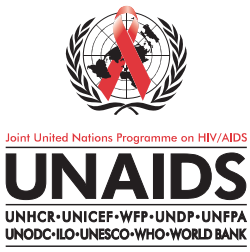
NATIONAL AIDS PROGRAMMES

A guide to indicators for monitoring and evaluating national antiretroviral programmes



WHO Library Cataloguing-in-Publication Data

National AIDS programmes: a guide to indicators for monitoring and evaluating national antiretroviral programmes.

1.HIV infections – drug therapy 2.Acquired immunodeficiency syndrome – drug therapy 3.Antiretroviral agents – supply and distribution 4.National health programs – organization and administration 4.Outcome and process assessment (Health care) – methods 5.Program evaluation – methods 6.Guidelines I.World Health Organization II.Title: A guide to monitoring and evaluating HIV/AIDS care and support.

ISBN 92 4 159291 5 (NLM classification: WC 503.2)

Printed in France.

National AIDS Programmes

A GUIDE TO INDICATORS FOR MONITORING AND EVALUATING NATIONAL ANTIRETROVIRAL PROGRAMMES

Contents

ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral (drug)
CBO	community-based organization
DOTS	directly observed therapy, short course
FHI	Family Health International
HAART	highly active antiretroviral therapy
HIV	human immunodeficiency virus
HIVDR	HIV drug resistance
HMIS	health management information system
IDU	injecting drug user
M&E	monitoring and evaluation
MOH	ministry of health
MTCT	mother-to-child transmission
NACP	national AIDS control programme
NAP	national AIDS programme
NGO	nongovernmental organization
NTP	national tuberculosis programme
OI	opportunistic infection
OVC	orphans and vulnerable children
PLHA	people living with HIV/AIDS
STI	sexually transmitted infection
T&C	testing and counselling
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNGASS	United Nations General Assembly Special Session (on HIV/AIDS)
USAID	United States Agency for International Development
VCT	voluntary counselling and testing
WHO	World Health Organization

SECTION I

INTRODUCTION, RATIONALE AND PURPOSE

1. Introduction

Between five and six million people infected with HIV in the developing world need antiretroviral therapy (ART) in order to survive but at the end of 2004, only 700 000 had access to it (range 630 000-780 000; in developing and transitional countries). This represents a global health emergency, in response to which WHO and partner organizations have committed themselves to work towards providing treatment to all who need it. Initially, it is intended to reach three million people on antiretroviral drugs (ARVs) by the end of 2005. This is called the "3 by 5" global target.

High priority is given to the monitoring and evaluation (M&E) of this rapid scale-up of ART. It will be crucial to know how countries are meeting the agreed goals and objectives and how local levels (districts, regions or provinces, and health facilities) are monitoring progress and identifying any problems that they encounter.

2. Disclaimer

This working document represents the best possible effort to describe a coherent approach to national M&E of the scaling up of access to ART, with the aim of providing universal access. It is best viewed as a step in a process that will include the gathering of additional experience, additional review, the validation of indicators presented, and, subsequently, refinement. New lessons learnt will be used to update and correct the document, as experience in M&E of this area increases.

3. International standards

A national strategy for M&E of the rapid scale-up of ART must include elements at the national, subnational (regional, district) and facility levels. For this purpose the following documents have been developed which describe the methods, tools and intervals for collecting key indicators of progress towards the goal of universal access to treatment.

- *A guide to monitoring and evaluating HIV/AIDS care and support* (available at: http://www.who.int/hiv/strategic/me/en/).
- *National guide to monitoring and evaluating programmes for the prevention of HIV in infants and young children* (available at: http://www.who.int/hiv/strategic/me/en/).
- *HIV drug resistance surveillance guidelines* (available at: http://www.who.int/3by5/publications/en/).
- *Interim patient monitoring guidelines for HIV care and ART* (available at: http://www.who.int/3by5/publications/en/).
- *The monitoring and evaluation toolkit for HIV/AIDS, tuberculosis and malaria* (available at: www.theglobalfund.org).

It has become clear that the provision of ART is an essential element in any national comprehensive treatment, care, support and prevention programme. M&E of these elements are currently addressed in separate documents that have been developed with a view to the harmonization of efforts: key international partner organizations have been involved in the development of each of the guides, and the indicators in the guides are formulated so as to be complementary across the documents. These documents have been developed and adopted by key global agencies, including WHO, UNAIDS, the Global Fund to fight AIDS, Tuberculosis and Malaria, USAID and the World Bank.

The present guide makes references and links to the other documents wherever relevant and appropriate, in order to ensure the maximum complementarity of M&E activities. It is intended that donors and national governments should collaborate in supporting the collection of data. This should help in monitoring trends in the epidemic and in programmatic progress and should provide the information needed for accountability towards the various donor agencies. This is critical as parallel efforts and measures place an unnecessary reporting burden on programmes that receive multiple funding streams and have to report to different donors in different ways.

By harmonizing indicators and methods for M&E programmes as much as possible, duplicated reporting can be avoided and more time can therefore be spent on the delivery of vital services. Although much time and effort are required in order to establish broad agreement on developing and adopting international standards, it is clear that this will lead to a better system for tracking progress. The World Bank, the Global Fund to Fight AIDS, Tuberculosis and Malaria, WHO and the United States Government have undertaken to use international M&E norms and standards rather than creating new ones.

In addition to ensuring that the guides are harmonized, it has become clear that they should be combined in a single comprehensive document in order to achieve ease of use for programme managers and maximum effectiveness of M&E. The key international partners are already working on streamlining and harmonizing the relevant indicators and measurement guidelines for comprehensive national HIV/AIDS programmes.

4. Why are national-level indicators important?

National-level indicators are important because they allow countries to assess their progress towards the stated goal of universal access and the interim targets. They also allow cross-national comparisons and global assessment of progress in meeting the targets. Cross-national comparisons are instructive in identifying countries where progress towards meeting the targets is relatively slow. A more detailed analysis of monitoring data below the national level can then be undertaken in order to identify areas where performance can be improved.

Many of the data used for national-level indicators are generated at the local level and passed up through the system. However, not all the indicators that are needed or useful at the local level are relevant at the national level. Some issues are best measured at the local level and may lose their meaning when abstracted to the national level. Nonetheless, it is important to remember that much of the information for the indicators presented here is gathered at the local level and that some of the national-level indicators are interpretable and useful at the local level as well.

5. Why is it important to monitor and evaluate programmes for scaling up access to antiretroviral drugs?

Programmes for increased access to ARVs are eliciting increased commitment and support. Many countries are expanding their programmes in response to the growing HIV/AIDS pandemic and to the increased support that is becoming available. These programmes are expensive, demanding a serious commitment of funds and energy in the countries involved. Consequently, there is a clear need to set standards for M&E of these programmes at the national level and to ensure that the investments yield the greatest possible benefit.

National M&E of programmes for increased access to ARVs should allow programmes to monitor their progress in implementation, identify problems, refine and adapt their implementation strategies, assess the effectiveness and impact of their interventions, and test strategies for optimizing their effectiveness, impact, cost-effectiveness and sustainability.

6. For whom is this manual intended?

This document is intended to inform the main M&E efforts at the national level by HIV/AIDS programme managers. It should be noted, however, that many of the data necessary for calculating the indicators originate from health facilities. The manual is therefore also of value to programme managers or programme planners in the development of indicators to be used at more local levels. In particular the document can help to align local M&E strategies with the national framework, facilitating the flow of necessary data from the local to the regional and national levels.

7. What does this manual cover?

This manual provides guidance on indicators relevant to M&E in national programmes for the scaling up of access to ART for people with HIV/AIDS. The collection of information necessary for these indicators allows the assessment of the level of success of ART programmes at the national level, the identification of programme areas where further support is required, and, therefore, the improvement of national ART programmes. In many cases the indicators may also allow intercountry comparisons.

The manual presents a list of core indicators and one additional indicator. All countries with programmes for scaling up access to ARVs for people with advanced HIV infection should aim to cover at least the core indicators. Countries are also encouraged to cover additional indicators if the need and resources exist for doing so. For each indicator the manual covers: (a) guidance on its definition; (b) the rationale for its use and what it measures; (c) its measurement and the tools used for measurement; (d) the frequency of measurement; (e) its strengths and limitations. In proposing indicators the document takes into account existing indicators, experiences and standards to the extent possible and attempts to present established indicators for which experience has been gained or indicators that do not require special efforts in data collection.

8. Key lessons learnt on succeeding with national indicators

WHO has developed extensive experience in developing international guides and in helping countries to set up logistics, health and management information systems. The following key lessons have been learnt, and have guided the development of the present document.

- The **number of indicators** should be kept to a minimum, as the effort and expense required to collect the necessary data can be daunting, especially for national M&E systems with limited capacities.
- A core set of the indicators developed should be **standardized and agreed by international and national partners** in order to minimize the burden that countries may encounter through having to collect different indicators or different variants of the same indicator for international agencies and donors who fail to coordinate their own M&E needs.
- Indicators that can be compiled using **data collection systems already available** are preferable to those requiring special efforts in data collection.

9. Overall measurement of progress towards universal ART treatment

All national programmes should be able to demonstrate progress towards universal access to ART and the achievement of interim targets (e.g. the "3 by 5" target) by tracking and reporting the national-level indicators covered in the following table, which shows, for each indicator, the level of a programme it monitors, the general topic area covered, the title of the indicator, the recommended methods and the suggested frequency of data collection.

Level	Area	Indicator	Recommended method	Frequency
Input	National policy and guidelines	Core 1: Existence of national policies, strategy and guidelines for ART programmes	Key informant survey	Every two years
Process	Programme coverage (initial scale-up)	Core 2: Percentage of districts or local health administration units with at least one health facility providing ART services in line with national standards	Record or programme reviews, or health facility survey	Annual during scale-up, every two years thereafter two years thereafter
	Drug supply	Core 3: Percentage of ARV storage and delivery points experiencing stock-outs in the preceding six months Additional indicator 3.1: Percentage of ARV storage and delivery points meeting the minimum quality criteria (in addition to having no stock-outs)	Drug-tracking system, programme reports	Annual during scale-up, every two years thereafter
	Human resources	Core 4: Number of health workers trained on ART delivery in accordance with national or international standards	Programme records or health facility surveys	Annual during scale-up, every two years thereafter
Output	ART programme coverage	Core 5: Percentage of health facilities with systems and items to provide ART services	Health facility survey with observation component	Annual during scale-up, every two to four years thereafter
	Comprehensive care coverage, including prevention	Core 6: Percentage of health facilities with ART services that also provide comprehensive care, including prevention services, for HIV-positive clients	Health facility surveys	Annual during scale-up, every two to four years thereafter
Outcome	People on treatment	Core 7: Percentage of people with advanced HIV infection receiving ARV combination therapy	Review of programme monitoring data	Six-monthly during scale-up, annually thereafter
	Continuation of first-line regimens	Core 8: Continuation of first-line regimens at 6, 12 and 24 months after initiation	Review of patient registries	Continuous data collection, aggregated on yearly basis
Impact	Survival	Core 9: Survival at 6, 12, 24, 36, etc. months after initiation of treatment	Review of patient registries	Continuous data collection, aggregated on yearly basis

SECTION II

MEASUREMENT ISSUES AND SPECIAL CONSIDERATIONS

1. Data sources

The information for many indicators in this guide arises from points of service delivery, i.e. from a sample of health facilities that are providing ART. Some of the data originate from individual patient records (e.g. the percentage of people receiving ART), whereas other data are obtained from facility records (e.g. the number of health workers trained to deliver ART).

A health facility is any location from which health services are routinely provided or where health service providers, offering services either in the facility or in the community, are coordinated. This refers most often to hospitals, health centres and dispensaries, but may include locations not traditionally classified as health facilities, such as sites where hospice care is offered, sites that coordinate community-based service providers, or sites that are not necessarily clinic settings but where specific services are provided (e.g. the distribution of ARVs and the routine monitoring of clients). An individual's home is not considered to be a facility for the purposes of these indicators. For countries where ART services have been introduced recently the sample of health facilities is likely to be defined in Core Indicator 2. For countries where ART services are already widespread it is recommended that a representative sample of health facilities be established a priori and that the same sample be used for all indicators that are to be collected at facility level. The sample should include both public and non-profit facilities. Wherever feasible, moreover, it should include private facilities, since private providers, often including businesses and corporations, contribute significantly to ART programming in many countries.

2. Prevention for HIV-positive people

In addition to the therapeutic benefits flowing to millions of HIV-infected individuals, enhanced access to ART offers important new opportunities to strengthen and expand HIV prevention efforts. An increase in the availability of HIV treatment is likely to result in increased HIV testing rates, reduced stigma and possibly reduced infectivity for people on ART. More widespread access to ART also offers critical new opportunities for HIV prevention efforts. The Global HIV Prevention Working Group, composed of numerous organizations (the Gates Foundation, the Kaiser Network, UN agencies, research institutes, etc.) has identified key opportunities for enhancing prevention through improved access to ART, of which preventive interventions specifically for HIV-positive people are a key component.[1] It is therefore essential to monitor the delivery and evaluate the effectiveness of prevention efforts within ART programmes. This guide addresses prevention services in the following core indicators.

- ***HIV prevention as part of national ART policy: Core Indicator 1.*** The integration of HIV prevention into ART programmes must be established in the national policy or guidelines of such programmes so as to create a national framework of programming which simultaneously expands treatment and prevention.

[1] Global HIV Prevention Working Group. *HIV prevention in the era of expanded treatment access.* June 2004.

- ***HIV prevention training for clinicians, lay staff and treatment supporters: Core Indicator 4.*** Brief preventive interventions delivered by clinicians have proved effective for a variety of health conditions, including smoking, obesity, alcohol abuse, depression and physical inactivity.[2] A brief intervention by a clinician in the context of ART could, for example, remind the patient of the importance of safer sex and could provide information on access to condoms and to counselling on harm reduction. However, it is not feasible to rely solely on health personnel to provide prevention services in the context of ART programmes. There is a growing awareness of the indispensable role played by lay staff in health settings, as well as of the role of community-based, non-clinical support groups. These people, however, must also be trained to provide an acceptable standard of prevention services, e.g. counselling. Competency in prevention (risk-reduction counselling, provision of condoms, or, where necessary and appropriate, referral for such services) is included as a key component of the required skills of all ART providers and treatment supporters.

- ***Provision of comprehensive care, including prevention services for HIV-positive clients: Core Indicator 9.*** ART programmes are the key component of effective HIV/AIDS care and support programmes, which include other essential services. Prevention services are an imperative component of comprehensive care. However, such care also includes wider health services (e.g. treatment of opportunistic infections, palliative care), psychological services (e.g. emotional support), social and legal support (e.g. food, material or financial support, legal advice relating to employment or will-writing) and support for orphans and vulnerable children. Preventive services should include at least risk-reduction counselling and condom distribution. For a given population the focus of counselling should be adapted to the type of epidemic and the predominant risk behaviours. The full range of HIV prevention services should preferably be available on the site where ART services are provided. Where this is impossible or inappropriate, however, an effective referral system for such services must be in place.

3. HIV drug resistance

The prevention, surveillance and monitoring of HIV drug resistance are essential if ART programmes are to be effective. WHO's HIV drug-resistance surveillance and monitoring strategy for countries focuses on early warning assessment, HIV drug-resistance surveillance and sentinel HIV drug-resistance cohort monitoring (see below).

In this guide, three indicators are particularly relevant to early warning assessments. For more information on the monitoring of HIV drug resistance, reference should be made to WHO's HIV drug resistance surveillance guidelines.[3]

HIV drug-resistance early warning assessment

Objective: To monitor whether ART programmes function to minimize the emergence and transmission of HIV drug resistance.

Method: Abstraction of information from standardized treatment cards or electronic medical records (partially reflected in this guide: Core Indicator 3, Additional Indicator 3.1, Core Indicator 8 and Core Indicator 9).

[2] *See studies cited in: Incorporating HIV Prevention into the Medical Care of Persons Living with HIV. MMWR* 2003;52:RR-12 (CDC Guidelines).

[3] *Guidelines for surveillance of HIV drug resistance.* World Health Organization, 2003 (http://www.who.int/3by5/publications/en/).

HIV drug-resistance surveillance

Objective: To monitor whether the transmission of drug-resistant strains of HIV has reached measurable levels and to evaluate the pattern of mutations associated with resistance in transmitted strains, in order to support optimal programme functioning and country decision-making on standard ART regimens. The populations selected should have been infected recently and should be treatment-naïve in respect of ART.

Methods:

A. HIV drug-resistance threshold surveys: collection of a minimum number of HIV diagnostic specimens from HIV serosurveys or diagnostic centres in areas where ART has been in use for some time, in order to evaluate whether the prevalence of transmitted HIVDR is above a minimum threshold of 5%, and, in this event, if the prevalence may be higher than a second threshold of 15%.

B. Representative HIVDR prevalence surveys: In countries where resources are adequate, HIV surveillance is well established and an indication exists that the prevalence of transmitted HIVDR is >5%, representative sampling of HIV-positive diagnostic specimens may be performed for the evaluation of the prevalence of HIVDR. A weighted cluster sample of diagnostic centres and persons diagnosed within them should be used.

Sentinel HIV drug resistance cohort monitoring (for monitoring ART programmes, not individuals)

Objective: To validate the early warning programme monitoring measures, to confirm that the emergence of resistance with ART is being minimized and to evaluate the patterns of mutations developing with various HIV subtypes and ART regimens.

Method: Representative sampling of persons starting first ART treatment in sentinel centres. If resources are available, drug resistance testing is performed at baseline at 12 months, at 24 months and at failure or ART regimen switch.

4. HIV/AIDS and tuberculosis

One-third of the world population is infected with the TB bacterium, resulting in about nine million new cases of TB each year. HIV is the most powerful known risk factor for developing TB. People coinfected with both the TB bacterium and HIV are up to 50 times more likely to develop TB than people infected with the TB bacterium but not with HIV. The TB epidemic is exacerbated by HIV in countries with a generalized HIV epidemic, making the challenge of TB control much greater in many of the poorest countries. In sub-Saharan African countries, annual TB case notification rates have risen by up to four times since the mid-1980s, primarily because of the HIV/AIDS epidemic. Worldwide, TB is among the most common causes of illness and death in people living with HIV/AIDS.

However, TB is not just part of the HIV problem. TB programmes can be an important part of the solution in providing HIV prevention and care in resource-constrained settings, particularly in scaling up access to ART. Both TB and HIV programmes can benefit from closer collaboration aimed at reducing the impact of HIV-related TB in communities where the burden is high.

In countries with high prevalence of HIV infection, up to 80% of TB patients may be infected with HIV. In response, many TB programmes are assuming responsibility for reducing the impact of HIV among TB patients and are working in conjunction with HIV programmes to implement recommended activities. Among these activities is that of achieving increased access to HIV testing and

[4] World Health Organization. *Interim policy on collaborative TB/HIV activities.* Geneva: World Health Organization; 2004 (WHO/HTM/TB/2004.330; WHO/HTM/HIV/2004.1).

counselling for TB patients as the entry point to appropriate HIV prevention, treatment and support services, including access to ART. By encouraging HIV counselling and testing among TB patients a contribution can be made towards identifying large numbers of HIV-positive people who, if eligible, can access ART. TB services in hospitals and peripheral health centres can thus be important entry points and sometimes even follow-up sites for ART.

It is important to increase the implementation of collaborative TB/HIV activities at country level so that access to ART can be rapidly scaled up. Consequently, TB programmes, wherever applicable, should be included in plans to monitor and evaluate the scaling up of ART. For this purpose, WHO has developed a guide [5] that defines indicators relevant to the monitoring of TB/HIV activities, including access to ART for TB patients (Annex 1).

5. Equity issues: ART programmes should address the needs of women and young people

One of the challenges facing countries in planning and implementing ART programmes is the need to ensure that the many groups who require treatment are in fact receiving ARVs and that particularly vulnerable groups are not always at the end of the queue. This challenge should be reflected in the countries' monitoring systems. This applies most obviously to women but is increasingly relevant to people aged 10-24 years [6] and, in some settings, to groups such as IDUs and sex workers. In order for these groups to be adequately covered it is important to ensure that routinely collected data are disaggregated by age and sex and that, in the development of national policies and guidelines and in new training programmes, the specific needs of women, young people and other vulnerable groups are given adequate attention.

6. ART in concentrated epidemics

The indicators presented in this guide could be interpreted as implying that more is better, i.e. that access to ART in every district and most health facilities, and training in ART management for all or most health care workers, is the ideal situation. In generalized epidemics this may well be true, although, even here, equal coverage may not be desirable. In concentrated epidemics, however, providing the same level of treatment access and support in all areas may not make sense economically or managerially. In countries with concentrated epidemics it is necessary to decide what constitutes the optimal level of coverage and where treatment access should be offered. Not providing treatment access in all or most venues should not be seen as a failure to scale up completely in these cases, but rather as a success in planning how best to use scarce resources. The interpretation of the results of these indicators, then, is best performed at the country level, taking into account the epidemiology of HIV and other relevant factors.

[5] World Health Organization. *A guide to monitoring and evaluation for collaborative TB/HIV activities.* Geneva: World Health Organization; 2004 (WHO/HTM/TB/2004.342 and WHO/HIV/2004.09).

[6] *Guide to indicators for monitoring and evaluating national HIV programmes for young people.* World Health Organization, UNAIDS and UNICEF; 2004.

7. Monitoring and evaluating in accordance with the stage of ART programming

Among the limited number of national-level indicators are some that are most useful or only useful in the initial stages of scaling up access to ART. Specifically, indicators that measure whether guidelines, trained staff and service delivery points for ART provision are available, become less meaningful as an ART programme progresses. These components are crucial first steps in the process of scaling up access to ART, and it is therefore desirable that they be quickly addressed in most countries seriously working on access to treatment. Once these first steps have been achieved, these indicators should be replaced by others addressing more specific issues of access, coverage and equity.

SECTION III

INDICATORS

Core Indicator 1: Existence of national policies, strategies and guidelines for ART programmes	
Definition:	Existence of national-level HIV/AIDS ART policies and strategies to facilitate ART coverage in the country (a composite index; Yes = 1, No = 0). • ART provision is an integral part of the national HIV/AIDS service provision policy. • Existence of a functional national multisectoral HIV/AIDS management/coordination body that engages all relevant parties (MOH, NGOs, CBOs, private sector, etc.) and assists those implementing ART. • Inclusion of people with HIV/AIDS at the policy-making level, including representation in the national coordinating body for HIV/AIDS. • Existence of a national guideline on ART provision which incorporates the integration of treatment and prevention. • Existence of a confidential patient-tracking system. • Strategy to promote equitable access to ART for those who cannot afford to pay for it. • Strategy addressing ART provision for children and young people, TB patients, and vulnerable groups such as sex workers, refugees, mobile populations, IDUs and other high-risk or hard-to-reach groups. • Laws and regulations giving protection against discrimination for people living with HIV/AIDS
Numerator:	The number of the above indicators adopted by the country in question.
Denominator:	8.
Rationale and what is measured:	***Rationale:*** In order for an ART programme to be successful, especially where stigma surrounds HIV/AIDS, political commitment is essential. At the national level there should be policies and strategies to promote ART in a comprehensive way, linking it with prevention and the strengthening of health systems, and including all groups, especially vulnerable populations. National guidelines and policies are commonly based on existing international standards or on standards that are generally agreed upon but not yet formally presented as international guidance. Without guidelines, services of unknown quality and impact may be implemented on an ad hoc basis, making it difficult to monitor and evaluate efforts. ***What is measured:*** This indicator reflects whether a country has the necessary systems and strategies at the national level to implement and support the provision of ART.
Frequency:	Every two years.
Measurement tools and how to measure the indicator:	A survey among key informants at the national and district levels and in health care facilities is used to determine whether suitable systems and strategies exist. The key informants at the national level are persons responsible for HIV/AIDS; in health facilities they include practitioners and clinic directors.
Strengths and limitations:	This indicator does not attempt to address the quality, effect or implementation of policies or guidelines. The initial focus is on determining whether policies and guidelines exist, but once they are in place the indicator should be changed to measure continued political commitment and how often guidelines are updated. Generally, policies and guidelines require critical review and updating every two to three years. This is particularly true in the field of ART, where new advances are continuously being made.

Core Indicator 2: Percentage of districts or local health administration units with at least one health facility providing ART services in line with national standards Same as Care and Support Indicator 2.	
Definition:	Percentage of districts or local health administration units with at least one health facility providing ART in line with national standards.
Numerator:	Number of districts or local health administration units with at least one health facility providing ART in line with national standards.
Denominator:	Total number of districts or local health administration units.
Rationale and what is measured:	This indicator is a crude but important measure of the coverage of ART in a country. It is particularly relevant to generalized epidemics. In concentrated epidemics the measure could be restricted to districts or health administration units in which there are high proportions of at-risk populations (e.g. in cross-national border areas). In such settings the denominator should be the total number of relevant districts or health administration units.
Measurement tools and how to measure the indicator:	The numerator includes different types of NGOs or government health facilities (e.g. social security, military), depending on the level of involvement of these sectors in providing ARV combination therapy The following methods are recommended. • Record reviews of district medical offices or district AIDS offices, which may have lists of all facilities providing ART. • Record reviews of the national AIDS programme or a national drug management system of the ministry of health, which should also have a list of the facilities where ART is available. • Surveys of health facilities. Data on district population and prevalence per district are useful for assessing how the availability of services matches needs.
Frequency:	Annual during scale-up phase, every two years thereafter.
Strengths and limitations:	This indicator is most useful in tracking changes over time as national programmes attempt to scale up service provision in order to meet need in generalized epidemics. Once coverage has reached a certain level it is unlikely to fall again and the indicator becomes redundant. This indicator is most useful in relation to the scale-up process in generalized epidemics. In concentrated epidemics an ART facility may not be needed in every district.

Core Indicator 3: Percentage of ARV storage and delivery points experiencing stock-outs in the preceding six months Related to Core Indicator 5. This is one of the **Drug Resistance Early Warning** indicators.	
Definition:	Percentage of ARV storage and delivery points that have recorded at least one stock-out in the preceding six months. The target for this indicator is zero stock-outs at any point in the chain of drug supply delivery. Storage points are usually warehouses (i.e. medicines are not dispensed to individuals). Service delivery points are pharmacies, health centres and clinics (including TB centres) where ARV drugs are dispensed to individual patients. In many countries the drug distribution system consists of a central level, a district level and service delivery points. In such cases the central and district nodes usually have the function of a warehouse, whereas the service delivery points do not. In some countries, however, drugs are directly dispensed from a central unit to distribution points. In these cases, service delivery points may also have the function of a warehouse. Whatever the structure of the system, this indicator should capture all central and regional warehouses if the number is not high enough to warrant sampling, as well as a sample of service delivery points (or all such service delivery points if only a few locations in the country provide ARVs).
Numerator:	Number of ARV storage and delivery points that have recorded at least one stock-out in the preceding six months.
Denominator:	Total number of storage points and total number of delivery points surveyed.
Rationale and what is measured:	This indicator measures whether stock-outs occur at storage or delivery points of the drug supply system. A stock-out is defined as the complete absence of a required drug at a storage point or delivery point for at least one day. Continuous monitoring of the inventory and system of distribution of ARVs, including accounting for any loss and registering supply for first-line and second-line drugs, is essential for the adequacy of ARV supply and the prevention of drug resistance. Data should be collected separately for storage points and service delivery points (pharmacies, health centres), although they can be aggregated for simple reporting. If stock-outs are found, however, disaggregated data allow the evaluation of the points at which the system has failed.
Measurement tools and how to measure the indicator:	If there is one national system of drug procurement, delivery and tracking, the information for this indicator can be extracted from it. However, if there are several parallel systems of drug supply and delivery (public, not-for-profit) a special survey of them should be conducted. Storage and distribution points can be identified through a review of the drug delivery system. Each central, regional or local point at which drugs are received for storage should be included in the denominator. If only a limited number of service delivery points provide ARVs in the country concerned, all should be included (among them the facilities identified for Core Indicator 2, plus any pharmacies if relevant). If the number of service delivery points is large a sample should be selected. In order to measure this indicator, stock cards should be observed at each of the storage points and selected delivery points.
Frequency:	Annual during the scale-up phase, every two years thereafter.

Strengths and limitations:	This indicator builds on the drug delivery and tracking systems that exist in most countries and captures a crucial component of the ART programme: a continuous supply of ARV drugs. It does not, however, provide information on why stock-out problems occur or on the quality of the storage, delivery and distribution system. Some countries may wish to summarize the overall quality of these systems, as suggested in Additional Indicator 3.1. Stock-outs may also be misleading as an indicator because a warehouse may always reserve a small stock but have a policy of never issuing the reserved stock. It may be preferable to collect information on a functional stock-out (inability to issue a required drug). This indicator is focused on public and not-for-profit systems of drug supply. In some countries, however, the private sector plays a significant role in supplying ARV drugs. In such cases, wherever possible, private drug supply systems should also be included in this assessment.

Additional Indicator 3.1: Percentage of ARV storage and delivery points meeting the minimum quality criteria in addition to having no stock-outs
Complements Core Indicator 3.
This is one of the **Drug Resistance Early Warning** indicators.

Definition:	Percentage of ARV storage and delivery points meeting the minimum quality criteria. Storage points are usually warehouses (i.e. medicines are not dispensed to individuals). Service delivery points are pharmacies, health centres and clinics (including TB centres) where ARV drugs are dispensed to individual patients. In many countries the drug distribution system consists of a central level, a district level and service delivery points. In such cases the central and district nodes usually have the function of a warehouse, whereas the service delivery points do not. In some countries, however, drugs are directly dispensed from a central unit to distribution points. In these cases, service delivery points may also have the function of a warehouse. Whatever the structure of the system, this indicator should capture all central and regional warehouses (assuming that the number is not high enough to warrant sampling) as well as a sample of service delivery points (or all such points if only a few locations in the country concerned provide ARVs). The minimum quality criteria, in addition to no stock-outs, cover distribution to delivery points and storage quality (see *Measurement tools and how to measure the indicator* for details).
Numerator:	Number of storage and delivery points that meet the quality criteria.
Denominator:	Total number of storage and delivery points sampled (preferably the same number as sampled for Core Indicator 3).
Rationale and what is measured:	This indicator measures a number of key components of the ART supply chain. An ART programme can be effective only if an uninterrupted flow and appropriate quality of ARV drugs is maintained. This indicator builds on Core Indicator 3. It describes some key aspects of the quality of the distribution system. It can track improvements in quality. Disaggregation of the data by quality aspect provides an insight into where problems are occurring and can guide programmatic action on addressing them.
Measurement tools and how to measure the indicator:	Storage and distribution points can be identified through a review of the drug delivery system. Each central, regional or local point at which drugs are received for storage should be included in the denominator. If the number of service delivery points providing ARVs in the country concerned is limited they should all be included (among them the facilities identified for Core Indicator 2, plus any pharmacies if relevant). If the number of service delivery points is large a sample should be selected. A storage or distribution point must meet all the following criteria if it is to be included in the numerator (in addition to experiencing no stock-outs in the preceding six months). 1. Distribution to the point of delivery to patients: a. Sufficient number of functioning vehicles. b. Sufficient number of licensed drivers. c. Established delivery routes and shipment records.

	2. Storage quality, including: a. A method in place to control temperature. b. Windows that can be opened or air vents. c. Direct sunlight is prevented from entering the storage area (e.g. by means of painted window panes or curtains/blinds). d. Area free from moisture (e.g. leaking ceiling, drains, taps). e. Medicines are not stored directly on the floor. f. There is a cold store with a temperature chart. g. Medicines are stored in a systematic way (e.g. alphabetical, pharmacological or first expiry / first out). h. Tablets/capsules are not manipulated by naked hand. i. There is adequate space to store the medicines. j. An adequate security system protects against theft.
Frequency:	Annual during scale-up phase, every two years thereafter.
Strengths and limitations:	The strength of this indicator is that the information needed can be obtained from the national quality tracking system existing in many countries. If such a system is not available the indicator can easily be collected by observing a sample of storage and delivery points. This indicator can provide information allowing comparison between different regions within a country, particularly if there are notable rural-urban differences in the quality of the health system. However, it captures only the basic elements of quality (stock-outs, delivery and storage). Other important components of a drug supply system of satisfactory quality are not captured. This indicator is meant to provide an illustration of quality for national-level tracking and comparisons. For thorough programmatic action a drug-tracking and quality assurance system must be in place. This indicator is focused on public and not-for-profit systems of drug supply. In some countries, however, the private sector plays a significant role in supplying ARV drugs. In such cases, wherever possible, private drug supply systems should also be included in this assessment. Once the drug supply system is in place with the basic quality characteristics, the ART country programme is likely to shift to more comprehensive quality assurance management.

Core Indicator 4: Number of health workers trained on ART delivery in accordance with national or international standards	
Definition:	Number of health workers (by type) newly trained or retrained on ART delivery in accordance with national or international guidelines during the preceding 12 months. This covers health workers who have been trained to a level enabling them to take up a direct function in support of the scaling up of ART. The training should include the provision of clinical ART services, programme management, prevention services or monitoring. The following types of health workers are included. (a) physicians and health workers with physician skills (e.g. medical officers); (b) nurses and other health workers with nursing skills (e.g. midwives, clinical officers); (c) other health care workers and lay staff in clinical settings, including TB centres; (d) counsellors; (e) laboratory technicians and staff; (f) pharmacy/dispensing staff; (g) programme managers; (h) other support staff (including record-keepers); (i) community treatment supporters (peer educators, outreach workers, volunteers, informal carers). It is assumed that, in most settings, such training occurs through specialized programmes that health workers attend after their regular education (in-service training). Only health workers who have undergone such training should be included.
Rationale and what is measured:	This indicator measures the availability of a trained workforce for achieving national scale-up targets. It includes both clinical and non-clinical health workers who contribute to the development and implementation of ART services and provide critical support services.
Measurement tools and how to measure the indicator:	The information for this indicator can be obtained from either of two sources: 1) ***Programme records*** of organizations (private or public organizations, or NGOs) that are providing the majority of ART-related training in a given country. In most countries a limited number of such organizations is responsible for all training (usually known to the national AIDS coordination body), and the information for this indicator can be collected from their records. 2) ***Facility-based surveys*** (of facilities providing ART). ***If data are obtained from programme records:*** a) The source (name, type of organization, date and persons contacted) should be noted when the information is collected. b) The indicator gives information on the overall size of the health workforce trained on HIV/AIDS in the country concerned. c) The indicator does not, however, assess whether trained health workers are working in facilities providing ART. This link is crucial for monitoring progress in the scaling up of ART services: Core Indicator 5, section (f) in the present document allows for this link to be made; it assesses whether a facility has at least one staff member providing ART who has been trained in the preceding 12 months. d) In combination with information on facilities this indicator can help to identify bottlenecks in human resource management. For example, reports on personnel shortages in facilities can be compared with information on the nationally trained workforce and judgements can be made as to whether such shortages are absolute or relative, e.g. if associated with hindrances to recruitment such as geographical barriers and/or a lack of incentives.

	If data are obtained from facility-based surveys (records of training kept in facilities): a) The indicator can be calculated as a percentage for the sampled health facilities: • *Numerator:* Number of newly trained or retrained health care workers in the selected health facilities providing ART. • *Denominator:* Total number of health care workers in selected facilities providing ART. b) The indicator shows whether the trained individuals are also working in ART-providing facilities (and it links directly with Core Indicator 5, section (f) in the present document, which assesses whether health facilities each have at least one staff member providing ART who has been trained in the preceding 12 months). Regardless of the source of information, data must be collected separately for each group of health workers listed above, although it can be aggregated into one group for ease of reporting. However, the information is most insightful when reported by type of personnel. The minimum acceptable quality of training should be defined before the information is collected. In many countries, training standards have been defined by the national AIDS coordination body and/or professional organizations. This applies in particular to countries that have introduced certification systems for HIV/AIDS training. The training must lead to a minimum set of competencies needed for an active role in supporting ART in line with national recommendations and/or guidelines. The training may be delivered in modules over a period and include course and practical elements. Only health workers who successfully complete the entire course (not just one module) should be included. In order to avoid double counting, refresher training of trained workers should not be included.
Frequency:	Annually during the scale-up phase, every two years thereafter.
Strengths and limitations:	This indicator is most useful in the initial phases of a countrywide response to HIV/AIDS, when the cumulative number of trained health professionals is expected to be continuously increasing until it reaches a critical mass (or desired ceiling). At this point the quantitative focus of the indicator on the number of health workers trained may become redundant, and measurement may shift so as to capture the quality of training, refresher training and the testing/supervision of health care practices as outlined below. • Assessment of training programme: its content and duration; its compliance with international standards and issues of local relevance. • Assessment of results of training, involving measurement of health providers' knowledge and attitudes, self-assessment and direct observation of their practice. • Measurement of continuous and improving competence over time (e.g. recertification, continuous education, knowledge and performance assessments, practice audits). • Implementation of certification schemes that attest to the competence of individuals to practice. WHO is working with partners on the development of guidelines and tools for the development and implementation of certification programmes. Additionally, some countries may be able to evaluate the performance of health workers through operations research.

Core Indicator 5: Percentage of health facilities with systems and items for provision of antiretroviral therapy services Linked to Care and Support Indicator 7.	
Definition:	Percentage of health care facilities at different levels of the health care system which have systems and items for the provision of ART services. This indicator is *the same as* Indicator 7, subcomponent (c) in the Care and Support Guide: *Capacity to provide advanced clinical and psychosocial support services for HIV/AIDS, (c): Systems and items for the provision of antiretroviral combination therapy services.*
Numerator:	Number of health facilities providing ART which have all the systems and items necessary for providing ART services of satisfactory quality (as described below).
Denominator:	Total number of ART-providing health facilities surveyed.
Rationale and what is measured:	This indicator measures the availability and quality of ART services. It is assumed that, in most cases, these services are offered in health care settings that can provide advanced health care. The indicator can be measured as one component of Core Indicator 7 in the Care and Support Guide, which includes other aspects of advanced clinical and psychosocial services complementary to the provision of ART (e.g. management of opportunistic infections, advanced inpatient care for people living with HIV/AIDS).
Measurement tools and how to measure the indicator:	The information should be collected through a health facility survey on the basis of observations made in all relevant service areas. For inclusion in the numerator a facility must meet the following criteria. (a) Observed guidelines or protocols for: (1) treating and preventing opportunistic infections; (2) providing palliative care (controlling symptoms and pain); (3) caring for children and young people living with HIV/AIDS; (4) standard operating procedures for services and interventions for people living with HIV/AIDS; (5) observed treatment guidelines for the management of ARV therapy for adolescents, adults pre-adolescent children. (b) Country-specific ARV drugs regularly available with no reported stock-outs in the preceding six months. Stock cards should be inspected and any stock-outs in the preceding six months should be noted. (c) Facilities with laboratory capacity to conduct a documented system for referral and the receipt of results for at least one of the following tests: (1) CD4 count or CD4 alternative, total lymphocyte count test or viral load test; ***or*** Facilities with capacity to conduct a documented system for referral and receipt of laboratory tests, including: (2) a record or register that includes the referral and test result ***and*** (3) an indication that the test result or follow-up was given to the person tested. (d) A system of appointments and follow-up which indicates appointment schedules and shows whether clients have kept appointments. (e) Individual client cards identifying the number of clients receiving ART at the facility in question.

	(f) At least one ARV therapy service provider in the facility trained during the preceding 12 months in the provision of ART, counselling on drug adherence, risk-reduction counselling, nutritional rehabilitation and nutritional problems associated with ARV. (g) At least half the interviewed providers of ART services should have been personally supervised during the preceding three months.
Frequency:	Annual during scale-up, then every two to four years.
Strengths and limitations:	This indicator is a compendium of many different aspects of care and service provision, all of which should be present if the facility concerned is to be included in the numerator. Because services tend to improve unevenly, especially in resource-constrained settings, the resulting indicator may remain low for some time. Disaggregation of the indicator reveals the areas where services have improved and the areas where they continue to lag. The scoring of the components of the indicator necessarily includes some subjectivity. This may influence comparisons between countries, and, if the monitoring team changes, trends over time.

Core Indicator 6: Percentage of health facilities with ART services which also provide comprehensive care, including prevention services, for HIV-positive clients Linked to Care and Support Indicator 5.	
Definition:	Percentage of facilities with ART services which also provide comprehensive care, including prevention for HIV-positive clients, or which refer to such services if they are not available on site.
Rationale and what is measured:	Preventive services are an imperative component of comprehensive care. Without effective prevention to reduce the number of new HIV infections, ART initiatives cannot keep pace with the spread of the disease. ART programmes present a unique opportunity to provide preventive services specifically tailored to HIV-positive people. The full range of HIV prevention services includes risk-reduction counselling, condom promotion and distribution, partner notification, harm-reduction education and services, and STI education and management. Ideally, this range of services should be available on site where ART services are provided. The minimum components of prevention services should include risk-reduction counselling and condom promotion and distribution. On sites where the delivery of preventive services is impossible an effective referral system must be in place. This means having a referral form or list identifying a specific referral site or sites for confirmed or suspected HIV-infected people at each point of service. In addition, preventive services are one of the components of comprehensive care for HIV-positive people. The following services are included. ***Health services:*** HIV testing and pretest and post-test counselling; outpatient or inpatient treatment of opportunistic infections and other HIV-related conditions; preventive therapies for opportunistic infections, including TB; symptomatic palliative care; and antiretroviral combination therapy. ***Psychological services:*** Emotional support and follow-up counselling; support groups and/or post-test clubs for people living with HIV/AIDS; and spiritual support. ***Social and legal support:*** Community-based, home-based and faith-based organizations or other bodies that offer material, food, financial or legal support (such as succession planning and will-writing) for people living with HIV/AIDS and/or their families. ***Support for orphans and vulnerable children:*** Community-based and faith-based organizations or other bodies that strengthen care and support interventions for orphans and vulnerable children affected by HIV/AIDS. The prevention of MTCT is not included in this indicator; for this area, reference should be made to the National guide to monitoring and evaluating programmes for the prevention of HIV in infants and young children.
Numerator:	Number of health facilities providing comprehensive care, including prevention services.
Denominator:	Total number of surveyed health facilities that provide ART (could be a subset of facilities surveyed for Core Indicator 5).
Measurement tools and how to measure the indicator:	Data are collected through a facility survey at points of ART delivery. If the facility offers prevention services the surveyor should record which components are provided and whether these are the most relevant to the client population (i.e. if harm reduction matches prevalent risk behaviours). If the facility does not provide prevention services the assessment should ask whether: • there is a referral directory listing services in the area, including the name and contact information for the service; • a written referral form is available on which providers can enter the names and locations of referral services; • a register exists allowing surveyors to see where referrals have been made.

Frequency:	Annual during scale-up, then every two to four years.
Strengths and limitations:	This indicator looks at the provision of prevention services or referral to such services but does not assess their quality. Moreover, it cannot measure the outcome of referrals. Special studies would be required in order to assess the extent to which the services provided are relevant to risk behaviours and the nature of the epidemic and to which they are functional and used by ART patients.

Core Indicator 7: Percentage of people with advanced HIV infection receiving antiretroviral combination therapy This is an UNGASS indicator.[7]	
Definition:	Percentage of people with advanced HIV infection who are currently receiving antiretroviral combination therapy.
Numerator:	Number of people with advanced HIV infection who receive antiretroviral combination therapy in accordance with the nationally approved treatment protocol (or WHO/UNAIDS standards); it is calculated as follows. Number of people receiving treatment at the start of the year plus Number of people who commenced treatment in the preceding 12 months minus Number of people for whom treatment was terminated in the preceding 12 months (including those who died).
Denominator:	Number of people with known advanced HIV infection (i.e. those in need of ART). The number of adults in need of ART is calculated by adding the number of adults newly in need of ART to the number who were on treatment in the previous year and survived to the current year. The number of adults newly in need of ART is estimated as the number developing advanced HIV disease who are not yet on treatment. Since some of the adults projected to develop advanced HIV disease may already have started treatment in the previous year, the number newly in need of ART is adjusted by subtracting people in this category. It is currently assumed that between 80% and 90% of adults on treatment will survive to the following year, depending on patients' adherence to treatment, resistance patterns, the quality of clinical management and other factors.
Rationale and what is measured:	As the HIV pandemic matures, increasing numbers of people are reaching advanced stages of HIV infection. ARV combination therapy has been shown to reduce mortality among infected people, and efforts are being made to make it more affordable in less developed countries. This indicator, introduced during the United Nations General Assembly Special Session on HIV/AIDS (and modified by UNAIDS in 2004), assesses progress in providing ARV combination therapy to every person with advanced HIV infection.
Measurement tools and how to measure the indicator:	This indicator can be compiled from programme monitoring data. The denominator is generated by estimating the number of people with advanced HIV infection requiring ARV combination therapy, most frequently on the basis of the latest sentinel surveillance data. The provision of ARVs in the private sector should be included in the calculation of the indicator wherever possible and the extent of such provision should be recorded separately. The start and end dates of the period for which ARV combination therapy is given should be stated. Overlaps between reporting periods should be avoided if possible.
Frequency:	Data are collected continuously and aggregated in accordance with the required reporting period (e.g. every six months during scale-up, yearly thereafter).

[7] *Monitoring the Declaration of Commitment on HIV/AIDS: guidelines on construction of core indicators.* Geneva: UNAIDS; 2002 (http://www.unaids.org/html/Publications/IRC-pub02/JC894-CoreIndicators_en_pdf_htm).

Strengths and limitations:	This indicator allows trends to be monitored over time but does not distinguish between the different types of therapy available and does not measure the cost, quality or effectiveness of treatment. The proportion of people with advanced stages of HIV infection varies with the stage of the HIV epidemic and the cumulative coverage and effectiveness of ART among adults and children. Dynamic prevalence rates affect the accuracy of the estimate of the eligible population. Changing estimates of prevalence are not reflected in current prevalence rates. This specifically affects the denominator. The degree of utilization of ARV combination therapy depends on the cost relative to local incomes, service delivery infrastructure and quality, the availability and uptake of VCT services, perceptions of effectiveness, possible side-effects of treatment, etc. ART for the prevention of MTCT or for post-exposure prophylaxis is not included in this indicator.

Core Indicator 8: Continuation of first-line regimen at 6, 12 and 24 months after initiating treatment This is one of the **Drug Resistance Early Warning** indicators.	
Definition:	Percentage of individuals who are still on treatment and who are still prescribed a standard first-line regimen after 6, 12 and 24 months from the initiation of treatment.
Numerator:	Number of patients who are still on treatment and who are still prescribed a standard first-line regimen 12 months after initiating treatment.
Denominator:	Total number of individuals initiating treatment on a first-line regimen in the ART start-up group in the previous 6, 12 and 24 months.
Rationale and what is measured:	This indicator is important for tracking early warning signals of potential treatment failure. Unnecessary changes in regimen, treatment failure and intermittent ART are all associated with HIV drug resistance. The first year of treatment is most indicative of programme success in sustaining regimen continuity. Programmes in which > 80% of new patients are not on a first-line regimen after a year may be less likely to minimize the emergence of HIV drug resistance. This indicator measures the proportion of patients beginning first-line ART in a given cohort who are still on first-line therapy one year after ART begins.
Measurement tools and how to measure the indicator:	Patients beginning ART for the first time are identified through medical records. For each patient the drug regimen (drug list + dosage and frequency) is abstracted at the beginning of the first month and the last available prescriptions in the sixth, twelfth and twenty-fourth months are obtained from the treatment cards or medical records. Pharmacy records may also be used. If the person in question dies, is lost to follow-up, is transferred to another treatment programme, has stopped ART or has no drugs prescribed in month 6, 12 or 24, this should also be recorded. Note: A person for whom a drug is substituted because of toxicity to a different first-line drug, is still considered to be on a first-line regimen.
Frequency:	Abstractions take place monthly for each cohort that has begun ART 6, 12 and 24 months previously. The numerators and denominators are summed at the end of the calendar year in order to obtain annual percentages.
Strengths and limitations:	Because this indicator does not measure temporary interruptions in ART it may overestimate the continuity of first-line ART. Where possible, information should also be collected on whether the drugs were picked up each month. The quality of this indicator depends on the quality of the medical records and the patient registry.

Core Indicator 9: Survival at 6, 12, 24, 36, etc. months after initiation of treatment This is one of the **Drug Resistance Early Warning** indicators.	
Definition:	Percentage of people alive and known to be on treatment at 6, 12, 24, 36, etc. months after initiation of treatment. The indicator can be constructed as a minimum and maximum estimate of survival, depending on the inclusion criteria for the denominator (see options (a) and (b) below).
Numerator:	Number of people continuously on ART at 6, 12, 24, 36, etc. months after initiating treatment.
Denominator:	(a) Minimum survival: Total number of individuals who initiated ART in the ART start-up group in the previous 6, 12, 24, 36, etc. months, ***including*** those who have stopped ART, those who have transferred out, and people lost to follow-up. (b) Maximum survival: Total number of individuals who initiated ART in the ART start-up group in the previous 6, 12, 24, 36, etc. months, ***excluding*** those who have stopped ART, those who have transferred out, and people lost to follow-up.
Rationale and what is measured:	One of the goals of any ART programme should be to increase survival among infected individuals. This indicator measures the degree to which treatment can prolong a person's life by assessing how many individuals survive after receiving treatment for 6, 12, 24, 36, etc. months.
Measurement tools and how to measure the indicator:	Information on survival can be obtained from patient registers (HMIS) by tallying results for several monthly cohorts, each tabulated when on ART for 6 months, 12 months and yearly thereafter. For a comprehensive understanding of survival the following components have to be measured. a) Number of people initiating ART and the start date. b) Number of people continuously on ART at 6, 12 , 24, 36, etc. months after initiating treatment. c) Number of people who have stopped ART, those who have transferred out, people lost to follow-up, and those who have died. A proportion of people who have stopped treatment or were lost to follow up may still be alive. As they are not continuously on treatment, however, they should not be included in the numerator. People who transfer between ART programmes and for whom a start date of treatment exists should be counted as continuously on treatment. These data should be presented for each specified period. It is recommended that, if feasible, programmes should follow patients throughout their time on treatment, as AIDS is a lifelong disease. Six-monthly tallies of new patients are necessary in order to measure this indicator.
Frequency:	Data are collected continuously and aggregated in accordance with the required reporting period.
Strengths and limitations:	The strengths of this indicator lie in the ease of data collection, as any ART programme should monitor patients on treatment and determine the number of individuals who survive beyond specific periods in time. Patient records may not include mobile populations (e.g. refugees) or the status of the duration of their therapy. This indicator can only be obtained from a limited number of advanced care/referral facilities and/or designated cohort studies while national HMISs are scaling up. As the latter become institutionalized and functional the data can be expected to become more comprehensive.

ANNEX I

INDICATORS FOR COLLABORATIVE HIV/TB ACTIVITIES

WHO and its partners have developed a guide[8] to assist in the management of TB and HIV/AIDS programmes that are implementing or planning to implement collaborative TB/HIV activities. Although guides to M&E and lists of indicators already exist for both TB programmes and HIV/AIDS programmes, a separate guide for collaborative TB/HIV activities is essential for the following reasons.

- The extent of the joint epidemics and their impact requires effective, coordinated and well-managed interventions.
- Collaborative TB/HIV activities are a new and developing area and must be proved effective in order to justify their becoming an integral part of national and international responses to the joint TB/HIV epidemics.
- M&E provide the means to assess the quality, effectiveness, coverage and delivery of services and to promote a learning culture within programmes, thus ensuring continual health improvement.
- The urgent need for action against TB/HIV means that results must be obtained quickly so that effective interventions can be scaled up and ineffective ones withdrawn or adapted.

The guide includes 20 indicators related to input, process, output and impact of joint TB/HIV activities. The core indicator particularly relevant to the provision of ART for HIV-positive registered TB patients is presented below. The full set of indicators is presented in the above-mentioned guide.

[8] World Health Organization. *A guide to monitoring and evaluation for collaborative TB/HIV activities.* Geneva: World Health Organization; 2004 (WHO/HTM/TB/2004.342 and WHO/HIV/2004.09).

Indicator C.5.1 **Proportion of HIV-positive registered TB patients given ART during TB treatment**	
Definition:	Number of HIV-positive registered TB patients who are started on ART or continue previously initiated ART, during or at the end of TB treatment, expressed as a proportion of all HIV-positive registered TB patients.
Numerator:	All HIV-positive TB patients, registered over a given time period, who receive ART (are started on or continue previously initiated ART)
Denominator:	All HIV-positive TB patients registered over the same given time period.
Purpose:	Outcome indicator to measure commitment and capacity of TB service to ensure that HIV-positive TB patients are able to access ART
Methodology	Data collection methods will depend on who provides ART for TB patients. In settings where TB patients are assessed for eligibility and started on ART by TB programme staff, data for this indicator can be captured in a modified TB register or separate TB/HIV register. The data should be reported at the completion of TB treatment in order to include all TB patients started on ART at any time over the course of their TB treatment. In settings where TB patients are referred to HIV or other care services to be assessed and started on ART, a system must be established to ensure that the TB programme is informed of the outcome of the referral, i.e. whether or not TB patients are started on ART or not, and that this information is recorded in a modified TB register or TB/HIV register. This is important not only for programme management but also for individual patient care. TB staff need to be aware of a TB patient being started on or continuing ART so that they can manage drug reactions and interactions appropriately. TB patients may be started on ART at any time during their TB treatment. The start of ART may be delayed by a delay in HIV testing or to reduce the risk of drug interactions occurring in the intensive phase. The data collection methods should be able to capture ART treatment starting at any time during TB treatment.
Periodicity	Collected continuously and reported with the quarterly cohort outcome data
Strengths and Limitations	ART significantly improves the quality of life, reduces morbidity and enhances the survival of people with advanced HIV infection or AIDS. HIV-positive TB patients are one of the largest groups already in contact with the health service who are likely to benefit from ART, and efforts should be made to identify and treat those who are eligible. This indicator measures the degree to which ART has become a component of the package of care offered to HIV-positive TB patients and provides a measure of the accessibility of ART to HIV-positive TB patients, drug availability, the degree to which health care providers encourage ART as a part of routine care, and the success of TB and ART health services to refer, manage, and track registered TB patients eligible for ART (i.e. the strength of the referral process). It does not measure whether patients are treated correctly with an appropriate regimen, at what point during TB treatment patients are started on ART, whether they adhere to therapy, or the quality of patient monitoring or follow-up. It also cannot measure the impact of ART among persons who are treated. The expected values for the indicator will vary depending on national eligibility criteria for ART and whether or not CD4 cell counting is available. It would be expected that, in the absence of CD4 cell counts, most HIV-positive TB patients would be started on ART; with the exception of those who decline or who, for some other reason, are not eligible to start ART. This indicator must therefore be interpreted with caution, particularly when comparing one country with another.
Importance	Core. Data should be collected for this indicator even in settings where ART is not available in the public sector as this information is in itself important.
Responsibility	NACP and NTP
Measurement tools	Modified TB register, modified HIV care register or separate TB/HIV register with referral system (where appropriate)

ISBN 92 4 159291 5

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