DESIGN, IMPLEMENTATION, MONITORING, AND EVALUATION OF CROSS-CULTURAL HIV-RELATED MENTAL HEALTH AND PSYCHOSOCIAL ASSISTANCE PROGRAMS:

A USER'S MANUAL FOR RESEARCHERS AND PROGRAM IMPLEMENTERS

(ADULT VERSION)

MODULE 4:

DESIGNING A PROGRAM

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CONTENTS

ACRONYMS

AIDS	Acquired immunodeficiency syndrome
AMHR	Applied Mental Health Research
ART	Antiretroviral therapy
ARV	Antiretroviral (drug)
BA	Behavioral activation
CBI	Components based intervention
CBT	Cognitive Behavior Therapy
CD4	T-helper cell targeted by HIV
CDC	Centers for Disease Control
CPT	Cognitive Processing Therapy
CSA	Child sexual abuse
DHS	Demographic health survey
DIME	Design, implementation, monitoring and evaluation
DRC	Democratic Republic of Congo
EBT	Evidence Based Treatment
FG	Focus Group
FL	Free List
GBV	Gender Based Violence
HIN	Health information network
HIV	Human immunodeficiency virus
IDU	Injecting drug user
IPT	Interpersonal Therapy for Depression
IRB	Institutional Review Board
JHU	Johns Hopkins University
KAP	Knowledge, attitudes and practices
KI	Key Informant
LGBT	Lesbian, gay, bisexual, transgender
LMIC	Low and middle income countries
MEMS	Medication Event Monitoring System
MI	Motivational interviewing
MOH	Ministry of Health
MSM	Men who have sex with men
NGO	Non-governmental organizations
OVC	Orphans and vulnerable children
PE	Prolonged Exposure
PLWHA	People living with HIV/AIDS
POFO	Positive Outcome for Orphans Study

PPS	Probability proportional to size
PRA	Participatory rural appraisal
PTSD	Posttraumatic stress disorder
R2P	Research to Prevention
RCT	Randomized Controlled Trial
REC	Research Ethics Committee
SEARCH	Supporting Evaluation and Research to Combat HIV/AIDS
SES	Social economic status
SMS	Short Message Service
SOW	Scope of Work
SRP	Stress related response
STI	Sexually transmitted infections
SW	Sex worker
USAID	United States Agency for International Development
TFCBT	Trauma Focused Cognitive Behavior Therapy
VCT	Voluntary counseling and testing
VOT	Victims of Torture Program
WHO	World Health Organization

INTRODUCTION TO THE MANUAL

The Manual for Design, Implementation, Monitoring, and Evaluation of Cross-Cultural HIV-Related Mental Health and Psychosocial Assistance Programs: A User's Manual for Researchers and Program Implementers has been written to assist researchers and organizations developing and implementing programs in HIV-affected populations to (1) identify and measure the impact and prevalence of mental health and psychosocial problems in the populations they seek to serve; (2) to develop or adapt appropriate interventions to address these problems; and (3) to measure the impact of these interventions. The Manual consists of 6 modules. Collectively, the modules describe a process of program **d**esign, **i**mplementation, **m**onitoring, and **e**valuation (DIME) that has been developed and used by the authors since 2000. The modules may be used sequentially, to follow the life of a project, or as stand-alone units to address a specific project need.

- **Module 1** describes procedures for a qualitative assessment to identify priority problems from the local perspective.
- **Module 2** provides guidance in the development and validity testing of tools to measure these priority problems.
- **Module 3** describes population-based assessments to gauge prevalence and severity of the priority problems using the instrument developed in Module 2.
- **Module 4** describes a process for overall design of a program to address the priority problems, including design of program monitoring and evaluation.
- **Module 5** outlines the selection, adaptation, and implementation of interventions.
- **Module 6** describes procedures for assessing intervention impacts.

Definition Box

Intervention(s): Service(s)/activity(ies) directly benefitting the client

Program: The intervention(s) and all ancillary activities necessary to support the intervention(s): logistics, finance monitoring and evaluation, etc.

LAYOUT OF THE MANUAL

Modules are presented in narrative form, with extensive use of subheadings. With the exception of text boxes, each section and each paragraph is meant to be read sequentially. Additional material that is useful as examples of concepts or expansion on subjects discussed in the text has been included in text boxes. Examples of study materials that may be adapted for use in an actual study are placed separately as appendices.

This symbol indicates that what follows is a critical requirement or constraint.

INTENDED USERS

This manual is primarily intended for researchers and groups responsible for mental health and psychosocial interventions for HIV-affected populations, such as government providers and non-governmental organizations (NGOs).

The methods described in each module are intended to be within the typical budget, resources, and time constraints of organizations that normally focus on implementation rather than data collection. The approach is designed to be used in a limited area among a population with a homogenous language, culture, and similar circumstances. In areas containing populations with a variety of languages, cultures, and environments, the approach described in this manual should be used separately with each group. For this reason, the authors have focused on developing a process that is rapid and relatively inexpensive.

This is meant as a 'user' manual rather than a training manual. It is intended for use in the field by those who have previously received field-based training in its methods (or have similar training experience) and are now leading teams in their own sites. Such persons should either have some prior experience in qualitative and quantitative data collection methods (depending on the module being used) or lead teams with persons who have such experience.

THIS MANUAL IS NOT APPROPRIATE FOR 'OFF THE SHELF' USE WITHOUT PRIOR ON-THE-GROUND TRAINING OR SIMILAR EXPERIENCE. THOUGH WHAT IS PRESENTED HERE REPRESENTS WHAT THE AUTHORS HAVE FOUND TO WORK WELL TO DATE, FIELD SETTINGS VARY. USERS OF THE METHODS PRESENTED HERE NEED FIELD EXPERIENCE TO INTERPRET AND ADAPT THESE METHODS TO DIFFERENT SITUATIONS.

The authors have found that even with prior experience in data collection, individuals and organizations attempting to use the methods described here for the first time will have many important questions during the process that cannot be addressed in the manual itself. Answering these questions as they arise—and developing the skills required for using the approaches in different settings—is best done in a field-based training situation, with direct instruction in the course of supervised use of this approach among a local population. Even after training, organizations using this approach may want guidance and ad hoc assistance.

The authors would be pleased to discuss training and technical assistance with any interested organization or individual.

The manual does not contain detailed descriptions of commonly done research activities, such as quantitative interviewing, partly due to the expectation that organizations have persons experienced in these activities and partly because there are many other manuals available that describe these activities. Instead, the manual focuses on research activities or methods that are different from commonly used approaches. For example, Module 1 contains much more information on interviewing than the other modules because the qualitative methods used in Module 1 are less commonly used than quantitative methods.

THE DIME MODEL

The diagram below outlines the steps of the **d**esign, **i**mplementation, **m**onitoring, and **e**valuation (**DIME**) process described in this manual. Qualitative data collection (Module 1) is the first step in the process and the diagram indicates which of the subsequent steps (2-8) are informed by qualitative data. A brief description of the step follows.

Figure 1: Steps of the DIME Process
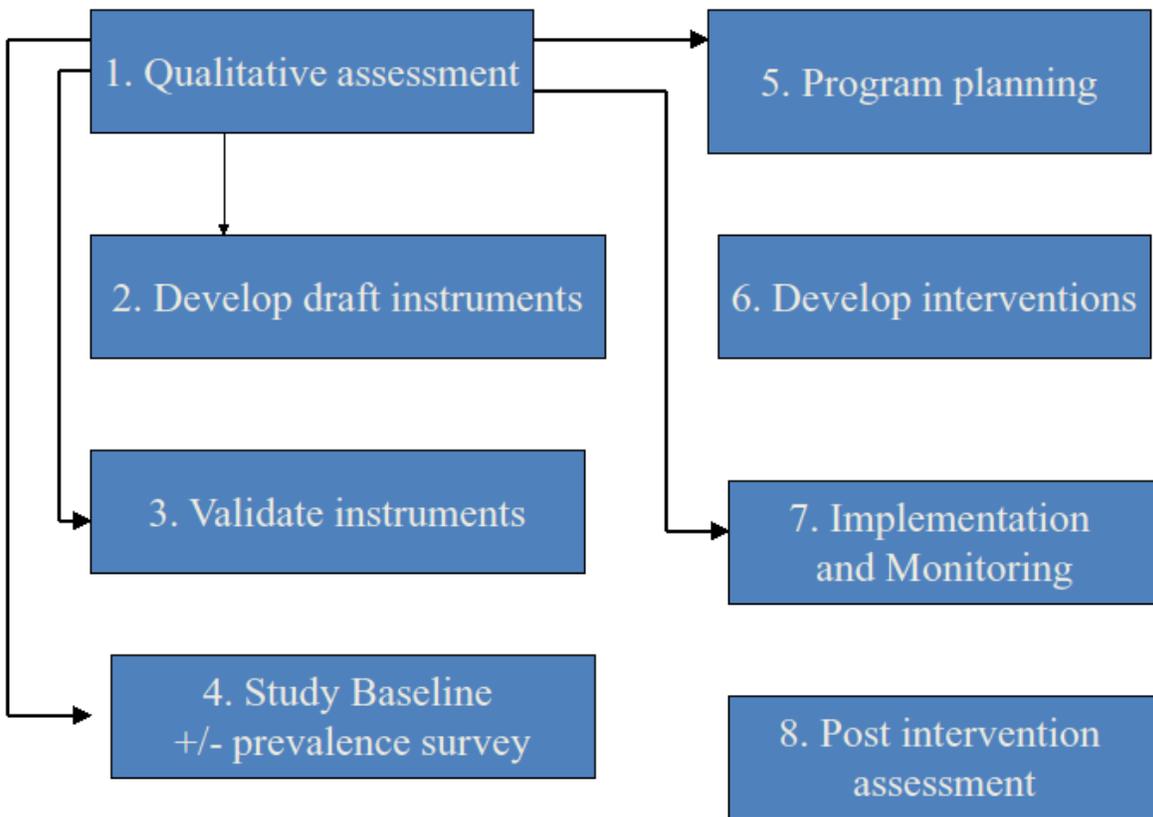
1. **Qualitative Assessment to identify and describe priority HIV-related mental health and psychosocial problems: (Module 1)**

   Variations in culture and environment affect how people understand the mental health and psychosocial problems related to HIV. By *understand,* we mean how these problems are described, how they are prioritized, their perceived causes, and how people currently cope with them. This information is vital in selecting problems that are important to local people, accurately communicating with them about these problems, and identifying interventions that are likely to be acceptable and feasible for local people and therefore effective and sustainable.

2. **Develop draft instruments to assess priority HIV-related mental health and psychosocial problems: (Module 2)**

   Having decided which problems the program will address, we then draft quantitative assessment instruments to address these problems. These instruments have various uses, depending on the program: conducting community or clinic-based surveys; screening persons for inclusion in a specific intervention program (for programs where not all people will be served); identifying those with severe problems who may need specialized services including referral; and monitoring and evaluating the effectiveness of services by tracking changes in severity and/or prevalence of the problems identified.

   The process of drafting appropriate instruments includes reviewing the published literature for measures that have already been developed for the selected problems and comparing available measures with the qualitative data to select the measure or measures that best match how local people describe the problem. These measures are then adapted to better fit local concepts.

   Drafting includes translation. Terminology suggested by translators often differs from that used by local populations, particularly by poor and uneducated people. Therefore, qualitative data is preferred as the best source for translating key concepts. Employing the words and phrases that local people actually use (as identified in the qualitative data) will improve the clarity of the instruments, thereby improving their acceptability and accuracy. The translators are instructed to utilize the qualitative data to directly translate all signs, symptoms, problems and topics in the instruments that were mentioned by interviewees in the qualitative study using the same words found in the qualitative data. Only where concepts are not mentioned in the qualitative data do the translators themselves choose the appropriate terms.

3. **Validate draft instrument(s): (Module 2)**

    Once translated, the draft instrument(s) must be piloted and tested for ease of use, clarity, acceptance (both by interviewers and interviewees), and accuracy in the field. Accuracy refers to reliability and validity, which in turn refer to whether the instrument gives the same result with repeated use or use by different interviewers (reliability), and whether it measures what it is supposed to measure (validity). Testing involves interviews with members of the target population using the assessment instrument and analyzing the results.

    Validity and reliability testing are particularly important with psychosocial and mental health measures, where assessment is based on the interview alone (i.e., there are no laboratory or other tests). A tool that is not accurate can lead to inappropriate inclusion/exclusion of intervention participants and also provide incorrect conclusions about need and program impact.

4. **Study baseline +/-prevalence surveys: (Module 3)**

    Both baseline assessments and prevalence surveys are based on the instruments developed in steps 2 and 3. Baseline assessments refer to interviews done using the instrument in order to establish the eligibility of individuals for participation in an intervention program. Prevalence surveys perform the same function at the population level to measure the percentage and numbers of eligible (i.e., affected) persons in the population, as well as provide some indication about the variation in severity of problems at the population level.

5. **Overall program planning: (Module 4)**

    This includes planning the program goals and objectives and the strategy and the type of intervention(s) for achieving these. It also includes the development of process and impact indicators and the overall program work plan.

6. **Develop interventions to address the identified HIV-related mental health and psychosocial problems: (Module 5)**

    The qualitative data on the perceived causes of problems and how those affected cope with the problem are critical to intervention design. Interventions need to address the perceived causes of priority problems (or explain why they do not) in order to make sense and therefore inspire both confidence and cooperation. The more closely can interventions match the ways in which people currently think about and address the selected problems, the more likely the interventions are to be acceptable to them.

Where there are differences, they need to be explained and agreed upon by the local population. For example, using counseling to address a problem that is thought to be caused by poverty will take some explaining.

7. **Implementation and monitoring: (Modules 4 and 5)**

This refers to the implementation and monitoring of the intervention and the overall program. It includes procedures for iterative changes in the planned activities as needed, according to the monitoring data.

8. **Post intervention assessment: (Module 6)**

Upon completion of the intervention, participants are interviewed using qualitative methods to identify potentially important unexpected impacts of the program. They are also re-interviewed using the baseline quantitative instrument, to measure changes in the outcome indicators such as problem severity and function. Where possible, the amount of change is compared with the amount of change experienced by a control group, to determine the true program impact.

MODULE 4:

DESIGNING A PROGRAM

A. INTRODUCTION TO MODULE 4

A.1 PURPOSE AND OVERVIEW OF MODULE 4

The purpose of Module 4 is to describe a process for designing a program to address the problem(s) identified in Modules 1-3. The process uses an adapted version of the Logical Framework or LogFrame to develop an integrated HIV and psychosocial program for a population of interest. After following the steps in this module, program staff should be able to:

1. Decide on the key elements of a program: goal, objectives, intermediate results, outputs, activities, inputs, and critical assumptions
2. Decide on how the program will be monitored and evaluated (including research as described in other Modules)
3. Develop a GANTT Chart that describes program activities by time

In this module, the following steps are proposed and described in detail:

1. Formulate a Problem Analysis (Problem Tree → Objectives Tree)
2. Define the Vertical Logic of the program
    a. Project Strategy Summary
        i. Goal
        ii. Strategic Objectives
        iii. Intermediate Results
    b. LogFrames
        i. Outputs
        ii. Activities
        iii. Inputs
        iv. Critical Assumptions
3. Define the Horizontal Logic of the program
    a. Objectively Verifiable Indicators
    b. Means of Verification
4. Develop a Network Analysis (Critical Pathway)
5. Develop a GANTT Chart

A.2 USING THE LOGICAL FRAMEWORK (LOGFRAME) APPROACH

The Logical Framework (or *LogFrame*) approach to program design has been used by many health and development programs since the 1970s (AusAID, 2005; CIDA, 2006; DFID, 2003; NORAD, 1999; Ortengren, 2004; PCI, 1971a-b; PCI, 1979; Reinke, 1988; USAID, 1970). The primary advantages of the LogFrame approach include:

1. **Plan with the end/goal in mind**. Before deciding on what will be done, the LogFrame approach directs designers to first decide on the problem to be addressed and the goal of the program. Only when these aspects are clear can program designers identify the changes needed to help achieve the goal and address the problem. Working backwards from a defined problem to determine the changes needed to address the problem—**before** deciding on program activities—helps prevent selecting activities that will have little or no impact on the problem at hand.

2. **Decide what is essential (vs. what is not).** The LogFrame approach helps to visualize the pathway from inputs and activities to the goal of the program. Elements of a program that do not provide value to this pathway are more easily identified and can be removed from the program plan.

3. **Describe the project to others in a simple and visual way.** The LogFrame approach includes visual diagrams and tables called a LogFrame matrix. In visually laying out the project logic, program designers are better able to see for themselves and communicate to partners and others what is being proposed in a program plan.

4. **Describe the causal pathway from activities to goals (project logic).** The LogFrame approach uses a conceptual framework in which the project activities addressing a problem of interest are made explicit. This helps partners and reviewers critique the plan during the planning process, allowing for adjustments that will increase the chance that the project will be beneficial and achieve intended results.

5. **Test Program logic with critical assumptions**. An essential feature of the LogFrame approach is the process of making critical assumptions explicit. These include assumptions about how program activities will lead to desired changes and how these changes will contribute to achievement of the program goal. By exposing assumptions, partners and reviewers can identify weaknesses in the program logic that threaten the program's ability to achieve the objectives and goal.

6. **Make an effective and efficient M&E Plan**. Another advantage to using LogFrames is that a monitoring and evaluation (M&E) plan is included in the LogFrame matrix. This helps the user to develop a streamlined M&E plan focused on watching and testing— during implementation of the program—whether the logic or assumptions of the program design are correct, or whether they need adjustment. By making adjustments when the M&E activities suggest the design is off track, we improve the chance that the program will be modified in time to achieve intended results.

B. PROBLEM ANALYSIS

The problem analysis process described in this manual follows two key steps: (1) develop a problem tree to identify root causes of problems; and (2) develop an objectives tree from the problem tree as a basis for a strategy to address the problem. The methods for carrying out each step are described below.

As we want programs to address real-world problems, the starting point in the design process is selecting a priority problem and analyzing its root causes. This approach is intended to keep the focus of program design on the problem rather than on the preferred activities or specialization of the service provider. Analyzing the root causes of the problem helps ensure that program interventions address these root causes, which increases the likelihood that the program will be effective. (AusAID, 2005). The methods described in Module 1 are used to identify the problem(s) to be addressed. However, it is not essential that Module 1 be used: any appropriate methods for identifying the problems can be used.

4.B.1 DEVELOP THE PROBLEM TREE

B.1.1 IDENTIFY THE GROUP TO ANALYZE THE PROBLEM

The problem to be explored is selected from the problems identified during the qualitative study. To begin, a group of local stakeholders must be chosen to analyze the selected problem. Group members need to be knowledgeable about the problem. Community representatives and persons affected by the problem should be included in the group. Group members need to know the purpose and expectations of their participation. Large groups can be sub-divided in later stages to work on different components of the problem as identified during this process.

Common stakeholders for HIV programs include the following:

- ✓ Primarily local people particularly knowledgeable about, and/or affected by, the problem.
- ✓ Staff of health facilities in the catchment area
- ✓ Community-based organizations serving PLWHA and/or key populations in the catchment area
- ✓ Religious organizations (churches, mosques, temples, etc.) in the catchment area
- ✓ Any others with special knowledge about the problem.

B.1.2 RESOURCES NEEDED

The following resources are suggested for developing the problem tree:

- A room with adequate space for participants to sit and move around during active tasks
- A large, empty wall in the room that participants can use to post cards or post-it notes on
- Note cards with masking tape (or post-it notes) to enable participants to stick notes to the wall and move the notes around as desired to new positions on the wall
- Markers
- String and masking tape to connect note cards in a sequence (alternatively, if the work is being done on a large chalk board or a wall that can be written on with chalk, use chalk to link the note cards)

B.1.3 ANALYZE THE ROOT CAUSES OF THE PROBLEM (PROBLEM TREE DIAGRAM)

Development of the Problem Tree requires the following steps: (See Appendix 1 for an example of a finished diagram):

- Write the problem on a note card (or post-it note) and stick the card high up on the wall.
- Have the group(s) review the qualitative and quantitative data for causes of the selected problem (based on descriptions provided by the qualitative study participants, and how the problem was distributed among informants of the quantitative study).
- Write the main causes of the problem on note cards and stick them to the wall: (1) under the card with the problem written on it; and, (2) side by side with the other causes.
- Review the causes and eliminate. Eliminate duplicates by consensus.
- Then for each main cause listed, the group (or sub-groups if created) identifies its root causes. Ask, "What leads to this?" for each cause (AusAID, 2005). Place these sub-causes side by side under the cause that is the effect of these sub-causes.
- For each sub-cause, ask again, "What leads to this?" The process continues until all root causes of main causes or higher level sub-causes are identified.
- Ask the group to check the logic and hierarchy of the items. Group members can move note cards so that they agree with the logical hierarchy of problems, main causes and their root causes.
- Demonstrate the hierarchy by the position of the cards. Draw chalk lines (or tape string) between cards to identify how root causes are linked to main causes and these to the problem.
- Copy the problem tree diagram on a piece of flipchart paper (alternatively take pictures of the diagram and/or develop an electronic version of the diagram on a computer).

Problem Tree Example:

In the example in Appendix 1, the problem to be analyzed is located at the top and is 'poor survival among HIV+ patients who are receiving anti-retroviral therapy (ART)'. Two main causes were identified for this problem: (1) patients waiting until their illness is very severe before seeking treatment (a situation where therapy is less effective and case-fatality rates are higher); and, (2) patients not adhering to their medication schedule and/or visit schedules to health providers of ART. Below these two main causes of the problem are root causes of these two main causes. The root causes that the program will address are selected and outlined in bold.

In this example, the program has selected a subset of all the causes identified in the exercise. An implication of this choice is that the problem is not likely to be fully solved by this program. Additional causes are not being addressed by this program at this time. The program will contribute to solving the problem but without the expectation that all ART patients will survive or survive more years on therapy. The causal pathway the project has decided to address is the following:

- no treatment is currently available to ART-eligible patients who are depressed or suffer from anxiety leading to;
- more ART patients with active depression and anxiety (than would occur if treatment were available) leading to;
- More patients with poor function (than would occur if treatment were available) leading to;
- More ART patients not following medication and visit schedules (than would occur if treatment were available) leading to;
- Fewer ART patients surviving one, two, three or more years after start of therapy.

NOTE:

Causes that are general statements—particularly those that affect many issues not just the problem at hand—can be considered 'overall constraints' and moved to the side of the main problem tree (AusAID, 2005)

B.2 DEVELOP THE OBJECTIVES TREE DIAGRAM

The second step in the problem analysis is to rewrite the problem tree as an objectives tree. This is done by changing the words on the note cards of the problem tree. The words on the cards are changed to restate the problem and causes as if these had all been addressed. For example, a cause that is written 'patients do not adhere to ART medications' would be rewritten as 'patients adhere to ART medications.' The resulting objectives tree diagram is an illustration of the strategy for addressing the problem. An example of an objectives tree diagram based on an earlier problem tree is provided in Appendix 2.

> **⭐TIP:**
> On the back of each note card in the problem tree, rewrite the statements on the front as if the issue had been adequately addressed (negative statement to a positive statement). Flip each card over and stick it to the wall with the new wording showing on the front. Record the objectives tree diagram on a piece of flipchart paper, and/or take a digital photo, or make an electronic copy on computer of the diagram.

Objectives Tree Example:

Appendix 2 provides an example of an Objectives Tree that follows directly from the Problem Tree example in Appendix 1. By changing the problem and root cause statements of the Problem Tree into statements of goals and objectives, the program team can essentially define the program strategy. In this example, the program strategy becomes the following:

1) treatment for depression and anxiety is available for ART patients leading to→
2) fewer ART patients suffering from severe depression or anxiety leading to →
3) higher levels of function among ART patients leading to →
4) better adherence of ART patients to medication and visit schedules leading to →
5) more ART patients surviving one, two, three or more years following initiation of ART

Given the flow of the tree, an implication is that the program will be sufficient for improving function among ART patients with depression and anxiety. It will contribute to better adherence and survival but, given other causal factors, it will not completely solve the problems of poor adherence or poor survival.

C. DEFINE THE VERTICAL LOGIC OF THE PROGRAM

C.1 BEGIN TO DEVELOP THE PROGRAM STRATEGY

Using the information gained from development of the problem and objective trees—information that can be considered a kind of situational analysis—an overall project strategy is developed. The project strategy is the left most column of the LogFrame (see figure 2 for an example of a logframe matrix) and provides an overview of the entire program from inputs to goal(s). The key elements of the project strategy are, from top to bottom: (1) Program Goal; (2) Objectives; (3) Intermediate Results; (4) Outputs; (5) Activities; and (6) Inputs. However, detailed LogFrames are developed for each Intermediate Result.

How each element of the project strategy is defined and decided on is described below.

C.1.1 DEFINE THE PROGRAM GOAL (PURPOSE)

The *Program Goal* is the ultimate purpose or reason for the program. It reflects the desired wider impact to which the program is contributing but will not achieve alone. Characteristics of the Program Goal are:

- The Goal fits within the mission of the organization, interests of the donor, and the population of interest;
- The Goal is not always measurable or changeable through project efforts alone;
- The project is not held solely accountable for achievement of the Goal; and
- The project typically works toward only one Goal.

A typical goal statement may be *improved quality of life*, or *improved food security* for beneficiary populations. The goal is generally a broad statement that is influenced by many factors including the project. For this reason we state that the project contributes to the goal but may not be sufficient alone to achieve the goal.

> **example**   If we use the information provided in the problem tree and the objectives tree found in appendices 1 and 2, an appropriate Goal for this example situation would be: *Improved survival of persons living with HIV.* This goal is broad and there are many factors that affect survival of persons living with HIV. A typical project can contribute to this goal but is unlikely to be sufficient for addressing the entire problem. In other words, the project is not held solely accountable for achieving this goal. In fact, the project may only be able to measure intermediate results such as improved function or adherence.

C.1.2 DEFINE THE OBJECTIVES

A project may have one or more *Objectives.* An objective is defined as the change(s) in the environment and/or in the beneficiary population that the program will achieve (and that will contribute to the Goal). Criteria for objectives include the following:

- Addressing this issue will help achieve the Goal
- The objective can be achieved by the project alone
- The project is held accountable for achieving the objective in a measurable way

Although many programs will have similar Goals, Objectives vary more widely between programs because they are more specific to the situation.

Using the information provided in the problem tree and the objectives tree found in appendices 1 and 2, appropriate Objectives for this example situation could include the following: (1) *Increase percent of patients starting ART prior to advanced disease*; and, (2) *Increase the percent of patients with good adherence to antiretrovirals (ARVs) and scheduled visits.*

C.1.3 DEFINE THE INTERMEDIATE RESULTS

Intermediate Results are changes in the population as a result of program interventions that will result in the achievement of the Objectives (given certain critical assumptions). They consist of changes in what the population have, do, know, and/or believe. Intermediate Results should address at least some of the root causes identified in the problem tree analysis and be reflected at the mid to lower levels of the objectives tree.

Program interventions often provide training, education and counseling. What we expect the program beneficiaries to have or do **in a new way <u>after</u>** receiving these services —which we expect will lead to achievement of Objectives—are Intermediate Results. They are project results that fall between the program interventions and the desired objectives, and serve as a link between the two.

Example:

Based on the information in the problem tree and the objectives tree found in Appendices 1 and 2, appropriate Intermediate Results , by Objective, could be:

Objectives	Possible Intermediate Results from Problem/Objectives Tree
Increase percent of patients starting ART prior to advanced disease	*Increased number of persons who receive HIV Testing and Counseling at health facilities and voluntary testing centers*
Increase the percent of patients with good adherence to ARVs and scheduled visits	*Increased function of ART patients with depression/anxiety* *Increased number of ART patients with depression/anxiety who complete cognitive behavioral therapy (CBT)*

C.2 DEFINE CRITICAL ASSUMPTIONS

Critical assumptions are variables that are out of the program's control but affect program success. For example, for a program that consists purely of providing services through a clinic, whether people come to the clinic is not part of the program but will affect how effective the program will be. Similarly, for a program that focuses on training providers, whether those providers find jobs using those skills is not part of the program but will affect program success. Within the logframe matrix critical assumptions in any row link that row with the previous row below. Therefore, critical assumptions on the objective row refer to whether achievement of the intermediate result on the row below will result in the objective (row above). Critical assumptions on the activity row refer to whether the output below will result in the activity, and so on for each level. Therefore, if the objective is to reduce depression and the goal is to increase quality of life, then one critical assumption linking the two (and recorded on the goal row) might be that function and relationships improve as a result of improvement in depression. This approach to linking critical assumptions with the project strategy is diagramed in figure 4: how to read a logframe matrix.

Critical assumptions are generated through discussions with persons with program experience, either locally or with similar programs in other places. For NGOs, this may mean circulating the program design within the organization or to other organizations/persons with program experience. Their suggestions are used to draft the assumptions for each row of the LogFrame matrix. These critical assumptions are then checked by consulting with community, team, and other partners, using the testing process in the box below. This same process is used to revise the Program Strategy column until each entry is associated with reasonable assumptions.

⭐ **TIP: Testing critical assumptions**	
Question:	*Answer -- Action:*
If the assumption does not hold, will the next step in the Program Strategy fail to occur?	Yes! -- Leave it in No! -- Remove it
How likely is it that the assumption will hold?	Certain or almost certain -- Remove it (as it is not really an assumption) Likely -- Leave it in Not likely -- Redesign program.

C.3 DEVELOP THE PROGRAM STRATEGY DIAGRAM

Because project design is a resource intensive process and developing detailed plans for a strategy that may change is inefficient, it is important to get stakeholder agreement about the project strategy before proceeding. A useful method for communicating and clarifying the overall project strategy is to show the Goal, Objectives and Intermediate Results using a visual diagram. Appendix 3 includes an example of a Program Strategy Diagram using the information in the example boxes above.

C.4 DEVELOP A LOGFRAME MATRIX FOR EACH INTERMEDIATE RESULT

C.4.1 DEVELOP A BLANK LOGFRAME MATRIX FOR EACH INTERMEDIATE RESULT

The details of the program design are developed with LogFrame matrices. Because each Objective may have several Intermediate Results, we recommend developing a separate LogFrame matrix for each Intermediate Result to minimize the amount of detail per matrix. In addition, Intermediate Results are often different enough that a program will use a different approach to achieve one Intermediate Result in contrast to another. In this situation, it is often simpler and clearer to the reader and user to develop a LogFrame matrix for each Intermediate Result. Figure 2 below provides an example of a blank LogFrame matrix for one Intermediate Result with its resulting Objective and the Goal, building on the previous examples. **The remainder of this section (C) and the next (D) are focused on completing the empty cells in the matrix and in this way, completing a LogFrame matrix for each Intermediate Result.**

Completing the Program Strategy column) provides what is called the *vertical logic* of the LogFrame. This column describes the logic of the program in a logical sequence of events starting from the bottom (Inputs) to the top (Goal). However, the logic is developed from the top down in order to help limit thinking about lower level events to those necessary to achieving the immediate level above. This process helps us to: (1) plan with the ends/goals in mind; (2) decide on what is relevant; and (3) describe the causal pathway from inputs to the program Goal.

Figure 2: Beginning of a LogFrame Matrix for One Intermediate Result: <u>Increase the percent of patients receiving HIV care with improved function</u>

Level	Project Strategy	Critical Assumptions	Objectively Verifiable Indicators	Means of Verification
Goal	Improve survival of PLWHA	• Improved adherence to drug regimens and scheduled appointments will lead to increased survival • HIV Drugs and HIV providers will be available on a sufficient basis		
Objective	Increase the percent of patients currently receiving ART with good adherence to ARVs and scheduled visits	Patients with improved function (and reduced symptoms of depression or anxiety) will improve adherence to medication regimens and visit schedules		
Intermediate Result	Increase the percent of patients receiving HIV care with improved function (and reduced symptoms of depression or anxiety)	• Low dropout rate for HIV patients who agree to participate in CBT • Completion of (quality) CBT will lead to reduced severity of depression/anxiety symptoms and improved function		
Outputs				
Activities				
Inputs				

C.4.2 INSERT OUTPUTS, ACTIVITES AND INPUTS TO ACHIEVE THE RELEVANT INTERMEDIATE RESULT

The items in the LogFrame at the levels of the Goal, Objectives, and Intermediate Results describe the overall *program strategy*: how achieving Intermediate Results will result in achieving the Objectives, which, in turn, contribute toward achievement of the Goal. Below the Intermediate Results, various items describe multiple separate project strategies for achieving each Intermediate Result: what Outputs are needed to achieve each Intermediate Result; what Activities are needed to create these Outputs; and what Inputs or resources are needed to carry out the planned Activities. Note that while the LogFrame describes an upward logic from Inputs to the Intermediate Result, the development of the LogFrame is carried out in a

backward direction from the top down, beginning with describing the Outputs needed to accomplish each Intermediate Result specified in each LogFrame.

C.4.2.1 OUTPUTS

The *Outputs* of a program are the program services received by the beneficiary population. Outputs may be described as counts of the program services received or the number of beneficiaries served.

Example

Consider a program that will provide mental health interventions to ART patients with symptoms of severe depression or anxiety in order to increase the functioning of these patients (the Intermediate Result). The service that the program might provide is a counseling therapy with evidence of effectiveness for depression and/or anxiety. One way to define the Output of this program service is: *the number of ART patients who receive a specific type of therapy, such as CBT.* This is the number of beneficiaries who receive the service.

C.4.2.2 ACTIVITES

The *Activities* of a project are the services that project staff provides to the potential beneficiaries. In other words, these are the things that people working on the project do to assist beneficiaries (e.g., training, education, and counseling).

Example:

Consider the program in the example box above: project staff members will provide mental health counseling for those who they find to be eligible ART patients (those with severe depression or anxiety). The program Activities in this example would include the following: (1) screening ART patients for eligibility for counseling, and (2) counseling ART patients. If other program staff are training the counselors, then (3) training counselors to provide screening and counseling would also be an activity (by a different group of staff).

☆TIP:

Include only **major** Activities in the LogFrame rather than **minor** Activities. Minor Activities are activities that are part of other activities. For example, screening patients for severe depression or anxiety can be considered a major Activity. However, making an appointment to meet with ART patients (in order to screen them) would be considered a minor Activity.

C.4.2.3 INPUTS

Inputs refer to the resources that will be needed to implement the program activities. Typical resources include time, staff, equipment, supplies and funding to pay for it all (i.e., human resources, logistics, and finance considerations).

> ⭐**Tip:**
> Include only **major** Inputs in the LogFrame rather than **minor** Inputs. Minor Inputs are part of other Inputs. For example, the CBT counselors provided by the program can be considered a major Input. However, the salary of the counselors would be considered a minor Input.

C.4.3 FURTHER COMPLETION OF THE LOGFRAME MATRIX

After identifying the Outputs, Activities and Inputs needed to achieve an Intermediate Result, further develop each LogFrame by completing the columns shown in Figure 3 on the following page.

Figure 3: Further Development of a LogFrame Matrix for One Intermediate Result including assumptions: <u>*Increase the percent of patients receiving HIV care with improved function*</u>

Level	Project Strategy	Critical Assumptions
Goal	Improve survival of PLWHA	• Improved adherence to drug regimens and scheduled appointments will lead to increased survival • HIV Drugs and HIV providers will be available on a sufficient basis
Objective	Increase the percent of patients with good adherence to ARVs and scheduled visits	• Patients with improved function (and reduced symptoms of depression or anxiety) will improve adherence to medication regimens and visit schedules
Intermediate Result	Increase the percent of patients receiving HIV care with improved function (and reduced symptoms of depression or anxiety)	• Low dropout rate for HIV patients who agree to participate in CBT • Completion of (quality) CBT will lead to reduced severity of depression/anxiety symptoms and improved function
Outputs	• Increase the number of patients receiving CBT • Increase the number of patients screened for depression/anxiety	HIV patients with depression or anxiety are willing to participate in CBT
Activities	• Provide CBT to patients who meet symptom criteria • Screen all patients for depression/anxiety • Train HIV providers to screen and refer	Providers of HIV patients are willing to take the additional time to screen all/most HIV patients for depression and anxiety (and refer to CBT).
Inputs	• Screening instruments (adapted/tested) • CBT counselors • Space for counseling	• Counselors (and space) are available • Adapted/tested screening instruments have been developed or budget/time to test is available

Figure 4 below offers a guide on how to read the LogFrame matrix (adapted from Reinke, 1988).

Figure 4: How to read a LogFrame Matrix

Level	Description	Key Assumptions
Goal	Improve survival of persons living with HIV/AIDS	Regarding the relevance of the program to the program goals
Objective	Increase the percent of patients with good adherence to ARVs and scheduled visits	Regarding the longer term impact of what the program produces
Intermediate Result	Increase the percent of patients receiving HIV care with improved function (and reduced symptoms of depression or anxiety)	Regarding the immediate impact of what the program produces
Outputs	• Increase the number of patients receiving CBT • Increase the number of patients screened for depression/anxiety	Regarding what is produced by the services or activities
Activities	• Provide CBT to patients who meet symptom criteria • Screen all patients for depression/anxiety • Train HIV providers to screen and refer	Regarding the conversion of inputs into activities and services
Inputs	• Screening instruments (adapted/tested) • CBT counselors • Space for counseling	Regarding availability of inputs on schedule

The left side of the matrix is labeled **Vertical Logic**.

Horizontal Logic

D. DEFINE THE HORIZONTAL LOGIC FOR THE PROGRAM

D.1 DECIDE ON OBJECTIVELY VERIFIABLE INDICATORS FOR EACH LOGFRAME MATRIX

Having defined the project strategy statements, we use indicators to measure progress toward achieving the project strategy. At least one indicator is defined for each level of the LogFrame Matrix.

D.1.1 DEFINE INDICATORS FOR EACH ROW OF EACH MATRIX

When defining indicators for each level of the LogFrame matrix, it is important to distinguish between:

- **What** is to be measured (a specific objective, result, output, activity or input)
- **How** it will be measured (indicators)

According to Mayoux, there is no one given set of 'correct indicators' for assessing a particular level of the LogFrame. There is a range of possible signs, symptoms, or hints by which achievement can be measured with varying degrees of certainty (Mayoux, 2001). Below are the SMART criteria or characteristics for development of indicators (Doran, 1981):

SMART CRITERIA/CHARACTERISTICS OF INDICATORS		
S	Specific	• Specific to each row of the LogFrame • Reflects only things the project intends to change • Not largely subject to external influences
M	Measurable and comparable	• Precisely defined so that interpretation is unambiguous • Objective & reliable, independent of who is collecting the data • Comparable with expectations, targets or standards
A	Achievable	• Sensitive to change during life of project
R	Relevant and easy to collect	• Relevant to a level on the project LogFrame • Feasible to measure within a reasonable time and cost
T	Time-bound	• Describes how much change is expected by when

When defining indicators, give preference to standard indicators from existing sources. However, where these are not suitable, create new indicators to better match program needs. Logistics and finance personnel can often provide indicators for inputs (e.g., burn rate indicators). Figure 5 below describes possible indicators for an example LogFrame matrix.

Figure 5: Format and Possible Indicators for use with an Example LogFrame Matrix for One Intermediate Result including possible indicators: <u>Increase the percent of patients receiving HIV care with improved function</u>

Level	Typical Format for Indicators	Possible Indicators
Goal	Indicates a better quality of life (QOL) of the population being served (than would have occurred without the program). May take the form of a score. Otherwise, formulation is flexible. Possible format: • [# or %] of [population or group] who have achieved a target level of [QOL status] • Mean value of a [QOL status] measure among a specific population	Percent of patients alive and on therapy 12, 24 months after initiating ART
Objective	Indicate status and changes in the population being served or the environment that will contribute to achievement of the Goal. This may include improving certain health behaviors or status related to function [economic, health, nutritional]. May take the form of rates or ratios. Otherwise, formulation is flexible. Possible format: • [# or %] of [population or group] who have achieved a target level of [health, health behavior, function, economic, or nutritional status] • Mean value of a [health, social, economic, status] measure among a specific population	• Percent of patients who pick up ARVs each month for 6, 12 months[1] • Percent of patients with 95% adherence to ARVs at their last visit[1]

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[1] The two indicators for the Objective—Percent of patients who pick up ARVs each month for 6, 12 months; Percent of patients with 95% adherence to ARVs at their last visit—were chosen because there is evidence that increasing the values of these indicators can help to achieve the Goal of improving retention of patients on ART.

Figure 5: Format and Possible Indicators for use with an Example LogFrame Matrix for One Intermediate Result including possible indicators: <u>Increase the percent of patients receiving HIV care with improved function</u>

Level	Typical Format for Indicators	Possible Indicators
Intermediate Result	Indicate improvement in factors in the population that will result in the population achieving the objective. Factors may include improved knowledge, behaviors, abilities, or skills among the beneficiary population. Possible format: • [# or %] of [population or group members] who [know/believe/do] [specific knowledge/ attitude/skill/behavior]. • Mean value of change of an intermediate factor [knowledge/behavior/ability/ skill/attitude] among a specific population	• Percent of patients receiving HIV care and with documented symptoms of depression or anxiety who complete CBT • Mean difference in baseline and final function (and symptom) scores for CBT patients
Outputs	Indicate the nature, amount, or quality of products and services produced by project staff and received by program beneficiaries in a given time. Typical format: [# or %] of [products or services] that beneficiaries received of [specified] quality [usually by a certain time]	• Number of patients receiving HIV care and with documented symptoms of depression or anxiety offered CBT • Number of patients receiving HIV care screened for depression or anxiety at intake
Activities	Indicates that an activity the program is supposed to provide has been provided (of sufficient quality). Typical format: [# or %] of [products or services] provided of those that should have been provided of [specified] quality [usually by a certain time]	Pct. (%) of sites that the project is supporting with a trained HIV provider and CBT counselor
Inputs	• Burn rates for funds • Delivery, distribution of supplies, equipment, personnel	• Number of CBT counselors hired per site • Number of sites with adequate space for counseling (CBT) • Screening instrument available

D.1.2 DECIDE WHICH INDICATORS WITHIN EACH MATRIX WILL BE GIVEN PRIORITY

There may be many possible indicators for each level of the LogFrame matrix. To maintain an efficient and streamlined monitoring and evaluation system, limit the number of indicators at each level to one or two. **Give priority to indicators that are able to quickly *flag* a problem in the system if performance on the indicator does not achieve expectations.** This suggestion follows the principle of *management by exception* where one limits scarce management resources to focus on key indicators that indicate an exception to expectations. The rationale behind limiting data collection to a few key indicators that flag emerging problems is that this frees resources to identify the causes of problems and implement solutions and problem solving steps (Reinke, 1988).

D.2 DETERMINE THE MEANS OF VERIFICATION (DATA SOURCE) FOR EACH INDICATOR

D.2.1 IDENTIFY EXISTING DATA SOURCES THAT CAN BE USED TO MONITOR INDICATORS

It is important to plan how each indicator will be assessed. The first question to answer is: *Where will the project get the data needed to calculate indicators?* Common data sources for indicators include the following:

- Project records
- Government statistics (as is, or adapted)
- Household surveys
- Interviews with program participants (clients)
- Service (eg, medical) records or logs

The table on the following page describes common data sources by level of the LogFrame matrix.

Level	Common Data Sources
Goal	• Sample surveys • Government routine statistics (including vital events & surveillance reports) • Government Census • Medical records/logs • Client interviews
Objectives	• Sample surveys • Government routine statistics (including vital events & surveillance reports) • Government Census • Medical records/logs • Client interviews
Intermediate Results	• Sample surveys • Government routine statistics (including vital events & surveillance reports) • Government Census • Project records • Medical records/logs • Client interviews
Outputs	• Project records (e.g., beneficiary lists)
Activities	• Project records (e.g., training reports) • Project special studies (e.g., focus groups, KI interviews, Exit interviews)
Inputs	• Project records • Project financial reports • Project organization chart

D.2.2 ADJUST INDICATOR DEFINITIONS AND/OR DATA SOURCE SO THE INDICATOR CAN BE MEASURED

Selection of both indicators and data sources for each row of the logframe are done together. This is because if a suitable data source cannot be found for an indicator, the indicator must be abandoned and a new one found. Data sources associated with indicators for inputs, activities, and outputs (and sometimes intermediate results) should be suited for frequent use. This usually means a data source that is relatively cheap and easy to use. An ideal situation is to use or adapt an existing information system as this requires less time and money and is more likely to be a sustainable source of data for indicators.

Figure 6 below describes the tradeoff between the cost and complexity of data sources used to measure program indicators. Usually the data sources for input, activity, and output indicators are on the left side of the curve (less costly and complex), whereas intermediate result, objective and goal indicators are to the right. Generally, the further to the left a data source isthe better (while remaining suitable for measuring the indicator), as this is a more efficient use of scarce management resources.

Figure 6: Tradeoff between cost and complexity of data sources (source: CRS)
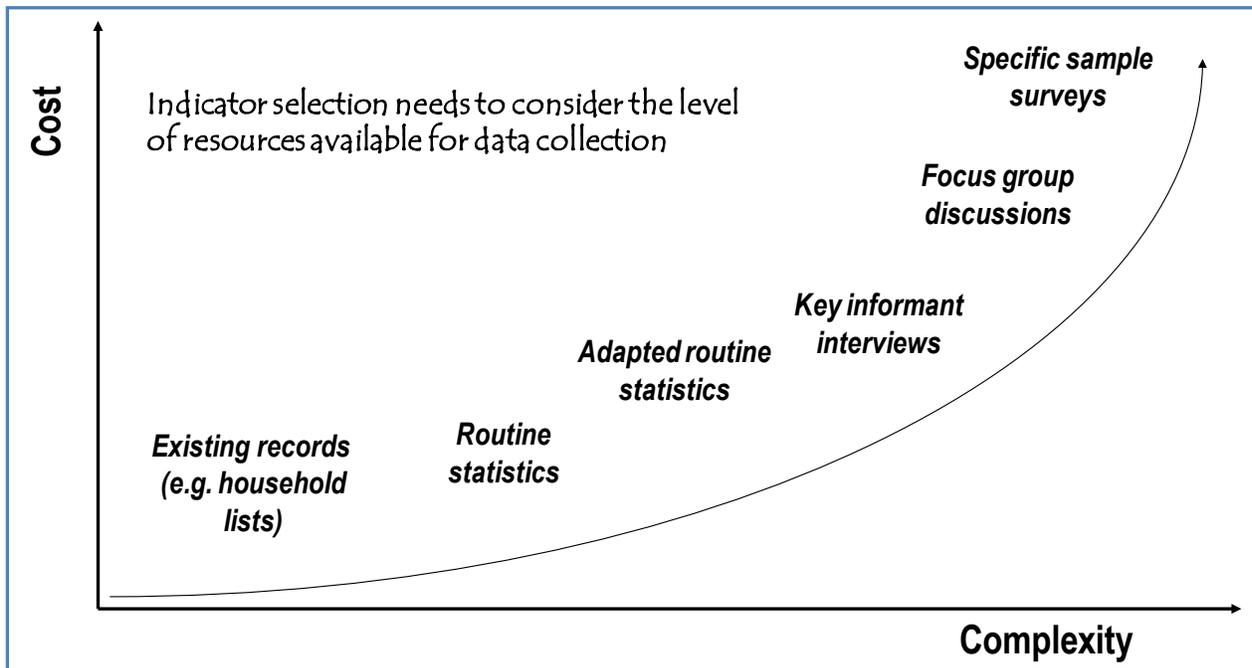
D.2.3 IDENTIFY NEW INFORMATION SYSTEMS THAT MUST BE DEVELOPED IN ORDER TO MONITOR OTHER INDICATORS

If an existing information system is not available for a desired indicator—and the desired indicator cannot be substituted with another indicator that can be derived from an existing information system—a new information source may have to be developed. For example, programs frequently develop a household survey where existing household surveys either do not exist or are not able to be disaggregated down to the program level. For example, a survey may be available that only disaggregates to a province or regional level whereas the program needs data disaggregated to the level of a district or municipality. Or, alternatively, a survey is already regularly being performed but is scheduled to be conducted at times that do not match the beginning and end of a scheduled project.

Some desired information systems (such as a census, vital event registry, or surveillance system) may be beyond the means of the project to develop due to cost and/or complexity. In these cases, a program may need to use an indicator that is less valid but more feasible or lobby to increase the budget to cover costs of the system and technical assistance.

Following are some brief case examples that illustrate indicators and data sources for different types of programs.

Case example 1: Integrating mental health interventions into confidential STI clinics for sex workers and clients

Sex work, mental illness, HIV and other sexually transmitted infections (STIs) carry stigma in many societies. Sex workers (SWs) and their clients are at increased risk of HIV as are those with mental illness, including substance abuse. SWs are also at increased risk of mental illness and substance abuse. Confidential STI clinics have been used to provide a safe and hidden place for SWs to be treated for STIs, tested for HIV, and receive preventive HIV education and skills (negotiating condom use, skills in condom use, etc.). The services of these clinics (locations communicated by word of mouth through SW networks) can be enhanced by screening SWs for mental illness (including substance abuse) and providing skills-based therapies depending on issues indicated by the screening (e.g., CBT, motivational interviewing). Quantitative measures for this integrated program might include cross-sectional or longitudinal measures of risk of HIV infection to themselves or partners such as the following: condom use with most recent client, completion of medical treatment of STI, receipt of HIV test result, HIV positivity rate among those tested, partner notification of HIV test result, reduced symptoms of mental illness (e.g., depression, anxiety) or reduced substance abuse following therapy. These measures are typically collected via interview or examination surveys.

Case example 2: HIV testing and care among institutionalized persons

Persons institutionalized for mental illness or crimes are at increased risk of HIV. Where HIV related services are not currently available, these institutions can help prevent the spread of HIV by offering HIV education and HIV prevention skills, confidential HIV counseling and testing, and care for persons living with HIV. Quantitative measures for this kind of program might include the following: number/percent of institutionalized persons who know their HIV status, percent of those sexually active with condom use at last sexual intercourse, percent of persons who meet eligibility criteria who are receiving ART, prevalence of HIV among those newly tested. Data collection methods for these indicators include service records or registers (e.g., counts of those with HIV test vs. number institutionalized) or interview/examination surveys.

Case example 3: Integrating mental health services into programs for orphans and vulnerable children

HIV-positive children are at higher risk for violence than HIV-negative children. Increased violence is a risk factor for PTSD and other mental health problems. Programs for orphans and vulnerable children (OVC) can include screening for abuse and mental illness. Skills-based therapies (CBT) for affected children can provide them additional coping skills as well as reduce mental health symptoms and improve functioning, leading to better self-care. Quantitative measures for such programs may include the following: magnitude of mental health symptoms associated with PTSD, depression, or anxiety; function scores; recent sexual activity; recent food consumption; and nutritional status as an impact measure. Interview and examination surveys are the most commonly used methods for these measures.

 Case example 4: Integrating adult preventive care into outpatient services of primary health care facilities

Mental illness, HIV, and other STIs carry stigma in many societies. Persons who decide to be tested or treated for mental health problems or HIV often bypass nearby health facilities to seek services at more anonymous sites such as hospitals in urban centers. These persons may want to avoid being seen by family members or neighbors visiting clinics known to cater to persons with stigmatized conditions or concerns (such as STIs or mental illness). Often voluntary counseling and testing for HIV/AIDS (VCT) centers or clinics providing ART or HIV care are labeled as such publically and attending such centers or clinics is not anonymous. Therefore, persons may address stigmatized issues at facilities distant from the home. Distance is a barrier for attendance of therapy or adherence to medications as per the standard of care. For this reason, ways to address stigmatized conditions closer to home is a need. While mental health or HIV/STI/AIDS services can be integrated into maternal and child health services in a more confidential way, this approach leaves out men and, in many places, women who do not have children. Unless they are sick, these men and women do not have a 'safe reason' to visit a nearby health facility. A program may therefore seek to give these men and women such 'safe reasons' to visit nearby health facilities in order to help those with stigmatized conditions such as mental illness or HIV/STI/AIDS. This might be done through a program to promote and provide preventive health services to adults such as annual or six-month health exams or physicals. During these routine contacts, patients can be screened for substance abuse, mental health, or HIV, and provided confidential care if indicated. Quantitative measures for this program might include the following: percent of adult population receiving a physical in the last year; percent of patients with a physical in the last year who were screened for mental health and/or HIV; and percent of the adult population who know their HIV status. A combination of service records and interview surveys is an appropriate source for these measures.

Figure 7 on the next page provides an example of a completed LogFrame matrix for one Intermediate Result.

Figure 7: Completed LogFrame Matrix for One Intermediate Result including critical assumptions: <u>Increase the percent of patients receiving HIV care with improved function</u>

Level	Project Strategy	Critical Assumptions	Indicator	Means of Verification
Goal	Improve survival of PLWHA	• Improved adherence to drug regimens and scheduled appointments will lead to increased survival • HIV drugs and HIV providers will be available on a sufficient basis	Percent of patients alive and on therapy 12, 24 months after initiating ART	ART Patient Monitoring Tools (registers, charts)
Objective	Increase the percent of patients with good adherence to ARVs and scheduled visits	• Patients with improved function (and reduced symptoms of depression or anxiety) will improve adherence to medication regimens and visit schedules	Percent of patients who pick up ARVs each month for 6, 12 months	ART Patient Monitoring Tools (registers, charts)
Intermediate Result	Increase the percent of patients receiving HIV care with improved function (and reduced symptoms of depression or anxiety)	• Low dropout rate for HIV patients who agree to participate in CBT • Completion of (quality) CBT will lead to reduced severity of depression/anxiety symptoms and improved function	• Mean difference in baseline and final function (and symptom) scores for CBT patients • Percent of patients receiving HIV care and with documented symptoms of depression or anxiety who complete CBT	• Intake and exit interview from CBT • Special CBT register
Outputs	• Increase the number of patients receiving CBT • Increase the number of patients screened for depression/anxiety	HIV patients with depression or anxiety are willing to participate in CBT	• Number of patients receiving HIV care and with documented symptoms of depression or anxiety offered CBT • Number of patients receiving HIV care screened for depression or anxiety	• Revised HIV Care Intake forms • Special CBT register
Activities	• Provide CBT to patients who meet symptom criteria • Screen all patients for depression/anxiety • Train HIV providers to screen and refer	Providers of HIV patients are willing to take the additional time to screen all/most HIV patients for depression and anxiety (and refer to CBT)	Pct. (%)of sites that the project is supporting with a trained HIV provider and CBT counselor	Project activity records
Inputs	• Screening instruments (adapted/tested) • CBT counselors • Space for counseling	• Counselors (and space) are available • Adapted/tested screening instruments have been developed or budget/time to test is available	• Number of CBT counselors hired per site • Number of sites with adequate space for counseling (CBT) • Screening instrument available	Project activity records

4.E DEVELOP AN ACTIVITY NETWORK FOR EACH MAJOR ACTIVITY

E.1 LIST TASKS TO BE DONE TO ACHIEVE EACH MAJOR ACTIVITY

Brainstorm all the tasks that need to be completed to accomplish the main activities identified on the LogFrame matrix for each intermediate result. Create a separate list of tasks for each of the main activities. The order that tasks are written down is not important at this stage. Simply list the tasks until no more tasks are identified [Reinke, 1988]. For each task, identify the time that will be required to complete it. In the course of identifying tasks also identify which other tasks must be completed before each task can be started. For each task, identify the time that will be required to complete it.

Below is an example of a list of tasks for building a clinic (not in any particular order). In this example, the plan is to complete the clinic and begin operations before advertising to the public that the clinic is operational. The estimated time (in days) needed to complete each task is indicated. In addition, the preceding tasks—those that need to be completed before a listed task can begin—are identified. This information is key to developing a schedule that lists activities by start time and duration.

Task List by Time and Preceding Task			
Task #	Task	Time (days)	Preceding Task
1	Advise public of clinic availability (advertise)	3	2-8
2	Build building	21	5,6
3	Hire staff	14	5,7
4	Obtain medical supplies	30	5,7
5	Obtain government approval	14	-
6	Obtain funds for building	60	5
7	Obtain funds for recurring costs	60	5
8	Clinic begins operations (after training/testing)	5	2-7

> 🛑 **IMPORTANT:**
> Also develop a list of tasks for key monitoring and evaluation activities. The key monitoring and evaluation data collection activities and indicators are found on the LogFrames for each Intermediate Result. See Figure 6 above.

E.2 DEVELOP AN ACTIVITY NETWORK DIAGRAM FOR EACH LIST (ONE PER MAIN ACTIVITY PER EACH INTERMEDIATE RESULT)

The information provided in the task list (see above) can be diagrammed to support the later development of a schedule. The diagram below (Figure 8) shows the above task list, arranged by Task Number and the number of days needed for the task (in parentheses). In this diagram, three pathways are identified as A, B, and C. This shows that some tasks can be done at the same time (in parallel) and that some tasks need to be done in a sequence allowing for parallel sequences of activities (pathway). The longest pathway is C (113 days); this is the *critical pathway* (Reinke, 1998). It is 'critical' in the sense that delays in completing tasks in this pathway must delay the overall program, whereas delays in the other pathways are much less likely to delay the program. This information is helpful to know when developing a work schedule because it shows the level of flexibility in scheduling and completing the tasks in pathways A and B.

Figure 8: Activity Network Diagram Example.

Task number (and number of days needed to complete task) are indicated in each circle. Tasks are shown in sequence (pathways) indicating which tasks are dependent on earlier tasks being completed.
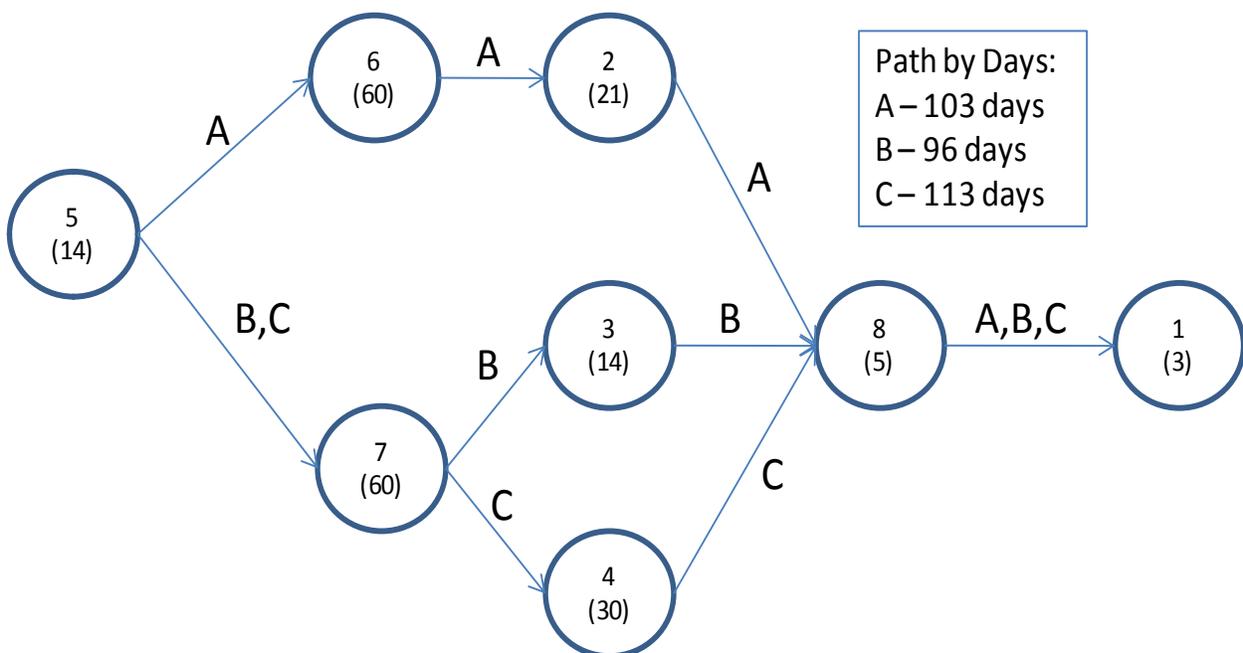
F DEVELOP A GANTT CHART FOR EACH INTERMEDIATE RESULT

F.1 OVERVIEW OF THE GANTT CHART

The GANTT chart is a form of work schedule or workplan that is also a program management tool. It helps plan and monitor the timing and sequence of activities against actual dates. What is different about the GANTT chart—in contrast to the list of tasks and the activity network diagrams described above—is that it fixes activities to beginning and end dates. This allows managers to assign responsibilities for achieving critical tasks at the right times.

F.2 DEVELOPING THE GANTT CHART

In order to develop a GANTT chart, we refer back to the List of Tasks (E.1) and the Activity Network Diagram (E.2). Tasks to be done are listed in the rows of a table while the columns are used to indicate dates. We order the rows of tasks by categories and by sequence and note the time each task will take. Then we assign beginning and end dates to each task and display the tasks visually by connecting the beginning and end dates with a graphic device (line/bar). See Appendix 4 for an example.

Below are some characteristics or tips for creating the GANTT chart:

- One row per task (no more than 20)
- Tasks are taken from the List of Tasks
- Order of tasks is taken from the Activity Network Diagram
- Time units used for the columns are typically weeks, months, or quarters
- Each row shows when a task begins and ends using a graphic device (colored/patterned line or bar or X)
- Can include a column of who is responsible for the task (recommended)
- Usually reviewed and updated every few weeks

> **IMPORTANT:**
> **The monitoring and evaluation plan activities need to be included on the GANTT chart.** The M&E plan can be derived from the LogFrames for each Intermediate Result. See Figure 6 above for Indicators and Means of Verification. The plan for carrying out routine or special data collection activities (e.g., household survey) needs to be included on the GANTT chart in a way that indicates time for planning, training, and data collection and analysis.

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APPENDIX 1: EXAMPLE OF A PROBLEM TREE

PROBLEM TREE

```
                        ┌─────────────────┐
                        │  ART Patients   │
                        │    with Poor    │
                        │    Survival     │
                        └─────────────────┘
```

ART Patients with Poor Survival

ART Patients starting therapy when AIDS is advanced (bedridden)

ART Patients not adhering to medication and visit schedules

HIV Testing only when AIDS symptoms become clear

Patients with poor function find it difficult to follow therapy

Facilities providing ART are distant to homes of many patients

HIV education not being offered in communities

ART Patients starting therapy when AIDS is advanced (bedridden)

Many patients with depression and/or anxiety

Not enough facilities providing ART

Low priority for HIV prevention activities in communities

HIV Testing only when AIDS symptoms become clear

No treatment available for ART Patients with depression/anxiety

Insufficient resources budgeted for more ART facilities

OBJECTIVES TREE

ART Patients with Increased Survival

ART Patients starting therapy before advanced disease

HIV Testing before clinical symptoms

Offer HIV education promoting testing in communities

Increase budget and scope for community HIV preventions

ART Patients adhering better to medication and visit schedules

Patients with improved function

ART Patients starting therapy before advanced disease

HIV Testing before clinical symptoms

Fewer patients with severe depression and/or anxiety

Treatment available for ART Patients with depression/anxiety

Facilities providing ART are closer to homes of many patients

Increased number of facilities providing ART

Increase budget for more ART facilities

APPENDIX 3: EXAMPLE OF A PROJECT STRATEGY DIAGRAM

```
                    ┌─────────────────────────────────────────┐
                    │  Goal: Increased Survival of ART Patients │
                    └─────────────────────────────────────────┘
                                        ▲
            ┌───────────────────────────┴───────────────┐
            │                                            │
  ┌──────────────────────┐              ┌──────────────────────────┐
  │ O1. Start ART prior to│             │ O2. Increase adherence    │
  │ advanced disease      │             │ to ARVs, visit schedules  │
  └──────────────────────┘              └──────────────────────────┘
            ▲                                        ▲
            │                        ┌───────────────┴───────────────┐
            │                        │                               │
  ┌──────────────────────┐ ┌──────────────────────┐ ┌──────────────────────┐
  │ IR1.1 Increased number│ │ IR2.1 Increased       │ │ IR2.2 Increased       │
  │ of persons with HIV   │ │ function of ART       │ │ number of facilities  │
  │ Testing and Counseling│ │ Patients with         │ │ providing ART         │
  │                       │ │ depression/anxiety    │ │                       │
  └──────────────────────┘ └──────────────────────┘ └──────────────────────┘
            ▲                        ▲                        ▲
            └────────────────────────┼────────────────────────┘
                                     │
                    ┌─────────────────────────────────────────────────┐
                    │ Project Interventions (inputs, activities,       │
                    │ outputs)                                         │
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APPENDIX 4: EXAMPLE OF A GANTT CHART

The GANTT Chart below was developed for an annual workplan of a program providing technical support to government health facilities to improve provision of ART. The first column indicates the main tasks related to supporting ART services in the project area. The other columns indicate timing of the task with four quarters provided for the year.

ANNUAL WORKPLAN FOR ART TECHNICAL SUPPORT BY ACTIVITY/TASK		YEAR 1, QUARTER:			
		1	2	3	4
1	Assess available training materials, and design, implement and evaluate culturally and linguistically appropriate training activities for HIV programs				
	a On-site training	███	███		
	b Regional training			███	███
	c Telemedicine			███	███
2	Collaborate with local organizations to design, implement, and evaluate strategies to expand and sustain the scope of successful programs	███	███	███	███
3	Assess HIV program needs and use findings to design and implement new programs	███			
4	Conduct public-health evaluations in identified priority areas	Not Expected in Year 1			
5	Review and analyze program data, and disseminate program information, including in local languages				███
6	Provide technical assistance for comprehensive HIV interventions at teaching hospitals and health facilities				
	a On-site visits to hospitals and health centers	███	███	███	███
	b Technical Advisors to Ministry of Health Management Teams			███	███
	c Quality Assessments			███	███
7	Develop, adapt or organize materials in appropriate local languages, for in-patient and out-patient care, in-service training, and monitoring and evaluation	███			
8	Facilitate the organization and procurement of equipment and supplies in a transparent and competitive process	Ongoing Project Management/Admin Function			
9	Use evidence-based approaches to mobilize communities to support persons who are living with HIV (PLHIV), and counter related stigma	███	███	███	███

Note that the third quarter shows seven (7) activities being carried out with four (4) new activities starting. This might indicate to managers a potential problem in capacity of the project to do so many activities, and should lead to checking assumptions about what resources will be acquired by the project to complete so many activities simultaneously. In contrast, the second quarter shows only four (4) activities being carried out: can some tasks be shifted to this quarter?