the same facility. This variable interpretation of vague indicators introduces doubt to data accuracy, fidelity, and integrity and threatens the validity of the data.

Missing variables

In order to counsel a client effectively, it is critical for a counselor to collect information that will provide a full picture. This includes an assessment of the client’s risk and the risk of his/her partners. The assessment will enable the counselor to counsel and refer accordingly. Critical measures of risk include: number of sex partners, gender of sexual partners, partner testing, number of sexual or drug using partners, number of regular and non-regular partners, the gender of sexual partners, the circumstance of risk behavior such as alcohol and drug use, issues of domestic and gender violence, taking money or favors for sex, and partner risk behavior. In addition to measures of risk, the medical card leaves out other critical indicators such as pregnancy status, client’s history of testing, how clients found out about the services, and the main reason for their visit that day. The current list of variables collected on the Medical Card is insufficient to gather enough information to adequately counsel and refer clients. These questions are imperative to assess, counsel, and refer accordingly. It is also pertinent to understand the prevalence and extent of these behaviors in order to design and implement the necessary interventions.

The Medical Card does not have a space to indicate if the clients received their test results. The indicators for reporting to external agencies such as the Global Fund is: “The number/percentage of clients who have had an HIV test and have ‘received’ their results”. The current data collection process does not cater for this and there is no way to know who has and has not received their results. As a result, the indicators being reported to donors come directly from lab data which report on only testing and not “counseling” or the numbers of clients who receive their results, and therefore reporting to donors may be incorrect.

Unnecessary variables

The form includes one variable which is unnecessary at this stage of service and can serve as a major barrier to increasing demand. The request of the names of the clients’ “consorts”, which is interpreted as “sexual partners” is puzzling at this early stage in service delivery. While this information is useful for contact tracing when clients are found to be positive for STI or HIV,

this line of questioning during a pre-test counseling session can serve as a major barrier to client testing and infringes unnecessarily on the privacy of the individuals being counseled.

Comments

There is no space on the Medical Card for counselor comments. This is a necessary space for the counselor to make comments about the client's unique circumstances, issues that should be dealt with in subsequent sessions, risk-reduction steps that the client suggests that he/she will take, and whatever else the counselor feels is important to note. Currently, if the counselor gathers information that is of particular relevance that is not captured in the existing variables, there is nowhere to note it and therefore critical information needed for counseling clients may be missed.

Data collection training

Currently in St. Lucia, CT intake forms are not integrated into the National CT Protocol or training. Therefore, counselors are trained in counseling but not on the tools used to capture information about the client. This is a critical gap in the training which also has an impact in data quality.

Data quality

To ensure that the data that is being collected and reported is of good quality, it is necessary to put in place systems for quality assurance. Currently, no systems are in place to assess or to ensure the quality of the data.

Antenatal data

Currently, no system exists for the laboratories to identify which of the tests they conduct are on pregnant women. The NAPS relies on data from the labs to analyze prevalence on pregnant women. However, currently the CT intake form has no place to indicate the women who are pregnant. This is necessary to ensure that these women are adequately followed-up with care and treatment through PMTCT services, and that the lab is able to adequately provide HIV prevalence data to the NAPS on the percentage of pregnant women are HIV+.

Data Reporting

There were five major data reporting gaps that need to be changed to improve data reporting in CT. These include: lack of complete denominator data, double counting, recording of provision of results, limited data collection and reporting, and quality assurance. Each of these gaps is described below.

The first data reporting issue is that some HIV testing facilities only report positive cases, including all private labs. The private sector is a major provider of testing services in the country and therefore the lack of data reporting of total number of tests conducted from these institutions is a critical gap in the data collection and reporting system. It does not allow for a comprehensive picture of all of the HIV tests conducted in the country. This is important because when NAPS calculates prevalence rates for CT clients, currently the denominator data (all tests conducted) used is incomplete and only represents tests conducted at the public sector sites. In contrast, positive samples from both public and private sector sites are used in the numerator to calculate this rate. While data from CT is not a good measure of national prevalence because of self-selection and therefore not representative, since no sero-prevalence population level studies are

conducted, CT data is the only available proxy for HIV prevalence in the country. It is therefore critical that accurate numerator and denominator data is used.

The second data issue is that of double counting. Although unique identifiers are utilized when samples are sent to Ezra Long lab, the process of reporting includes all tests conducted, and checks are not in place at the lab or the M&E coordination level to avoid double counting. To give an example, St. Jude's may run two tests on a client and if positive, will send a sample to Ezra Long where another two ELISA tests are conducted. These tests will be reported as four tests conducted, when in actuality, one person's sample was tested four times by two different facilities. As a result, the current testing data reported is in fact the *number of tests conducted* and not *the number of individuals tested*.

The third issue is that what is reported is HIV tests conducted by the public sector sites, whether pre and post test counseling is delivered, or whether the clients receive their test results or not. Whether the testing data come from the STI clinics in the public sector where clients do receive pre and post test counseling, or whether tests come from St. Jude's lab or all private sector labs where pre and post test counseling is not conducted, all tests are reported as CT service recipients. This is misleading because in fact, all people tested at St. Jude's and the private labs are not counseled. Those who have not received *counseling* cannot be considered recipients of CT services. Similarly, all blood tested from blood donors, who undergo a screening process to screen out high-risk clients but do not receive pre test counseling, are also reported as CT service recipients. While blood donors whose tests are positive are asked to return for the provision of results and are referred for counseling at this point, the majority of blood donors are negative and do not receive any form of counseling. Their volunteer donations of blood are tested for HIV as well as a series of other transfusion transmissible infections. This group makes up a large segment of people tested. The numbers reported are misleading, as many people who are tested do not receive "counseling". Therefore, St. Lucia reports CT data to donors and international entities, it is misleading to report figures which come from the national reference lab at CT service recipients, because many of them never receive any form of counseling.

The fourth issue with CT data collection and reporting is the limited data collection, analysis, reporting, and utilization of client level data. The current data collection form used (Figure 4.4) is not a CT data collection form. It is instead an STI medical form that is used by physicians to collect information that is used in patient level care. However, in the absence of a CT form, it is what is being used at the CT sites. The only data from these forms which are reported by the facility to the national level are: the number of tests conducted and the test results by gender. These data elements are not enough to adequately monitor the progress of the program and many more variables should be collected, reported, and analyzed and the information used.

Data use

While there are many issues with the data collection tool and reporting system for CT in St. Lucia, another concern is that the data which is being collected is not being used. Patient cards full of information are sitting in filing cabinets and are not being used. While the data is used for patient-level care, the data is not being used for larger programmatic purposes.

Referral Networks

Currently, referral services are handled in an ad-hoc fashion. A comprehensive list of available referral services does not exist at the Ministry of Health, nor does it exist at the facility level.

Standardized referral forms and established networks which link CT clients to clinical care, psychosocial support, harm reduction support, domestic violence support, nutritional support, housing support, employment support, and other such services do not exist. However, those who test positive are referred verbally to the HIV clinic, which is held one day a week (Tuesdays) at VH hospital. Clients are then provided with services they need, mostly treatment, at this HIV clinic. There has been little attention paid to the host of complementary services that are needed by PLWHA, beyond sending HIV+ patients to the treatment clinic.

Private Sector

There is little to no understanding of what is happening in the private sector with regard to CT. It is known that testing is taking place by private physicians, private hospitals, and private labs. This sector has not been fully engaged to participate in the national CT program and has not been provided with national protocols, guidelines, or data collection and reporting instruments. The private sector, including: Tapion Hospital, Lab Services and Consultations, Fitz St. Rose lab, and Microlab, are entities that provide a considerable portion of the CT service provision in the country. As private physicians are involved in CT service delivery, as well as private labs in testing, they must be provided with the necessary training in counseling. They must be recognized as a key component of the national response and engaged accordingly. The gap in surveillance from this sector has resulted in a distorted picture of CT in the country. Only public sector data on HIV testing, except for positive cases, are being reported. This leaves out a major segment of CT service provision in St. Lucia.

Lab and diagnostics

The laboratory services in St. Lucia have been conducting HIV testing since 1985. These services have been conducting tests with often limited human resources, equipment, and supplies. The Ezra Long lab at Victoria Hospital is conducting an average of 6,000 HIV tests per year for the past several years, 2004, 2005, and is on track to do the same or to exceed this number in 2006. Currently, at least two ELISA tests are performed in St. Lucia and if positive, are sent to CAREC for Western Blot confirmation. This arrangement with CAREC has been working well, but has resulted in delays. These delays can be excruciating for clients waiting to hear their results, although the wait times have been reduced since the early days. It takes between 4 - 6 weeks for the turn-around time for samples to be sent to CAREC and for results to be returned back to St. Lucia. In addition, the numbers that CAREC reports back are often only a portion of the tests sent, and therefore, there are many "pending" cases. It is envisaged that a second ELISA test will be validated and performed in-country in the near future, which may reduce delays. Quality Assurance/Quality Control (QA/QC) will continue to be conducted by CAREC to ensure reliability of test results.

The support for the lab program in the country must move beyond the procurement of reagents. The lab must be supported through the recruitment of additional personnel, especially for the VH Ezra long lab, which has doubled the number of HIV tests that it conducts but has seen no increases in personnel. The same is true for St. Jude's lab which has seen increasing uptake of testing but limited increases in personnel. Support should also be provided to the National Lab Advisory Counsel for the implementation of ISO 15189:2003. This will strengthen the lab competencies of St. Lucia's lab technicians, both public and private. The lab must be assessed for its needs including: equipment, storage, refrigerators, cold chain equipment, renovations, and other such requirements and these must be included in the procurement and planning processes.

The current international guidelines on the use of rapid tests are that two separate tests, from two different companies, with different antigenic specificities be used. The World Health Organization's guidelines states: "When choosing a second test, it is important to select one that involves the use of different antigens and/or a different platform and demonstrates appropriate levels of specificity and sensitivity. If a positive reactive and a second negative non-reactive test result occur in more than 5% of cases, the testing process should be reviewed⁹⁵." In addition to the international guidelines, the CT chapter of the St. Lucia National HIV/AIDS and STI Protocols also specify the use of two rapid tests. Specimens collected from VCT clients should be tested on two rapid kits using either the parallel method or the series method. The two kits should be of different antigenic specificities that define HIV.

There is no second rapid test that is available in St. Lucia. The only one available in the country is Determine. This is true in the private labs as well as the public sector labs. The rapid test pilot test conducted by St. Lucia Medical and Dental Association in St. Lucia used only one test, "Determine". While there were no positive samples from this pilot test, if there had been a positive case, they would not have had the means to conduct a second test. This does not adhere to either the national or international guidelines.

Space and infrastructure

Currently, facilities have different configurations of space for CT. Of the five current public sector sites and the one private sector site visited, all have severe inadequacies in the space needed for provision of CT services. According to World Health Organization (WHO) standards, the ideal space for the provision of CT services includes: adequate private rooms with closed doors for counseling, a separate space for blood draw, a separate space for testing, and a large, and comfortable waiting room with adequate ventilation, comfortable chairs, and videos or health education to keep the waiting clients occupied and take advantage of this captive audience⁹⁶.

While none of the facilities benefit from the ideal space configurations promoted by the WHO, most have managed to provide services with limitations. Most of the sites have some sort of waiting room, although they are not particularly comfortable, bright, cheerful, or air conditioned. There are often not enough chairs, usually no fans, and no TV/VCR playing educational videos or people providing health education sessions. A few have TVs, but during the site visits, they were playing cartoons or movies and do not have educational videos on hand to show to waiting patients. This is a missed opportunity because the captive audiences in the waiting room are not benefiting from targeted educational messages.

While renovations of CT sites were due to be completed within the first two years of the World Bank project, none have yet to take place and CT implementers are forced to manage with substandard and inadequate space and infrastructure for the provision of CT services.

Target Groups

Important vulnerable groups that must be reached with HIV CT services include: youth, CSW, MSM. The current data collection system does not provide individual level information or demographic profiles of clients of CT services. There is therefore little to no information about the age and sex of all people tested and about risk-behavior.

While this information is not readily available, anecdotal information as well as some focus group consultations with youth conducted by the pediatrician at the MOH in charge of youth services, suggests that youth are not getting tested⁹⁷. Barriers to testing include: time of day services are offered, lack of trust in the confidentiality of health care workers, fear of stigma and discrimination, lack of “youth friendly services” at public health facilities, negative experiences of being condescended to by health care workers, transportation, and cost.

While good data is not available about the demographic profile of people who are getting tested, one Knowledge, Attitude, and Practice (KAP) survey conducted in September 2004 through UNFPA sponsorship found that 35% of the 238 youth who were questioned had ever had an HIV test⁹⁸. This indicates that there is a lot of work to be done, not only to sensitize and encourage youth about the importance of knowing their status, but to provide youth friendly services. This will ensure that youth have a positive experience when they test and this may lead to a life-time of good health seeking behavior with regards to HIV testing. A positive CT experience will also allow them to encourage their peers to test as well. Youth have strong links to peers and this form of encouragement and motivation to test by a young person who has tested and has had a positive experience can be an effective form of promotion for CT.

Further research should be conducted to determine: 1) demand for testing among youth, 2) where they would prefer to get tested, 3) what type of environment would appeal to them, 4) whom they want to be counseled and tested by, and 5) their acceptance of rapid testing. It is imperative that input provided by the youth are listened to carefully and considered for planning and service provision. Increasing the use of CT services by youth will not only capture this highly vulnerable population, but will allow increasing numbers of them to know their status, and has the potential to instill positive health seeking practices from an early age. Early routine testing by youth has the potential to make it an annual part of health care which can be carried throughout a lifetime.

The previous section on gaps in data collection highlights the limitations in the variables being collected such as (O, V, A) or “Oral, Vaginal, Anal” and the lack of other important variables on number of partners or trading sex for money. This limitation in variables also obscures understanding of use of CT services by high-risk groups such as CSW and MSM. It is therefore difficult to know, within the context of current data collection systems, to what extent high-risk groups are utilizing CT services.

AIM 4: To Make Recommendations for Improvement and Expansion

The National AIDS Program Secretariat has a goal of expanding the national CT program to include an additional 5 or 6 public sector sites to the program. This was taken into consideration for all recommendations that are made below.

Planning and Coordination

Dissemination of critical documents

The primary national document which outlines a blueprint for the national program is the National Strategic Plan (NSP). This document should be a main reference for all on-going activities and implementation. The document should be disseminated as is, or an abridged version of it should be developed and distributed to all CT sites and other relevant stakeholders. The National Protocols, which includes a chapter on CT, should also be disseminated and presented to all CT sites and to all relevant stakeholders. The CT JPHEIGO training protocols,

which outline the counseling protocol, should also be available at each CT facility. A committee or technical working group should also be formed to revise the NSP and training protocols. Relevant stakeholders should be involved in these revisions, including implementing staff. The revised documents should be disseminated widely to both national and implementing level staff.

National CT Coordinator

Many of the gaps in the coordination of the CT program can be mitigated through the recruitment of a National CT Coordinator. An individual should be identified and placed in this role and should be accountable for the coordination and management of the CT program. The CT Coordinator should be charged with ensuring the implementation of the National Strategic Plan as well as the national implementation protocols. The CT Coordinator, in collaboration with the Monitoring and Evaluation Advisor, should monitor the program and communicate its progress to the NAPS and MOH leadership as well as to donors. It would be prudent to identify an individual who has an MD or MPH, experience in HIV/AIDS, and preferably experience in CT. Lack of experience in CT can be solved through arrangements for training and capacity building in this area.

The Coordinator should be tasked initially with developing the CT national plan as well as a Monitoring and Evaluation plan to monitor the progress of the program and to evaluate its outcomes. Other critical tasks for the coordinator includes: recruiting new staff, developing Scopes of Work, ordering necessary supplies and equipment, ensuring adequate completion of data collection forms, and developing standardizing referral processes. Further tasks should include: standardization of group education sessions, ensuring availability of TVs and VCRs as well as educational videos at all CT sites, standardizing IEC messages and materials, and making the necessary logistical arrangements for renovations of facilities, counseling rooms, and waiting rooms. The coordinator should become familiar with the contents of this evaluation and utilize the recommendations to inform the work plan and scale up plan. The coordinator should make initial and subsequently regular visits to all CT sites to assess needs, to provide guidance and support, and to ensure that national protocols and standards are being followed.

The Coordinator should take advantage of regional and international workshops and conferences to network with other CT national coordinators, to share best practices, to learn from the lessons learned and experiences of other countries, and to bring them back to operationalize them in St. Lucia. This exchange would be particularly pertinent with other Caribbean nations that have more advanced CT national programs such as Barbados, Jamaica, and Trinidad and Tobago.

CT National Plan

A major gap identified in this evaluation is the lack of a CT national plan which articulates the goals, objectives, activities, responsible persons, and timeline of the national program. The coordinator described above should prioritize the development of this plan as a priority. The coordinator should develop this plan through a participatory approach involving all of the key actors including: decision makers, private sector, lab personnel, and implementing staff. This plan should detail the scale up plan including operational and implementation steps necessary to launch new sites. These include: assessing CT demand, personnel needs, training needs, space/infrastructure, and equipment needs.

Personnel

As identified in Aim 3, no detailed descriptions of staff members who make up the CT service delivery has been documented. The development of a clear organogram and detailed position descriptions will facilitate an understanding of the existing human resources for the national program, and can help to highlight gaps. Detailing the various roles and responsibilities of all relevant personnel will give all stakeholders a better understanding of the various components of the program and will clarify who is responsible for what. This can also help guide hiring and performance evaluation decisions. These documents should be disseminated to all CT sites so that roles and responsibilities are standardized and expectations and workload are clear to implementing staff as well as their supervisors. The development of Terms of References for staff should include several cadres involved in the various components of CT service delivery including: nurses who serve as counselors, lab technicians who do the testing, social workers who serve as counselors and also provide linkages to other services, Community Health Aides (CHA) who serve multiple and varied functions, and STI physicians who provide provider initiated CT services during the course of their consultations.

Given shortages in personnel, recruitment of additional staff should be considered including: nurse/counselors, lab techs for St. Jude's and VH, and an additional STI physician for the South. At present, CHA are not currently trained in CT. They provide many services at facilities including patient education and health promotion. At the moment, the group education component of the CT protocol is not being implemented due to lack of time and shortage of CT personnel. Some consideration should be given to the development and provision of an abridged CT training, which concentrates on this aspect of the protocol to this cadre. This will build their capacity to do health education for HIV/AIDS, which is a part of their job description, and will relieve other personnel from the task.

Personnel needs must be considered for existing CT sites as well as for planned CT sites in line with the program's planned expansion. The recommended additional personnel needs described in Table 4.5 were based on interviews with site level personnel as well as a review of current patient load and prospective patient load at the new sites⁹⁹. Personnel needs are identified and possible funding sources, including the World Bank (WB) and the Global Fund (GF), are identified for the provision of salary support for proposed staff. Personnel needs were determined based on the goal of ensuring the availability of adequate staff to implement CT according to the national guidelines in all eight regions of the country. These recommendations were developed by myself in collaboration with the CT clinical social worker and modified after consultation with the HIV Clinical Coordinator for St. Lucia. Input was also sought on the feasibility and justifications of these suggestions during a stakeholder meeting in November 2006 where the results of this evaluation were presented and a final report disseminated. Additional changes to the proposed additional staff were made according to input provided during this meeting.

Table 4.5 Additional Personnel Needs

CT site	Nurse/Counselors	Lab Techs	Retired nurse	STI physician
Existing Sites				
Soufriere	1 (WB)			
Vieux Fort Health				

Center				
Victoria Hospital	1 (WB)	4 (2 WB/2GF)		
St. Jude's		2 (WB)		
Dennery Health Center	1 (WB)		1(WB)	
New Sites				
Gros Islet	1 (WB)			
Babonneau				
Canaries/Anse la Raye/la Croix Merigot/Jacmel				
La Fargue	1(WB)			
Micoud (TBD)				1(WB)
Safe site (TBD)				

Potential funding sources for these positions: WB - World Bank; GF - Global Fund

In order to provide high quality CT services in the national CT program, and to provide adequate staff to the new sites which are planned in conjunction with the program's expansion, it is imperative that additional personnel are hired. Currently, the total staff for the public CT program consists of: one clinical social worker, six counselors, three STI docs, ten lab techs at St. Jude's and 14 at VH. This core group of staff provides services to the public sector. This is mostly delivered through the "visiting team model" of service delivery, which is physically and emotionally taxing¹⁰⁰, incapable of coping with new sites, and unsustainable. Burn-out of existing staff must be avoided and the provision of quality CT services must be the priority.

The launch of an additional five sites will require, at the very minimum, the additional personnel listed in Table 4.5. It is also imperative that decision makers not only consider counselors as is evidenced in the plans and budgets that were developed for the CT program, but also lab techs who are responsible for testing all of the samples in the country. As mentioned earlier, lab techs not only administer HIV antibody tests, but also CD4 counts and chemistry analysis on all PLWHA. St. Jude's lab will eventually, assume the responsibilities of conducting tests for the South including the following sites: Vieux Fort, Soufriere, la Fargue, and Micoud. This will require two addition lab techs according to the lab manager at this facility¹⁰¹.

The high volume clinics such as Dennery Health Center need an additional staff member to play the key roles of running the STI/CT clinic. Duties that this additional staff member could be responsible for includes: registering clients, calling clients for service according to order of arrival, providing group education sessions, informing clients about the procedures and protocols of the clinic, keeping the volume down in the waiting rooms when it becomes too loud, controlling the TV/VCR and playing educational videos, directing patients through the process, and a variety of other tasks. This additional staff member would alleviate the burden on current staff who are finding it difficult to cope with the large patient load of 60 clients per day.

Training

Training needs assessment

A training needs assessment with consideration of the existing sites as well as the new CT sites would be helpful in identifying who has been trained, where they are currently working, and who

needs to be trained. It would also help to identify the various cadres that need to be trained and what their specific training needs are given their working context and their role in CT service delivery. This will be further discussed under the “Target audience” section. This assessment should also identify the length of training and/or orientation needed for these cadres. This will be further discussed under “Training length”. While a training needs assessment prior to the commencement of the training program would have been ideal, considering the planned program expansion, an assessment of training needs even at this stage would be useful in guiding the way forward.

Training plan

Using the results of the training needs assessment as well as the findings from this evaluation, a comprehensive training plan should be developed. Various issues need to be discussed and agreed upon by the relevant stakeholders including: training materials, training methods used, training content, categories of people to be trained, training length, and institutions that should have their staff trained.

This plan should set the agenda for all trainings and should articulate who gets trained and on what. The cadre of staff who should be included in the training plan should not only include nurses but also: lab techs, CHA, doctors, and all relevant private sector staff who are currently delivering the service. The training plan should prioritize training for lab techs in counseling skills. Currently, all labs in the country receive walk-in clients. These clients are tested but are not provided with counseling. To date, no lab techs have been trained in CT. Lab techs should receive counseling training. However, an abridged version of the full training protocol should be uniquely tailored to fit the context in which they work.

The training plan should be developed in consultation with the CT coordinating staff and the Advanced Trainer from the Ministry of Health and prioritized in accord with the CT scale up and expansion plan.

Training methods

As discussed in AIM 3, the training methods used are a mix of formal power point presentations, a series of activities, role plays, and a practicum which involves giving a group education session in a health care facility, as well as practicing a pre-test counseling session with a client. The methods used are highly participatory and well-suited to adult learning. This mix of methods should be continued.

Training content

The JPHEIGO protocol, which was developed externally in 2003 and has been in use since, should be reviewed and adjusted to fit the local context. A review committee should be assembled to review the curriculum, to identify gaps, and to make changes and modifications according to growing evidence and best-practices in CT. The review committee should be comprised of people who have familiarity with CT service implementation, who are familiar with the latest research on CT effectiveness in behavior change, and management and policy makers from the relevant institutions. Decisions should be made as to whether content should be modified, changed in length, changed in sequence, or eliminated altogether. This review committee should also decide how often the protocol should be reviewed.

The first element of the training content that should be modified is how it is introduced. Currently, there is no context provided to trainees. An introductory presentation on the history and structure of the national CT program in St. Lucia should be provided at the start of the training. This should include: when CT started, where CT services are provided, what categories of personnel provide the services, and how each category of personnel fits into the CT program. This introduction will provide the context in which the CT program works and how each cadre of personnel and each sector fits into the big picture.

A component of the curriculum which is not being implemented in the field is the written risk-reduction plan. Counselors have cited time limitations and the lack of a need for a “written” risk reduction plan. Consideration should be given as to whether this is needed, and if not, the component of the training should be removed and replaced with training on how to counsel patients to reduce their risk without the added step of a written plan.

Another element of the CT protocol which is not being implemented in the field is the group education component of the training. There are several reasons for this including human resource shortages and time limitations. This component of the training should be removed from all types of personnel being trained, and special trainings for Community Health Aides (CHA) should be conducted on this element of CT. The job descriptions for CHA appears to be very fluid and this category of staff are in-fact fulfilling a series of tasks including: registering clients, assisting nurses with running the clinics, doing contact tracing, conducting outreach, doing home visits, and a variety of other roles as needed from day to day. The group education component of the training may be ideally suited to this category of staff. Peace Corps Volunteers are also another group who can take on the group education component. As noted in AIM 3, the findings from this evaluation show that this group education session is currently being implemented at only one implementing site - Dennery Health Center where a Peace Corps Volunteer is giving the sessions¹⁰². This indicates that where there are Peace Corps Volunteers, this is an additional human resource which can be trained to provide this service. While this is not entirely sustainable, these volunteers can work with local counterparts to ensure sustainability after their departure.

Currently, no information on data collection is integrated into the training. This is a critical component of CT service delivery and should be introduced in the training. Once the program has considered data collection alternatives and selected the preferred tool, it should be piloted and incorporated into the training. Trainees should be trained in the use of the forms, on issues of data quality, and reporting. This would greatly improve gaps in data collection, reporting, and use.

The training content covers how to provide CT services to clients in a one-on-one counseling situation. This, however, may not always be the case in all implementing settings. As an example, lab techs and pharmacists are involved in CT service delivery, but they do so in the context of a pharmacy counter or a busy lab with many other people in the room or in line waiting to be served. It is therefore unrealistic to provide the full CT protocol which requires one-on-one counseling in a private setting to pharmacists or lab techs who do not have such facilities available in their work setting. Therefore, two additional curricula, targeting lab techs and pharmacists, should be developed. These should be abridged, tailored to the needs of these health care cadre, and tailored to the context in which they work.

Training length

Physicians, lab techs, and private sector personnel do not have the time to attend a five day training, yet they need to be trained in CT. As an alternative, a standardized two day training should be developed for various cadre of personnel such as physicians, lab techs, and pharmacists to allow for their hectic schedules and to suit their level of skill, expertise, and context. This alternative format is more feasible for many cadre of personnel and can accommodate people who would otherwise be unable to participate in a five-day training.

Target audience

The professional categories of people trained in St. Lucia until November 2006 include: community health nurses, family nurse practitioners, contact tracers, retired nurses, health educators, infectious control nurses, desk officers, Peace Corps Volunteers, a graphic designer, physicians, registered nurses, social workers, pharmacists, youth officers, contact tracers, program officers, staff of civil society organizations, retirees, occupational therapists, lecturers, a dental hygienists, family case workers, school counselors, and persons from the communities. This vast category of people benefiting from a week-long training in CT service provision is unnecessary. Only those persons who work in either public or private sector facilities and provide CT services to the public should be trained. If other stakeholders such as those listed above are provided with a training on CT, it should be a shorter “orientation” to increase their awareness of what it is, its components, and its benefits.

This evaluation brought to light not only those people who were trained and should not have been, but also those who should have been trained, but have not been. This includes all ten lab techs at St. Jude’s and all lab techs at the private facilities. These individuals are currently providing CT services with no training, and they should be prioritized for the training.

Monitoring and Evaluation of Training data

Training data should be routinely collected and analyzed to facilitate decision-making. This list should be maintained and kept current. A simple registration form can be used during trainings to capture: training date, place, trainer names, trainee name, profession, age, sex, currently workplace, if the person is currently providing CT services, and contact information. A simple spreadsheet or Access database can be developed to capture and maintain this training data. The information can then be used both for planning future trainings, for planning refresher trainings, as well as in decision-making around human resource allocation. During turnovers, the information can be used to reassign people and to ensure that several people in each facility have received training to avoid a shortage in case of turnover.

To address the issue of counselor turnover which was discussed in Aim 2, a strategic plan is required to ensure that: 1) existing staff at health centers are trained and incentives provided for them to remain, 2) new staff are hired, trained, and placed in sites which are currently or will provide CT services, or 3) people already trained, who are currently not working, can be tapped to staff new CT sites (with a refresher training as required).

While trained people should be considered for new counseling positions, for those who were trained more than one year prior, and who have not been providing on-going and consistent counseling services, these people should receive refresher training before being placed in the field.

Current practice is that people are trained and are then deployed to the field with no follow up. Of the 188 people who have been trained through July 2006, there has been little to no follow up in the field to see if or how the training has been translated into practice. This type of follow up is necessary to assess needs and take corrective action.

The one attempt to conduct a follow-up survey of people trained in CT highlighted that issues of personnel, time, and limited resources did not allow trainees to implement what they learned in the training¹⁰³. This effort to reach out of past trainees should be made into a routine activity, not only through a survey, but through routine follow up site visits to support the knowledge and skills that were learned during the training. These visits would be a valuable way to provide continued support to counselors. Support visits would also ensure quality assurance of counseling as well as provide much needed support to counselors. The monitoring of counselors in the field would also allow support visit staff to identify gaps and address gaps and could also provide input to training needs for further refinement of in-service refresher trainings.

Data Collection

Assessing availability, utilization, and quality

According to the Caribbean Health Research Council's (CHRC) recommendations, indicators needed to monitor CT programs include both process and outcome indicators. Process indicators are those which track whether a process has taken place and its frequency, such as the number of HIV tests conducted. An outcome indicator monitors change in knowledge, skills, or behavior over time such as, "Percentage of youth who used condoms consistently and correctly at last sexual encounter". Both process and outcome indicators are necessary to adequately monitor a program's progress.

Accordingly, in CT, it is important to measure the availability of CT services, the utilization of these services, and the quality of services provided. Determining the availability of services can be a direct measure of when, where, and which services are available. This has been clearly documented, including both public and private sector sites, on Table 4.1. Measuring utilization is captured through the number of clients using the services. It is important to capture not only how many, but the categories of people using services. This can be done by tracking demographic characteristics of CT clients including: age, sex, gender, and ethnicity. Surveillance should also include risk behavior such as: number of partners, types of partners, exchange of sex for money, and needle sharing. By capturing this information, it can be ascertained if the services are reaching all the desired groups including: gender, age groups, ethnic groups, and high-risk groups. A good surveillance system can capture comprehensive process and outcome indicators routinely.

Assessing availability and utilization of services is straight forward. However, assessing the quality of services can be more complex. Some methods to assess quality of counseling include: 1) observations of counseling sessions, 2) use of mystery clients, and 3) client exit interviews. Observations, while an effective method of assessing quality, have limitations. Counselors may not provide the same level or type of counseling when being observed as they normally would, also known as the Hawthorne effect. As a remedy to this limitation, the CHRC suggests use of mystery clients. "Mystery patient studies and exit interviews with clients are possibilities for assessing the quality of counseling; mystery clients in particular could help avoid some inherent problems of observation." CHRC goes on to state, "When using mystery clients to assess quality of counseling, they should undergo training and have ongoing support and feedback. In addition,

mystery clients should be used according to the same guidelines used in sexually transmitted infection evaluation, e.g. the clinic is notified and agrees to have mystery clients over a certain defined time period (CHRC)¹⁰⁴”. The third method is the use of exit interviews, which will allow for an assessment of client satisfaction with services rendered. Some or all of these methods should be used to assess the quality of counseling in St. Lucia.

Data collection tool

As discussed in AIM 3, the current data collection form being used for CT is a medical card which was developed for use in STI clinics. In order to remedy the gaps in the medical form currently being used in St. Lucia, a tailored CT data collection form should be developed and utilized for collection of critical data to adequately monitor and evaluate the program. This intake form will assist the counselor to conduct the session, standardize what is asked, and provide valuable individual level demographic and risk data. Inclusion of important variables such as pregnancy will facilitate the capture and referral of pregnant women to PMTCT services. It will also provide a picture of testing, risk behavior, and prevalence data for this important population. The inclusion of a variable regarding where people heard about the testing service will provide data on IEC and marketing approaches which will assist in the evaluation of promotional activities. It would be highly beneficial to the CT program, for programmatic and individual data collection and monitoring to ensure that a CT form specifically for that purpose is developed and utilized.

Threats to validity

The one word variables on the medical card currently used as the individual data collection tool leaves room for subjective interpretation and is a threat to the validity of the measures. In order to remedy this, variables must be rephrased into explicit questions. As an example, the variable “condom” should be stated in one or all of the following ways: 1) Do you use condoms with your regular partner? 2) Do you use condoms with your non-regular partners? and/or 3) Did you use a condom in your last sex act? In addition, the options provided should not be binary “yes or no” options but should instead include “never, sometimes, and always”. “Yes or no” options for these particular types of questions do not provide useful information.

Missing variables

The current data collection form leaves out key indicators and variables. In order to gather an adequate account of sexual history, it is essential that additional variables are collected. These should include: the number of sexual or drug using partners, number of regular and non-regular partners, the gender of sexual partners, the circumstance of risk behavior such as alcohol and drug use, issues of domestic and gender violence, taking money or favors for sex, and partner risk behavior. In addition to this, the data collection form should indicate how the client learned about the services. This will enable an assessment of the strategies used to promote CT services. The data collection form should also have a space to indicate if the clients received their test results, and this should be used to collect information for donor reporting. The CT indicator requires that the country report not on the number of individuals tested, but those who receive their results. Indication of who receives their result on the medical card is the only way to capture and report on this information. It will also allow the national program to get a picture of what percentage of clients who are tested actually receive their results, and if this percentage is not good, strategies need to be put into place to address this gap.

Unnecessary variables

Some questions which are currently being asked are not necessary at this stage. This includes asking clients about their “consorts” or sexual partners. This can serve as a major barrier to client testing and infringes unnecessarily on the privacy of the individuals being counseled. It should therefore be removed and included only when a client is HIV+ or has an STI infection and has asked the facility to assist him/her in tracing and informing past and present sexual partners. This question should therefore be removed from the data collection form as part of the pre-test counseling session.

Comments

Currently, there is no space on the individual data collection form for the counselor’s comments. This should be included in the data collection form to ensure that there is a space for the counselor to note any information that may be useful in counseling the client. These comments are also useful for subsequent sessions and are particularly helpful if these sessions are conducted by a different counselor. They are also helpful to jog the memory of a counselor even if it is the same person who conducted the initial counseling session. These comments allows the counselor to remember what was discussed and what needs to be followed up on.

Data collection training

The CT intake forms should be integrated into the National CT Protocol as well as the Training Curricula. All counselors who are trained to provide CT services should also be trained on how to collect the information and on how to report on it. This will assist in the standardization of data collection as well as improvement of data quality.

Data quality

Measures must be put into place to avoid double counting and to ensure that the data which is collected and reported is of high quality. This can be done through a standard operating procedure of quality assurance (QA) and quality control(QC) that can include a random selection of a certain percentage (5- 10%) of all CT individual data collection forms every 6 months to check for completeness and accuracy. One staff person can be identified to be responsible for QA/QC. This should be done for data collection and reporting for both counseling and testing data.

Antenatal data

Currently, the data collection tool for CT has no place to indicate which women are pregnant. Antenatal data must be collected and recorded because pregnant women are a vulnerable group and it is critical to know their status to refer them to PMTCT services. To date, no system exists for the laboratories to identify which of the tests they conduct are on pregnant women. The NAPS relies on data from the labs to analyze prevalence on pregnant women. A system must be put into place at each hospital, health center, and other facilities to record pregnancy status on the CT intake form. This will allow the facility and the lab to know which women are pregnant and those women who are pregnant and positive must be followed-up with care and treatment to reduce the chances of transmission from mother to child.

It is necessary to ensure completeness of data collection with respect to categories of clients being tested, i.e. “antenatal clients” for which data collection at present is incomplete. In order for this to happen, the physician requesting the test must determine if the woman is pregnant, and this must be written on the lab request. Similarly, the nurse/counselors and clinical social worker

from the STI clinic must determine pregnancy of their patients and indicate this on the lab request form. The Blood Donor Program must also request this information from those who donate blood, as they will be tested for HIV amongst other transfusion transmissible infections. The lab can then document this in their records and can report pregnant HIV+ women to the MOH and the NAPS.

Data reporting

There were five major gaps identified in data reporting during this evaluation and they included: the lack of complete denominator data, double counting, recording of provision of results, limited data collection and reporting, and quality assurance. The following recommendations can remedy these gaps.

Currently, only public sector sites report the total number of tests conducted. Private sector sites only report the positive cases. The NAPS calculates prevalence rates based on all numerator data and only partial denominator data. All facilities that provide HIV counseling and testing, including private facilities, should report the total number of tests conducted by month to the NAPS. In this way, the NAPS will have accurate numerator and denominator data to calculate the prevalence rates of CT clients.

To remedy the issue of double counting, the lab should develop a system to track tests conducted by individual, so that the testing figures reported accurately reflect the number of clients served as opposed to the number of tests conducted. The sources of testing data should also be disaggregated, so that tests conducted on blood donors are not combined with test conducted at STI clinics where counseling is taking place. Similarly, tests conducted in private labs where there is no counseling should also not be included in CT data. The clients served with counseling and testing should be the only ones included when reporting clients of the CT program. Those being tested for HIV without counseling should be reported in a separate indicator such as blood donors. In this way, a better reflection of clients served by CT, and those who are tested as a part of the blood donor program will be captured and reported. To remedy the lack of individual level data collection and reporting, once a new CT data collection form is introduced and more detailed data is captured, this data should be reported and analyzed by the NAPS.

Accurate capture of clients who receive their results is currently not being captured or reported. The main indicator for CT which donors require be measured is: “Number of clients aged 15-49 who are counseled, tested, and receive their HIV results”. In the current data collection and reporting system, there is no indication of who has or has not received their test results, and this should be included on the CT intake form and reported to the NAPS.

Currently, very limited data is reported to the NAPS by CT sites. This includes the number of tests conducted and the test results by gender. This data is not adequate to monitor the program’s progress. Many other indicators including level of condom use, risk behavior, age, sex, and other key variables should also be reported. All demographic info and risk behavior info must be reported to have a true picture of who is testing in St. Lucia and their risk behavior.

Data use

Once the data collection tool used to collect patient level data has been revised and is in place, this information should be analyzed, reported, and used. It should be used not only for patient level care at the site level, but also for programmatic decisions at the national level. National

level staff in the NAPS and MOH should regularly use this data to make, change, and modify policies and decisions regarding the program. This can include decisions on planning, budgeting, staff allocation, communication and demand creation strategies, development of IEC materials, procurement of supplies and equipment, and so much more. Analysis and recommendations can also be used for advocacy with policy makers and to the general public.

Referral networks

Currently, there are no established referral networks from CT sites to the comprehensive range of needs required for follow-up care and support for PLWHA. This can be done through a series of steps starting with: 1) the identification of existing services, 2) implementation of a needs assessment, 3) fostering new services, 4) hiring the necessary personnel to organize and implement the referral network, 5) establishing consistent funding mechanisms, 6) building and maintaining a strong referral network, and 7) referring high risk groups from the blood donor pool.

Needs assessment

A needs assessment should be conducted among PLWHA in St. Lucia. This can be easily implemented by staff at the HIV clinic at Victoria Hospital. Particular attention should be paid to non-clinical services which are needed by PLWHA and their family members who are affected by the disease. Particular attention should also be paid to PLWHA living in the West, East, and South of the country, given the availability of treatment services only in the north. Current treatment providers have hypothesized that PLWHA living in the South of the country prefer to come to the capital once or twice a month to receive services¹⁰⁵. The clinicians suggest that patients prefer to receive services outside of their own communities to avoid stigma and discrimination and out of fear that health care workers in their own towns would breach confidentiality. However, these suggestions are unconfirmed as it was beyond the scope of this evaluation to undertake a needs assessment of PLWHA. A thorough needs assessment that would interview PLWHA from the South and inquire where they would prefer to receive services would answer this question and decisions should be made accordingly.

Existing services

A service mapping exercise to identify the range of existing services in the country should be undertaken. These should include both government and non-government support services. Organizations, hospitals, associations, civil society organizations, churches, and other such institutions should be included in mapping existing services. In order to ensure adequate coverage of a range of services, a variety of stakeholders should be included covering: housing, employment, psychosocial, domestic violence, harm reduction, spiritual, and nutritional support. Once existing services are identified, a description of the services and an on-going relationship with the organizations which offer these services should be fostered. A documented referral network plan, including referral slips, bounce back cards, or alternative mechanisms for ensuring the tracking of patient utilization of services should be developed.

Fostering new services

Once existing services for PLWHA are mapped, those services which are not available are known and strategies to provide these services should be explored. An assessment of the capacity of the current service providers to take on additional services should be conducted. Once saturation has been reached with existing capacity, new institutions and organizations should be

identified for the provision of additional services which are lacking. Currently, only one social-worker in the country is single-handedly managing referrals. This social worker, with additional staff and newly hired personnel, can participate in the identification and establishment of relationships with new groups including: CSO, church groups, home nurse associations, and community nurses. There is also additional funding through the NAPS where organizations can complete a *Request for Proposal* form and propose specific services that they can offer for which they can get funding. Churches are a great source for the provision of home based care and spiritual counseling and support for PLWHA. Churches are not currently playing an active role in provision of support services for PLWHA which traditionally is well suited to their capacities.

Hiring personnel

The original World Bank procurement plan articulated the hiring of an additional social worker. This has not yet been done and should be. In this way, two Social Workers can be mobilized to execute many of the recommendations for the referral networks. They can take the lead in implementing the needs assessment, mapping existing services, identifying and fostering new institutions to provide a variety of services, and building an efficient and effective referral network. They can also be responsible for documenting and keeping track of the network of service providers, providing them with the necessary training and tools, as well as assessing progress and following up with patients.

Funding mechanism

Current funding for the various needs of PLWHA is inconsistent and ad-hoc at best. Some PLWHA receive rental support and funding support for food. The inconsistency in which funding is allocated and the arbitrary manner in which decisions are made regarding who needs cash, when, and why should be systematized. Efforts should be made to identify and develop consistent budgets for PLWHA needs.

Blood donors

It is important to note that there are multiple needs and directions for referrals. While the majority of the above discussion refers to provision of referrals for PLWHA from treatment to other needed services, it may be important to note another need for referrals. People who are screened out of the blood donor pool due to risk behavior should be provided with a referral to CT services, as they are at high risk for STI and HIV. They should be offered counseling and testing and should not be a missed opportunity. Referrals should encompass a wider range than just treatment to other support services for PLWHA.

Private sector

As stated in Aim 2, the private sector has not been included in many aspects of the national CT program, even though it provides services to a vast array of the population. The MOH and NAPS should develop a plan to integrate the private sector into the national CT plan. An important issue to address is communication and dissemination of information, particularly regarding: the national HIV policy, national strategy, and national protocols. The private sector cannot know in what direction the national program is moving without effective communication.

The private sector should also be included in strategic planning meetings. This involvement is critical to gather input and insights from a sector which is a major contributor to the provision of the service in the country. It would also be helpful to share and exchange challenges and obstacles as well as best-practices. Each sector can learn from the other. Similarly, most private

sector facilities in the country do offer testing but not counseling. As the sector has not been included in the dissemination of information, training, and protocols, they cannot be held accountable for their lack of adherence to certain aspects of the national program.

Finally, it is essential that the MOH/NAPS disseminate the required data collection and reporting forms to all private sector facilities, train them on their use, and ensure that routine surveillance data is collected from the private sector.

Lab and diagnostics

As described in Aim 2, some of the gaps include: lack of standardized HIV testing algorithms across labs, long turn-around time for samples to be sent to and return from CAREC, inadequate lab personnel, lack of adherence to international, regional, and national rapid testing guidelines, and decentralized procurement systems. Overall, the lab must be prioritized at all levels and must be included in all planning and budgeting decisions. The current degree of engagement with the lab management is that they are asked each year for the number of reagents and test kits needed for the following year. This is not sufficient adequate engagement with the lab which is a major component of not only the HIV CT program but also the HIC care and treatment program. The MOH and NAPS need to take build and strengthen the country's labs. A robust laboratory system is essential to the proper functioning of HIV service delivery.

Build consensus

To identify the appropriate testing algorithm for the country, a stakeholder meeting should be held including representatives from the national program, national reference lab, and the implementers from both the public and private sector. Once a decision is agreed upon, a standard HIV testing algorithm should be implemented across all labs in the country.

Communication strategy

Once a consensus has been built and a standardized testing algorithm developed, this information should be disseminated via national HIV/AIDS protocols so that all public and private sector sites know what the rapid test algorithm is. In order to resolve these and other issues with the laboratory and diagnostic components of the national program, it is necessary to create a standardized method of communication to all the labs through the existing association, the National Lab Advisory Counsel, which includes both public and private sector stakeholders. It is also necessary to include representatives from the lab sector in stakeholder decision-making, in strategic planning meetings, in budgeting, and policy-making. The continued exclusion of the lab at the decision-making meetings will continue to exclude a critical element of the national program.

Confirmatory testing capacity in-country

At present, the testing and confirmation process includes confirmation at the national reference lab in Castries, and a second confirmation at the regional level at CAREC in Trinidad and Tobago. This results in unnecessary delays which also results in increased anguish for the client who must wait up to 6 weeks to receive results. In order to reduce this delay, it would be beneficial for the country to procure the necessary equipment and staff training to provide confirmatory testing for HIV in St. Lucia.

Sources of samples

Currently, the national level does not have a way to know where the HIV are coming from: Gros Islet, St. Jude's, Soufriere, Vieux Fort and so on. For those samples which are positive, they are able to be identified back to the source facility and region, but all other samples are reported to the central level without their regional origins. It would be beneficial for analysis purposes to reconfigure data collection at Victoria Hospital National Reference lab to include what regions the samples are coming from. This would enable analysis at the central level by region. It would allow the central level to know which regions have high uptake of testing and which regions are low.

Human resource shortages for the labs

The shortage in lab personnel should be mitigated through recruitment of more lab staff at VH. This facility which serves as the national reference lab for the country, has doubled the number of HIV tests it conducts. However, similar increases in the number of available staff have not taken place. Lab staff feel overworked and it becomes difficult to keep them. Lab management feel that incentives should be considered such as salary increases so that the field can attract young talent and ensure a steady supply of personnel for the public sector labs¹⁰⁶. Lab personnel should also be supported in training in ISO standards as well as an abridged (CT) training to scale up counseling skills.

Rapid Tests

There has been considerable resistance from the public sector lab services for the inclusion of rapid tests in the country's protocol. There is strong evidence to suggest the integration of rapid testing can be beneficial to the national CT program. Rapid tests can increase uptake of CT services as clients can determine their results on the same day and do not have to come back to receive results. One indication of rapid test feasibility in the country was a pilot test which was conducted by the St. Lucia Medical and Dental Association. This pilot proved that private sector and public sector providers, as well as the general public, are amenable to this new technology. St. Lucia should seriously consider including rapid testing as a part of its CT menu of options. The national reference lab, in conjunction with some private partners and with technical assistance from CAREC, should design and implement an in-country validation of two additional rapid tests. If this proves too costly, regionally validated tests, in addition to the Determine which is currently the only rapid test in use in the country should be considered. If serious reservations remain, MOH/NAPS can commission a small study to identify rapid test feasibility and acceptability among health care workers as well as general public. The findings can then be used to inform policy decisions on use of rapid tests. Once this has been done, a decision can be made and a central procurement system for rapid tests should be designed to maximize costs. Currently, each provider is purchasing their own rapid tests separately and at greater costs.

The use of saliva-based rapid test (as option for those who fear needles) can also be considered and may also allow for a greater number of health care workers to administer the testing component of CT.

A training incorporating rapid test skills should then be incorporated into the CT training curricula which to date only includes counseling. Currently, only lab techs conduct testing. In this way, other personnel such as nurse counselors/clinical social workers can also learn to use rapid tests, thus making CT services available in regions and clinics which do not contain labs.

A policy on rapid testing should be incorporated into the broader HIV/AIDS national policies and protocols.

A communiqué outlining the national and international guidelines should be developed and disseminated to all public and private labs. This will assist in transitioning from the current procedures of the use of one rapid test kit to two/three.

Space and infrastructure

A facility survey should be conducted to assess space and infrastructure needs for the CT program. This should lead to a plan and timeline in which the combined financial inputs of both entities should be dedicated to respective facilities. NAPS can utilize WB project funds for renovations or building of sites and the Caribbean Development Bank should utilize its funds for the building of new facilities in the new locations. To coordinate these major building and renovation activities, one individual should be appointed for providing oversight to the renovation and building process.

Facilities should be standardized with a minimum of two rooms for counseling, one room for blood draw, and a waiting area that seats at least 20/30 persons. The waiting area should be comfortable, have a fan, a TV and VCR, and a selection of educational videos. An agreement should be reached between the planning unit of the MOH and the CT program to ensure that all space and infrastructure needs are adequately addressed moving forward.

Target groups

As mentioned in Aim 3, due to inadequate data collection methods, it is unclear if and to what extent high risk groups such as youth are utilizing CT services. Due to this gap in knowledge, it would be beneficial to conduct research among youth to determine: 1) numbers of youth who have been tested for HIV, 2) their gender, 3) where they were tested, 4) what their experiences were, 5) where they would prefer to test, 6) what types of services they want, 7) what hours they want the services to be available to them, 8) how to make services youth friendly, 9) what age they would prefer their service providers to be, 10) what qualities they want in these providers, and 11) if they would accept rapid tests. Furthermore, options should be explored to identify potential CT sites for youth outside the traditional public health infrastructure of MOH. This may include the: Youth Drop-In Center, Planned Parenthood, the Boys Training Center, and the Uptown Gardens Girls Center. Another option is to utilize the schools, teachers, and counselors to encourage testing during HIV/AIDS education sessions in the schools. While it appears impossible to integrate testing on school grounds for political reasons, the option of integrating CT into the two pilot test adolescent health sites at Babonneau and Dennery should be considered.

It is entirely unclear as to whether other high-risk groups such as CSW and MSM are using the CT services in the country. In addition to the inadequacy of the data collection form which does not capture this information, stigma and discrimination against these two groups appears to be a problem. Specialized services may be needed to address the particular needs of this population. No studies or research has been done to ascertain the risk-behavior and prevalence rates of these populations. Special studies which will explore issues of CSW, MSM, and uniformed personnel may provide useful answers to questions that the existing surveillance system cannot, and which can be used to plan targeted service delivery and other interventions for these groups.

CHAPTER 5: DISCUSSION AND FUTURE RESEARCH

Study Objectives

The program evaluation of the national Counseling and Testing (CT) program of St. Lucia had the following aims and research questions.

1. AIM: To document the national CT program of St. Lucia.
 - a. What are the roles and responsibilities of the key coordination, implementation, training, and evaluation personnel/entities?
 - b. What are the inputs, outputs, activities, intended outcomes and intended impact of the program?
2. AIM: To identify achievements and successes of the national CT program.
 - a. What is the coverage (availability/accessibility) of CT services in St. Lucia?
 - b. What is the utilization (demand/uptake) of CT services in St. Lucia?
3. AIM: To determine gaps and areas for improvement.
 - a. Is the CT program meeting its stated goals and objectives?
 - b. Is the CT program adhering to national, regional, and international guidelines for CT program implementation?
 - c. What are the gaps and deficiencies in the program as perceived by management and implementing personnel?
4. AIM: To make recommendations for improvement and expansion of CT services.
 - a. What concrete recommendations can be made for the improvement and expansion of the national CT program based on evaluation findings?

Summary of Findings

Documentation of national CT program

One step in program evaluation is documentation of the program's process, which was done with data extracted from the written document analysis, interviews, and testing data abstraction. Through these means, there were various figures, graphs, tables, and models were developed through this evaluation to document and describe the program. . A logic model (Figure 4.1) illustrates the inputs, activities, outputs, and intended outcomes of the program. The mix of public and private sector service provision including four public sector sites and nine private sector sites as well as one quasi public-private site which receives funds from both government and private donors are described in a table (Table 4.1). A map of all of the public and private sector sites (Figure 4.2), shows the geographic coverage of services and the stakeholders responsible for implementation of the program. A graph of HIV tests conducted from 1988 - 2006 (Figure 4.3) shows the testing uptake for the past 18 years of the epidemic. Finally, a testing and confirmation protocol (Figure 4.4) shows the flow of specimen collection, testing, testing confirmation, and provision of results. These figures and tables were developed in this evaluation to describe the program and document the processes and outcomes of CT in St. Lucia. This provided the information needed to assess strengths and areas for improvement.

Achievements and successes

Since the inception of the program, St. Lucia has made great strides to implement CT services in the country. The Government has shown tremendous political will through the formation of a National AIDS Coordinating Counsel to coordinate the national response with the National AIDS Programme Secretariat (NAPS) serving as its administrative arm. The Ministry of Health, the main implementing agency, has worked to provide universal access to a continuum of HIV/AIDS prevention, testing, treatment and care services. The Government has allocated its own funds, but has also participated in negotiations with multiple external funding sources to supplement and mobilize resources. A National Strategic Plan has been developed, which includes the provision of CT as a key component in its strategy. Despite personnel shortages, resource constraints, and limited support, Victoria Hospital's Ezra Long laboratory has consistently performed between 3,000 to 6,000 HIV tests a year. In 2006, two labs in the country received AxSYM machines and trained lab technicians and technologists in their use. Standardized CT training protocols are in use and 188 people have been trained according to these standard training protocols. National HIV/AIDS and Sexually Transmitted Infection (STI) Protocols have been developed including a chapter dedicated to CT. Rapid tests are being utilized in two public sector testing sites- St. Jude's lab and Victoria Hospital lab. Promotions for testing have taken place through Public Service Announcements, billboards, and radio and TV advertisements. While all of these accomplishments should be acknowledged, many gaps exist which should be addressed to strengthen the program.

Gaps and areas for improvement

The two stated goals of the national CT program as described in project documents are: "To introduce free CT services in at least one primary health center in all health regions" and "To ensure that CT service delivery and staff meet at least the minimum regional and national standards for effective CT services". In order to realize these goals, it is critical that decision-makers, policy-makers and implementers make appropriate decisions and take necessary steps for the improvement and expansion of CT services in the country. Regarding the first goal, there are currently free CT services in 4 of the 8 regions. Therefore, plans need to be made to assess the feasibility of opening CT services in the remaining 4 regions. In order to meet the minimum regional and national standards and to ensure high-quality service delivery, the following critical areas must be addressed including: 1) the lack of a full time coordinator to manage the CT program, 2) inadequate CT data collection, analysis, and use for decision making, 3) the absence of accurate denominator data (total tests conducted) from all sites providing CT services, 4) incomplete antenatal testing data, 5) absence of a training needs assessment or training plan, 6) shortages of personnel at all levels, 7) inadequate referral networks and linkages to support services for People Living With HIV/AIDS (PLWHA), 8) insufficient prioritization of the labs in all areas of planning, budgeting, personnel, renovations/refurbishments, training, and storage needs, 9) lack of adherence to national, regional, and international guidelines in rapid test use, 10) lack of evaluation of testing promotions and campaigns to determine reach, 11) inadequate space and infrastructure for CT service provision, and 12) insufficient inclusion of the private sector into all areas of the national program including dissemination of protocols, data collection forms, reporting structures, and training. These identified gaps lead to the following recommendations, which if followed, can improve the coverage and quality of CT services in St. Lucia.

Program Implications

The above mentioned gaps and areas for improvement can be addressed through the implementation of the following recommendations in the key areas of: planning and coordination, human resources, training, data collection and reporting, referral networks, private sector, and laboratory and diagnostics. The National AIDS Programme Secretariat, along with the Ministry of Health should consider the following recommendations.

Planning and coordination

The CT program should disseminate an abridged version of the national HIV/AIDS Strategic plan to all CT sites as well as a bound copy of the national CT protocol to all CT sites. The protocol should be revised either at least once every two years. The national protocol should be monitored closely through the direction of a national level CT coordinator who should be hired and lead the process of developing a detailed national CT scale up plan with key stakeholders – including operational and implementation steps necessary to launch new sites, such as assessing personnel needs, equipment needs, commodity/supply needs. This coordinator should also coordinate regular supervisory and support visits from the national level staff to all CT sites to provide guidance and support, to assess needs, and to ensure that protocols are being followed.

Human resources

The first priority should be to recruit, identify, and train a full time national CT coordinator who should be responsible and accountable for the coordination and management of the CT program. Detailed position descriptions for all personnel involved in CT should be developed, describing roles and responsibilities. This should be disseminated to all CT sites and staff should receive orientation and a copy of their own position. This is important to ensure standardized provision of services. The program should recruit additional staff for the 5 current CT sites and for the proposed 5 or 6 new sites, including nurse/counselors, lab techs for St. Jude's and VH, and an additional STD physician. The CT coordinator should determine if any new positions need to be created such as data entry clerks or others that may not have been envisioned during the planning.

Training

A national CT training plan should be developed identifying who gets trained, why, and on what including: lab techs, Community Health Aides, nurses, doctors, and the private sector. Training for the lab techs in counseling skills should be prioritized. The program should generate a list of those who are currently trained, their profession, where they work, whether they are currently providing CT services, and when they were trained. This list should be maintained and can be used to for program planning. Accordingly, refresher trainings should be planned as needed according to who was trained and when. A simple registration form should be used at each training to capture the name, profession, age, sex, current workplace, and contact information of the trainees. This should be kept in a simple database for ease of reporting, program planning, and planning of refresher trainings. Some trainings should be developed tailored to particular needs (pharmacists, Community Health Aides, lab techs) and others should be abridged (physicians, private sector). The individual data collection forms that should be used during the counseling sessions should be introduced to the counselors during the trainings. The existing training curriculum was developed externally and should be reviewed and contextualized.

Data collection and reporting

An individual CT data collection form which includes demographic information and all key indicators should be developed. This data collection form should be integrated into the CT training and counselors should be trained on its use. This individual level data collection form should be disseminated to both public and private sector sites. A system to collect and report on the total number of persons testing at all facilities, including the private sector, to the national level should be developed. A data quality assurance system should be developed including a routine random selection of 10% of all CT client intake forms to check for completeness and accuracy. NAPS/MOH should conduct analysis of this testing data and should provide feedback to the facilities. This data should also be used for program planning and decision-making.

Referral networks

NAPS/MOH should establish a network of organizations, hospitals, associations, CSO, and churches to develop a wide and effective referral network which covers housing, employment, psychosocial support, spiritual support, and nutritional support. A national list of these groups and the services that they offer should be collected and regularly updated by MOH/NAPS. Referral slips and a bounce back system to keep track of and follow up on referrals should be developed.

Private Sector

The private sector is a key component of CT service delivery in St. Lucia and should not be neglected. The HIV policy and national protocols should be disseminated to the private sector. The private sector should be included in all strategic planning efforts. The data collection and reporting forms should be disseminated to this important sector to ensure surveillance information is complete and includes all tests conducted in the private labs and doctor's offices.

Laboratory and diagnostics

Standard HIV testing algorithms should be implemented across all labs. The necessary equipment to provide confirmatory testing for HIV in St. Lucia should be procured to avoid the delay in receiving results from CAREC. Additional lab personnel should be hired to staff and conduct tests at VH, which has doubled the number of HIV tests it conducts but has not doubled the number of staff. Representatives from the lab should be included in stakeholder decision-making, in strategic planning meetings, in budgeting, and policy-making.

Study Strengths

This study was the first comprehensive process evaluation conducted on any aspect of the national Counseling and Testing program in St. Lucia to date. These findings can serve to improve the current program and as an example for conducting evaluations of other components of the national program.

The study design utilizes several different research methods and yields information from multiple sources including: written document analysis, one-on-one interviews, record reviews, and participant observation. This method-mix draws on a variety of data sources and research methods to gather useful data, create a comprehensive picture of the national program, and identify gaps and make recommendations to address them.

One successful approach used in this evaluation is participant observation. The evaluator was based at the National AIDS Program Secretariat in St. Lucia and lived and worked in this institution for six months - the entire length of the study period. This includes during the development of the study protocol, data collection, and the preliminary data analysis. This integration into the daily functioning of the national program allowed for access to program meetings, donor visits, facility visits, and conferences. This also facilitated the building of trust and relationships with relevant decision-making and implementing staff. The rapport that was established facilitated requests for interviews and access to records, documents, and data. Living in St. Lucia for the six months of the study period also allowed for a back and forth with the various facilities and staff, allowing for clarifications and further requests for information. The unfettered access to decision-makers and staff at all levels provided the necessary entrée into the national program.

A related strength of the study is that as a result of the trust that was built between the evaluator and the decision-making and implementing staff, the people interviewed were open and frank in their feedback. They provided useful information that may not have been the case if adequate time was not spent in building trust. The staff provided a significant amount of information, observations, fears, insights, criticisms, and suggestions for improvement. Some interviews lasted up to five hours and proved to be, in some ways, a forum for in-depth discussion on issues related to the program. This was, in many cases, the first time that anybody from the national level had taken the time to solicit information and opinions from implementing staff, and as a result, staff appreciated the opportunity to reflect on the program and provide insights and recommendations.

Another strength of the study is that the results were able to not only point out strengths and areas for improvement, but also to document the program. This documentation of the program included the development of: a logic model, a testing and confirmation diagram, a description of currently collected variables, a map of CT sites (private and public), human resource data, funding information, and a documentation of the background and history of the program. This documentation will assist in monitoring and evaluating the existing program as well as planning for the future. It has also provided useful documents to describe and demonstrate program processes and achievements to donors and other stakeholders.

Finally, the evaluation not only provides insight into the strengths and areas for improvement, but also gives specific and actionable recommendations. As noted by evaluation expert Michel Quinn Patton, "Utilization-focused evaluation begins with the premise that evaluations should be judged by their utility and actual use; therefore, evaluators should facilitate the evaluation process and design any evaluation with careful consideration of how everything that is done, from beginning to end, will affect use"¹⁰⁷. The usefulness of the evaluation largely hinges on whether program planners, decision-makers, and implementers are provided with clear recommendations that are feasible, actionable, and specific.

Study Limitations

Due to resource and time limitations, this evaluation is the work of one researcher and not a team of researchers. The evaluation would have benefited from additional perspectives, insights, and ideas to the design, implementation, and analysis. To capture multiple perspectives, findings were shared with several relevant stakeholders at various stages along the research process, as well as at the end for feedback and input. The findings were also shared with technical experts in CT to verify finds and to ensure that the recommendations provided are in-line with available best-practices and current international standards.

Another limitation of this study is that it was implemented by an external evaluator- me. As a foreigner, there was limited understanding of the political, social, and cultural nuances or the context of the program that was being evaluated. There was no knowledge of the program and how it works from an insider's perspective. As a result, the initial learning curve was steeper than it would have been for an internal evaluator who would already have been familiar with the country, the program, and the local context. Additionally, an external evaluator has to overcome the initial feelings of apprehension and fear of program implementers. Many programs feel resistant to external evaluators and this can result in initial resistance to the evaluation process. External evaluators are criticized for not understanding the scope, context, culture or the program they are evaluating and for not spending enough time in-country doing the evaluation. External evaluators are often also criticized for only talking with top management and therefore missing key input from different levels of the programs. These shortcomings were addressed in the following ways. A full six months were spent in St. Lucia in order to build relationships, come to a full understanding of the country, culture, and program context. Efforts were also made to include a wide spectrum of stakeholders in the interview process. Unlike other evaluators who sometimes select a few people from the management level and interview them. In this way, the evaluation engaged thoughts and perspectives of staff from many levels of stakeholders including: national level decision-makers, site level managers, and direct service providers.

Another criticism often cited regarding external evaluators is that they are less able to follow through to facilitate the implementation of recommendations¹⁰⁸. This criticism is related to the fact that external evaluators, who are usually highly-paid expatriate consultants, often fly into the country, conduct the evaluation, present the findings to decision-makers, and leave with little ability to influence what happens with the results. In many cases, the reports are shelved and are not utilized adequately to take action to improve programs. This is sometimes a result of the highly technical reports, lack of adequate engagement with those who will use evaluation results, and lack of clear and actionable recommendations. To mitigate the likelihood that the findings from this evaluation would not be used, the national level staff were adequately engaged from the inception of the evaluation. These were the key stakeholders who would use the findings. These decision makers were also kept abreast of the evaluation during the data collection and analysis. At the end of the data collection, a meeting was held with key stakeholders including donors, decision-makers, and implementing staff and the results were presented. A report of the findings was also disseminated to all who attended and were sent by email and hard-copies to those who were not able to attend the presentation and discussion. Furthermore, one of the findings of the evaluation is that a national level CT Coordinator is needed at the national level to coordinate all implementation and monitoring and evaluation activities for the program. This individual was interviewed and hired prior to the conclusion of the evaluation and was provided with the report and full-briefing of the process and outcomes of the evaluation. She used the

report as a springboard to plan and implement her own work-plan ensuring use and follow through of the findings. The recruitment of this staff-person allowed for the possibility that the findings from the evaluation would be taken up and implemented by a dedicated staff-person and would not end with the departure of the external evaluator.

Finally, there are no datasets of population level data in the country that can be analyzed. There have been no Demographic Health Surveys or AIDS Indicator Surveys that have been conducted in St. Lucia. Similarly, the program data that are collected and recorded both at the national and site level are extremely limited. The availability of these national level program or surveillance data would have allowed for some additional data analysis that could have contributed to the findings of this research as it related to testing and behavior change. This lack of standardized data collection, analysis, and reporting is precisely one of the findings from this research.

Suggestions for Future Research

Assessing quality of services

In addition to implementing recommendations from the findings of this study, follow-up evaluations should be considered. While the scope of this evaluation looked at the coverage and utilization of CT service delivery as well as strengths and areas for improvement, it would be of great benefit to evaluate quality of services as a next step. Methods which would accommodate research questions regarding quality of counseling and testing service delivery in St. Lucia include: 1) client exit interviews at the CT sites, 2) observations of the counselors and the lab technicians in practice, and 3) using the mystery client method to ascertain perceptions of quality of care of services as well as to measure issues of stigma and discrimination among providers. The client exit interview research method would answer the question the quality of services according to the most important stakeholders of CT delivery- the service recipients. Using these methods will ensure that services throughout the country are provided according to the national plan, according to the curricula, and that quality services are delivered. Any gaps identified through the assessment of quality of care can be addressed and services improved accordingly. The counselor observations would assess the knowledge and skills as applied in a practical setting. The mystery client approach would provide an avenue of assessing the quality of counseling without the Hawthorne effect where a person may behave differently when they know they are being observed. All of these approaches should be considered to assess quality of care and to provide information for quality improvement.

Client exit interviews

Client exit interviews are one way to assess the quality of services provided. Interviews of clients who have just received services are conducted to assess their perceptions of the services. These services can be analyzed by sector: private/public, by facility, by region, and by individual counselors. Exit interviews can provide useful information about: the content of the counseling, the physical environment of the counseling room and the waiting room, time spent waiting, distribution of condoms, and counselor/patient interaction. Exit interviews are particularly useful because the experience is still fresh in the minds of the clients and therefore recall bias is minimized.

Counselor observations

Another method of evaluating CT service quality is through counselor observations. These can be done by trained or advanced counselors who sit in on counseling sessions of individual

counselors, watch and observe the session taking place, and provide them with feedback on their counseling skills. The “observer” utilizes a checklist while observing the counseling session, which can later be used to provide feedback to the counselor. The checklist contains all of the elements of a pre and post counseling session, as well as a place to make comments on the client/counselor interaction. Observers also take note of body language, tone, eye contact, and any practical components such as condom demonstrations. These observations are then provided back to the counselor for further development of counseling skills.

Mystery client approach

Another method of assessing quality is through the mystery client approach. This can be a useful approach to assess quality of services without impact of the Hawthorne affect where a service provider may behave differently when being observed. In this approach, a trained mystery client goes into a facility and seeks counseling and testing, and makes notes and observations about their experience. The method includes recruiting, training, and sending people posing as clients to selected CT sites. The mystery clients pose as regular people. Some are tasked with playing the role of someone with very high-risk or who belong to specific stigmatized groups such as Men who Have Sex with Men or sex workers. The mystery clients use structured data collection forms to record their experiences immediately following each counseling session. A different data collection form, developed for the HIV positive clients to use after their posttest visit, included variables unique to HIV-positive clients, such as referrals to health care services and psychological support¹⁰⁹. It is therefore important to identify and include both HIV+ and HIV- people as mystery clients to assess quality of care for both groups. The assessments conducted by mystery clients can be useful in identifying areas for improvement and in helping CT implementers identify and improve services.

Barriers to CT

One area that should be considered is a study to understand barriers to testing in St. Lucia. A study should be conducted to determine testing habits and factors which contribute to lack of testing. Questions can be targeted to the general public at large, and to high-risk groups in particular to assess if people test, where they test, how often they test, motivations for testing, risk perceptions, as well as why they have never or do not regularly get tested. Studies conducted in different countries which have looked at barriers to testing have found that there are strong associations between education levels, literacy, and socio economic status and testing. Other contributing factors may include cost, lack of transportation, lack of knowledge/awareness of HIV/AIDS, lack of risk perception, medical mistrust, and issues of stigma and discrimination. It would be critical to examine the relevant barriers to testing in St. Lucia. Once identified, the findings can be used to develop communication and intervention strategies to reduce barriers and increase uptake of testing in the country.

Rapid test validation study

Rapid test use is increasing in St. Lucia as well as the Caribbean region as a whole. The benefits of rapid testing has been shown in St. Lucia through the testing campaign which demonstrated increased acceptance of rapid tests. The modern method has the potential to increase the number of people in the country who know their status. Currently, however, only one type of rapid test- Determine- is used in St. Lucia. It would be important to validate at least two other rapid tests in the country. To do so, a validation study should be conducted of other rapid tests which can be used in conjunction with Determine. Some countries in the region, such as Guyana, have already conducted rapid test validation studies. This validation study was used to validate three tests and

served as a basis for the country's rapid test algorithm. A similar process can take place in St. Lucia with the assistance of the regional CDC office or of the Caribbean Epidemiology Center based in Trinidad and Tobago. In this way, St. Lucia can comply with the national, regional, and international guidelines which stipulate the use of two rapid tests of different makes and a third to be used as a tie-breaker in case of contradictory results from the first two.

Evaluating other programs in the national HIV program

The process and methods used in this evaluation can be used to evaluate other programs in the national HIV/AIDS program. As this was the first and only comprehensive evaluation that has been conducted to date for any of the programs in the national HIV program, it can be used as a springboard to conduct evaluation of other programs. This includes, but is not limited to, the Prevention of Mother to Child Transmission, Laboratory, Blood and injection safety, orphans and vulnerable children, and behavior change communication. While this type of evaluation does take human resources, time, and money, it can be accomplished through regional and/or international consultants working in collaboration with staff in the country. This type of collaboration can build local capacity for evaluation. These evaluations should also be considered when planning so that appropriate budget allocations can be made.

Evaluating other CT national programs in Eastern Caribbean

Several regional stakeholders, including the Clinton HIV/AIDS Initiative and the CDC-Caribbean regional office, have received the final report of the St. Lucia evaluation and are interested in conducting similar evaluations on other islands in the Caribbean. The evaluation protocol used for this research can therefore serve as a model for evaluating other programs in the Caribbean and the lessons-learned can be used not only for monitoring, but also for improvement of the St. Lucia national program. The funders and regional bodies can use the findings to determine the technical assistance needs of St. Lucia, as well as other island-nations in the Eastern Caribbean and make the necessary decisions to provide assistance and build capacity. These evaluations can improve the coverage and quality of CT services in the Eastern Caribbean.

Conclusions

St. Lucia has a small population, an accessible geography, good road infrastructure, a relatively educated and literate population, and universal access to education and health care. The country is also the beneficiary of funds from its own government as well as external sources including: the Department for International Development, the Global Fund to fight AIDS, Tuberculosis, and Malaria, and a sizeable loan from the World Bank for the necessary financial inputs to mount a comprehensive HIV/AIDS national response. The epidemiological profile of the country shows that less than 1% of the population is HIV positive. This combination of factors provide hope that the government of St. Lucia can prevent new infections and provide care and treatment to those already affected. St. Lucia is well positioned to be able to mount a comprehensive response to the HIV situation.

If the gaps and weaknesses in the national HIV CT program identified through this research are addressed, and the concrete recommendations implemented, St. Lucia has the opportunity to improve the program's coverage and effectiveness and contain the spread of HIV while the pandemic is still in its nascent stage.

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