

National AIDS programmes

A GUIDE TO MONITORING AND EVALUATING HIV/AIDS CARE AND SUPPORT



Joint United Nations Programme on HIV/AIDS

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Acronyms

ARV	Antiretroviral (drugs)
ART	Antiretroviral Therapy
CDC	Centers for Disease Control and Prevention
DAART	Directly Administered ARV therapy
DOTS	Directly Observed Therapy, short course
FHI	Family Health International
HAART	Highly Active Antiretroviral Therapy
HBC	Home-Based Care
HMIS	Health Management Information System
HRSA	Health Resources and Services Administration
IPD	In-Patient Department
M&E	Monitoring and Evaluation
MTCT	Mother to Child Transmission
NAP	National AIDS Programme
NGO	Non-governmental Organization
OI	Opportunistic Infection
OR	Operations Research
OPD	Out-Patient Department
OVC	Orphans and Vulnerable Children
PEP	Post-exposure Prophylaxis
PLHA	People Living with HIV/AIDS
STI	Sexually Transmitted Infection
TB	Tuberculosis
T&C	Testing and Counselling
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNGASS	UN General Assembly Special Session (on HIV/AIDS)
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

Introduction

More than two decades into the AIDS pandemic, substantial gains have been made in understanding how HIV is transmitted and its effects, including physiological, psychological and socioeconomic ones. At the community level, the epidemic has left populations devastated, resulting in an increased burden on countries to support people who are ill, as well as those who are left behind.

Countries face different epidemic dynamics, and governments must respond in a timely and efficient manner to mitigate the impact of this disease. For countries in which the infection is widespread among the general population, prevention efforts must continue while care and support are provided. These efforts should focus not only on the people infected but also on the families and children affected by AIDS. Only through increased efforts to mitigate the impact of the epidemic can people living with HIV/AIDS hope to continue leading productive lives for as long as possible and devastated communities may continue to function. By providing services for people living with HIV/AIDS, governments can hope to minimize the negative national and individual effects of HIV/AIDS.

This guide aims to support national AIDS programme managers in monitoring and evaluating public and private care and support programmes for HIV/AIDS. As more governments move towards increasing access to prophylactic and long-term treatment and care, such a guide will contribute to a global process of assessing whether care and support programmes are developed and implemented well. In recent years, progress has been made in monitoring and evaluation with the publication of *National AIDS programmes: a guide to monitoring and evaluation*,¹ which is aimed at monitoring and evaluating HIV/AIDS activities through a set of indicators of prevention and mitigation at the level of national programmes. Other efforts, such as the *Expanded response guide to core indicators for monitoring and reporting on HIV/AIDS programs*² of the United States Agency for International Development, build on these indicators. The United Nations General Assembly Special Session on HIV/AIDS also resulted in targets to which 189 countries are committed. This guide includes one of the indicators developed to monitor progress towards these established targets. All these experiences have fed into the development of this guide in the hope of providing programme managers with a set of harmonized, complementary indicators.

The guide briefly describes what care and support programmes are, what a system for monitoring and evaluating care and support should look like, and indicators for monitoring and evaluating various components of a care and treatment programme. Final sections on operations research and related reading are also included. The field of care and support is constantly evolving, and the work presented here needs to be revised periodically to ensure that it remains relevant. This guide focuses primarily on the clinical aspects of care and support, but the institutions supporting this guide emphasize that the other aspects of care and support are equally important. However, specific indicators for the additional aspects of care and support programmes such as the quality of care, health worker capacity and psychosocial and legal issues need to be developed further and are not yet ready to be presented in the current version of the guide. It is hoped that further work can be carried out in the near future to further develop the indicators presented here and to test new indicators to capture the aspects of care and support not covered in this version.

In the mean time, the indicators presented here should help national programmes in monitoring progress over time. Routinely collected information from either programme monitoring tools or special studies needs to be fed into national health information systems. Likewise, such data can help to identify and establish trends that will be useful in evaluating the effects of programmes.

¹ *National AIDS programmes: a guide to monitoring and evaluation* (<http://www.unaids.org/publications/documents/epidemiology/surveillance/JC427-Mon&Ev-Full-E.pdf>). Geneva, UNAIDS, 2000 (accessed 1 October 2003).

² *Expanded response guide to core indicators for monitoring and reporting on HIV/AIDS programs*. Washington, DC, United States Agency for International Development, 2002 (<http://www.usaid.gov/pubs/ads/200/200sbk.pdf>, accessed 1 October 2003).

What are programmes for HIV/AIDS care and support?

People living with and households affected by HIV/AIDS require a wide range of services, including psychological, social, legal and clinical ones. Care and support programmes must therefore be developed to respond to these needs and demands. Complicating the situation, these needs reflect an environment in both industrialized and resource-constrained settings in which stigma, discrimination, fear, neglect and impoverishment surround HIV/AIDS to various degrees in the community, workplaces and health care settings.

To address these needs, HIV/AIDS care and support programmes should have the objectives of:

- ensuring equitable access to diagnosis, health care, pharmaceuticals and comprehensive supportive services;
- reducing morbidity and mortality from HIV/AIDS and related complications;
- promoting opportunities for preventing HIV transmission within the delivery of care and support services; and
- improving the quality of life of both adults and children living with HIV/AIDS and their families.

1. Components of HIV/AIDS care and support

Providing care to people living with HIV/AIDS and to their families requires a broad range of services that include not only clinical care focusing on diagnosis and treatment but also supportive and complementary services to ensure that adequate nutrition, psychological, social and daily living support are available. Efforts to prevent HIV transmission also need to be strengthened whenever opportunities arise.

Comprehensive HIV/AIDS care must include clinical care for everyone, psychological support, socioeconomic support, involvement of people living with HIV/AIDS and their families and respect for human rights and legal needs (Fig. 1).

Clinical care for everyone. Everyone should receive clinical care regardless of gender and age. Services include counselling and testing for diagnostic purposes (including dedicated programmes of voluntary counselling and testing); prophylaxis of opportunistic infections; management of HIV/AIDS-related illnesses; control of tuberculosis and management of sexually transmitted infections; management of HIV disease with antiretroviral combination therapy; palliative care; access to drugs related to HIV/AIDS, including drugs for opportunistic infections, cancer related to HIV/AIDS and antiretroviral drugs; interventions to reduce the mother-to-child transmission of HIV; support systems such as functioning laboratories and drug management systems; nutritional support; health education measures; adequate universal precautions in clinical settings; and postexposure prophylaxis.

Psychological support. Psychological support includes initial and follow-up counselling services to meet the emotional and spiritual needs of people living with HIV/AIDS and their families and to assist in disclosure, including psychosocial support through support groups (post-test clubs) and other peer, volunteer or outreach approaches within communities.

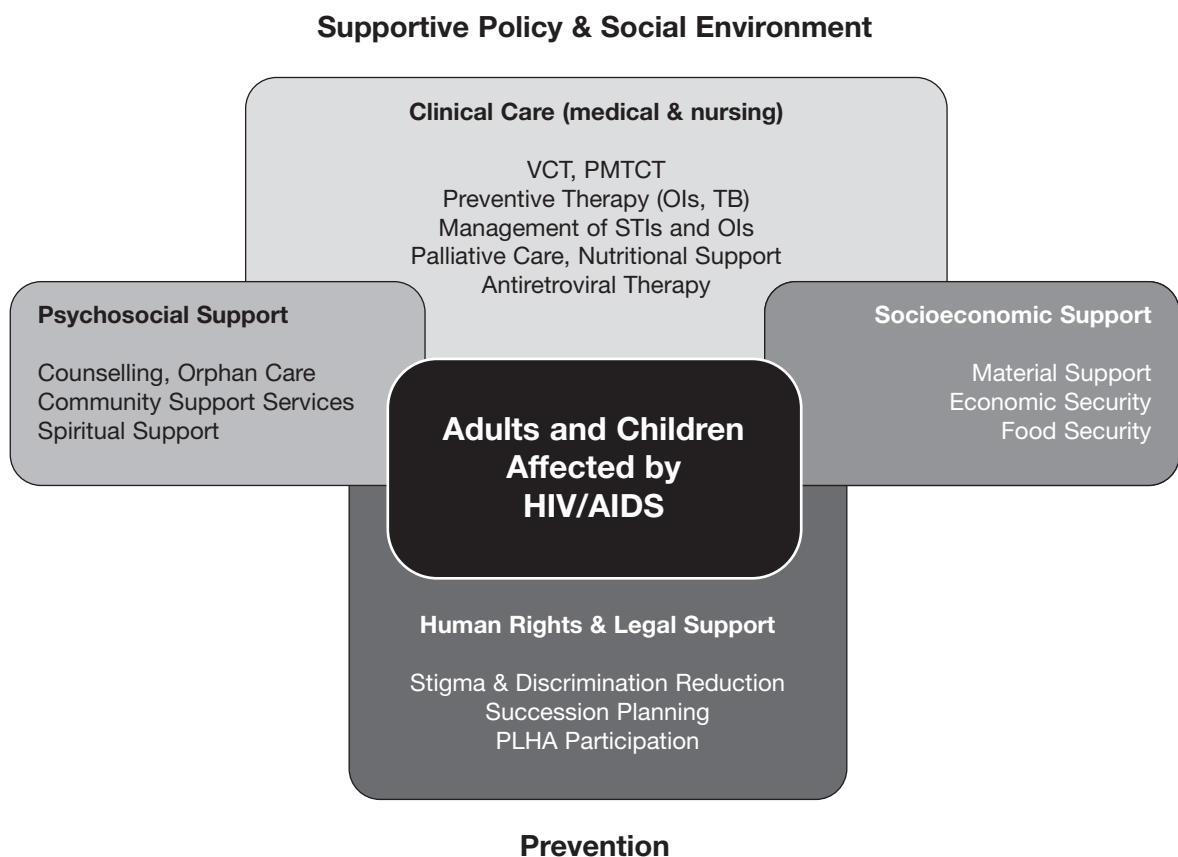
Socioeconomic support. Material and social support is needed within communities to ensure that nutritional and daily living needs are met. Various options include microcredit schemes;

housing; food support; helping hands in the household; health insurance schemes that include HIV/AIDS care and treatment; and planning and support for orphans and vulnerable children in households and communities.

Involvement of people living with HIV/AIDS and their families. People need to be involved in the planning and delivery of comprehensive care to ensure that HIV/AIDS care, treatment and support programmes intended for them address their needs, reinforce adherence, prevention and care, promote health-seeking behaviour and respect their human rights.

Respect for human rights and legal needs. Services are needed that address stigma and discrimination in health facilities, in communities and in the workplace and promote equal access to care. This should also include succession planning and protection of property.

FIG. 1 THE FOUR MAIN DOMAINS OF HIV/AIDS COMPREHENSIVE CARE



Source: Treatment Division, Family Health International

All strategic plans of national AIDS programmes should reflect this comprehensive approach to HIV/AIDS care, which should be promoted by public and nongovernmental health programmes and institutions. “Each service in this comprehensive approach reinforces and is linked to other services in a continuum of care that begins when a person learns of his or her HIV status and is offered for the duration of the illness comprehensive care and support that also addresses the holistic needs of people living with HIV/AIDS and their family members.”

2. The role of antiretroviral combination therapy in comprehensive care and support

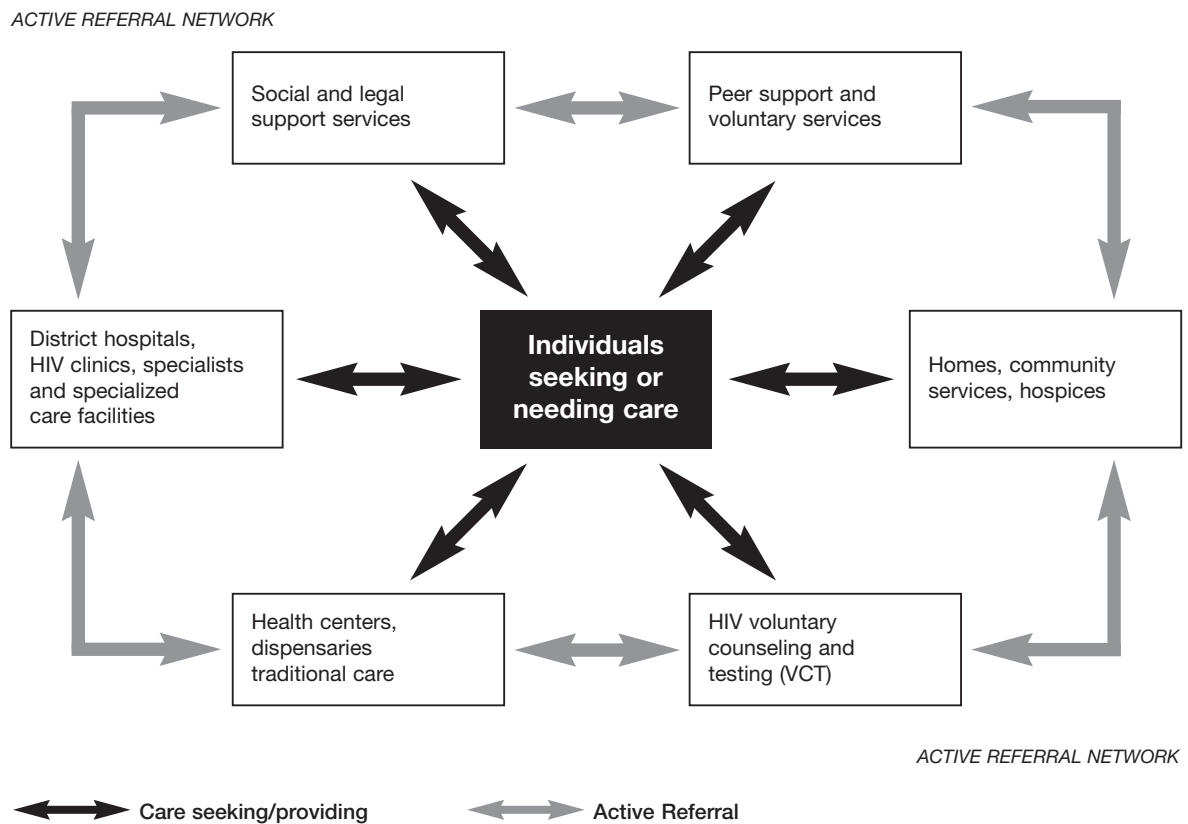
Access to comprehensive care should include access to antiretroviral combination therapy. It is well established that sustained use of antiretroviral drugs increases survival, improves the quality of life, reduces hospitalization and morbidity and mitigates socioeconomic impact. Care and antiretroviral combination therapy have also been documented to begin to alleviate stigma and fear. Decreasing prices and international support to mobilize resources to purchase these drugs is beginning to ensure access for those in need. Efforts to increase access by international organizations such as WHO and UNICEF also contribute to increasing access to care. As prices are reduced, countries negotiate with the pharmaceutical industry and standardized guidelines are developed, countries will increasingly be able to scale up access beyond the current few demonstration and referral sites.

3. Continuum of HIV/AIDS care and support

To enable people seeking care to determine their serostatus and to access relevant HIV/AIDS care, treatment and support services, all opportunities should be used to promote HIV testing and counselling within general outpatient and inpatient services, tuberculosis and sexually transmitted infection programmes, community health services, workplace clinics and any other site where resources allow. Upon diagnosis, counselling and HIV/AIDS care needs should be established and follow-up referral to comprehensive care must be ensured.

Multiple providers or various programmes often offer the range of HIV/AIDS care, treatment and support services, although some programmes offer a wide range of comprehensive services within one site. Partnerships and collaboration between all the various providers are therefore essential to enable timely access to appropriate services. The HIV/AIDS care continuum (Fig. 2) illustrates how these links should function in a referral system in which care providers at any service point know who provides other services, where these services are located and when and how to make a referral.

FIG. 2. THE HIV/AIDS CARE CONTINUUM



Source: Treatment Division, Family Health International

For clinical care needs, referrals may be made to specialized levels and discharge planning and follow-up referrals to peripheral levels, including home care. Home care providers should be able to assess risk situations for referrals to both clinical care and support services. In all parts and at all levels of the health care system, referrals need to be explicit to allow for social, legal and human rights and peer support needs to be met. Peers from support groups for people living with HIV/AIDS play a major role in this support and should be involved in shaping how care is delivered within communities. Different services are available as part of an essential comprehensive care package at each level of the health care system, such as the referral hospital; district or peripheral hospital; health centre and dispensary; or home care programme. Both developing practice standards and quality assurance to monitor the implementation of these standards are important in delivering appropriate HIV/AIDS care. Box 1 illustrates a set of district-level standards developed by Zambia. They are based on the packages defined by WHO.

BOX 1. THE MINIMUM PACKAGE OF HIV/AIDS CARE AND SUPPORT IN ZAMBIA'S DISTRICTS

- A functional and multisectoral district AIDS task force with mandated planning, coordination and dissemination responsibilities answerable to district authorities
- Ongoing partnerships through a district AIDS task force between public health, hospital, private, faith-based, nongovernmental and community-based organizations and providers in comprehensive care and support
- Updated directories of HIV/AIDS care services identifying who does what and where across a continuum from institution to community-based programmes
- Accessible and affordable facilities for preventive therapy, management of opportunistic infections, diagnosis and treatment of sexually transmitted infections, antiretroviral combination therapy, postexposure prophylaxis and palliative care
- Health care facilities that address care for caregivers
- District health plans that reflect maintaining support for health programmes important for public health, including activities to scale up voluntary counselling and testing and home care
- Voluntary counselling and testing activities with active referral to care and support, links to the mother-to-child transmission of HIV, promotion of couple counselling and opportunities for health care staff to learn their serostatus
- DOTS (directly observed therapy, short course) for tuberculosis activities linked to HIV voluntary counselling and testing
- Activities to prevent the mother-to-child transmission of HIV integrated with voluntary counselling and testing
- Accessible facilities to address the needs of asymptomatic people living with HIV such as reproductive health, prevention, nutrition, healthy lifestyles and preventive therapy
- Training activities for each type of care provider reflecting specific needs in care and support
- Expanding the availability of drugs, especially antifungal agents, strong analgesics and antiretroviral drugs
- Promoting and displaying government regulations on exemptions from fees relevant to HIV/AIDS
- Management and referral systems to support the continuum of care
- Availability of guidance materials, national policies and standards for HIV/AIDS at all health facilities and HIV/AIDS programmes
- A monitoring and health management information system in place for HIV/AIDS care and support activities

In summary, setting standards for HIV/AIDS care services at all levels of the health system and allocating the required resources for monitoring and evaluation will allow progress in reaching national and international goals to be measured. An additional benefit is that this allows health planners and implementing agencies and individuals at each level to base decisions for resource allocation and setting priorities on realistic data.

A monitoring and evaluation system for HIV/AIDS care and support

As international efforts to increase access to health care, pharmaceuticals and supportive services for people living with HIV/AIDS and their families are strengthened, the need for information on monitoring and evaluation also grows. Care and support indicators are intended to provide information for local, national and international programmes on key trends in the delivery of HIV/AIDS services. The information required to measure progress can be drawn from data from such sources as national surveys of HIV/AIDS care and support, programme reports or other documents.

Monitoring and evaluation activities allow country health authorities and their partners to assess the extent to which programmes are being implemented and are achieving the intended objectives. Despite similarities, monitoring and evaluation differ in the extent to which findings at each level of service delivery can be attributed to a specific intervention or programme. Monitoring aggregates information across sites and time and optimally serves as a tool to highlight for programme managers which programme components may need to be strengthened or modified to reach specific goals.

Monitoring frequently counts the number of people receiving programme services (such as the number of people receiving pretest counselling). Monitoring data record programme input, processes and output.

Evaluation assesses the worth or value of a programme or collaboration between multiple programmes over time through more detailed analysis of their outcomes and, when possible, their impact on the target population. Evaluation can potentially link observed outcomes and impacts and the programme process. This is especially true when multiple agencies and programmes are working together and measuring the impact of efforts by individual partners is difficult; in these cases, impact measures may be inferred based on combined programme input, processes and output. Tracking trends over time through routine monitoring and evaluation efforts will help programme managers and decision-makers in assessing how successful programmes are in meeting goals. Most indicators are not designed to explain why a situation has or has not changed but to simply measure trends over time. A plan for collecting and analysing data should therefore be developed and focus on linking indicators that are collected at the various levels of the health care system. Fig. 3 illustrates the monitoring and evaluation pipeline from input to impact. Fig. 3 demonstrates how monitoring and evaluation are linked and provides examples of measures that can be collected at each level of effort.

FIG. 3. THE MONITORING AND EVALUATION PIPELINE FOR HIV/AIDS CARE AND SUPPORT

MONITORING “Process Evaluation”			EVALUATION “Effectiveness Evaluation”	
Inputs	Process	Outputs	Outcome	Impact
• Funds • Supplies/drugs • Equipment • Policies, guidelines & procedures	• Training • HIV Testing • Treatment services HAART	• # Trained staff • # Clients receiving VCT; care; referred • # Clients receiving PLHA • # receiving HBC • # receiving PMTCT prescription	• Improved provider attitudes • Improved community attitudes towards • Decreased discrimination • Restored productivity • Appropriate care delivery; referral; • Enhanced quality of life	• HIV - related morbidity • Mortality rate/life expectancy

Levels of Evaluation Efforts

Input comprises the financial, material and human resources invested in care and support programmes and services. The process includes the types of activities a programme will deliver, such as training, HIV tests or drugs for treatment. Output refers to the deliverables from programme processes, such as the number of people served (i.e. such as the number of clients tested for HIV or the number of people given antiretroviral drugs).

Outcome means the intermediate effects of programme efforts that are in accordance with programme objectives. For care and support, this may refer to changes in the capacity of the health system to deliver care, such as facilities with comprehensive care and support programmes necessary to care for people with HIV/AIDS (including trained staff, stocked drugs and adequate equipment and conditions), services complying with minimum standards, the quality of life of people served by programmes or the stigma-related attitudes of health care providers. Some of these measures in this example could appear at different levels depending on the specific programme objectives.

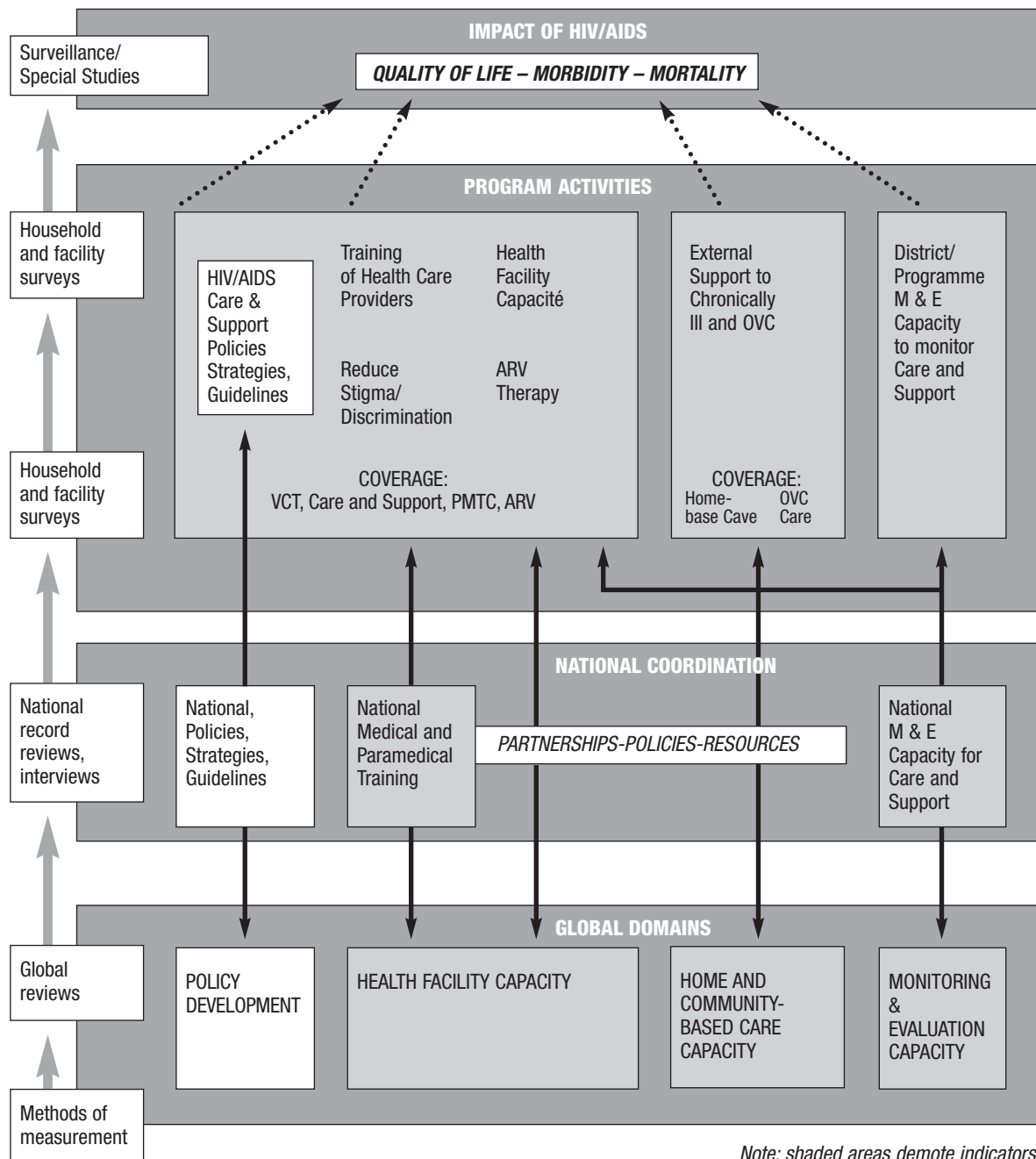
The impact of care and support refers ultimately to physical and mental health – the morbidity and mortality rates of people living with HIV/AIDS, life expectancy and community productivity.

1. Monitoring and evaluation framework for HIV/AIDS care and support

A conceptual framework (Fig. 4) illustrates a model for monitoring and evaluating HIV/AIDS care and support activities. The model groups these indicators into strategic areas: developing and implementing policy; the capacity of health facilities, including human resources and access to antiretroviral drugs; the capacity of home- and community-based care; and the capacity to monitor and evaluate care and support. The conceptual model also places each of these strategic areas at different levels, from global to national to programme. At the global level, the input of resources from international and multilateral agencies into the various strategic areas is measured. At the national level, this global input is synthesized for implementation in countries by national AIDS control

programmes and other national administrative bodies. The programme level is where implementation takes place, ultimately affecting the burden of HIV/AIDS in a country. Methods for measurement are shown alongside each level.

FIG. 4. CONCEPTUAL FRAMEWORK FOR MONITORING AND EVALUATING HIV/AIDS CARE AND SUPPORT



2. National capacity for monitoring and evaluating HIV/AIDS care and support

Any discussion of the content of systems for monitoring and evaluating HIV/AIDS care and support must address national and international resources and the related systems for supporting these efforts. Indicators should be made as simple and as complementary as possible to direct the most resources to achieving the ultimate objectives of these programmes. However, even collecting simple monitoring information requires resources and a skilled workforce at the national level.

Pragmatic, well coordinated and strategic monitoring and evaluation activities are essential to minimize the burden of data collection on country partners while maximizing the usefulness of monitoring and evaluation data for decision-making. National AIDS programmes, ministries of health and other sectors can jointly contribute to enhancing monitoring and evaluation and must commit to identifying sustainable resources if monitoring and evaluation is to be a routine programme function. Lessons learned to date on building sustainable national monitoring and evaluation programmes include the following.

- Monitoring and evaluation activities should be proportional to programme resources (about 10% of the programmatic budget).
- Monitoring and evaluation are needed at all levels and are most useful if performed in a logical sequence: first assessing data on input, process and output; then examining behavioural or immediate outcome; and finally assessing disease and social effects.
- Existing indicators and instruments for data collection and analysis should be built upon but should always be locally adapted.
- Monitoring and evaluation indicators should measure population-based, biological, behavioural, facility-based and programme data to determine the collective effectiveness of consolidated programmes, and these efforts should be supplemented with good contextual data.
- To minimize the data collection burden and maximize limited resources, monitoring and evaluation activities need to be well coordinated and utilize ongoing systems that collect and analyse data.
- To increase the utilization of evaluation results, the design, planning, analysis and reporting of monitoring and evaluation should actively involve key stakeholders, such as district and national programme managers, policy-makers, community members and programme participants.

Maximizing resources for developing and implementing a high-quality monitoring and evaluation framework, thus avoiding unnecessary duplication of efforts, requires that international partners work together. Bilateral donors, UNAIDS, WHO, the Global Fund for AIDS, Tuberculosis and Malaria, the World Bank and all their partners and cooperating agencies must work together to develop and evolve care and support indicators, standards and methods of monitoring and evaluation. Thus, the Care and Support Monitoring and Evaluation Technical Working Group started with indicators from WHO, UNAIDS and the United Nations General Assembly Special Session on HIV/AIDS in developing the indicators presented in the following chapter and pilot-tested them for feasibility and reliability in different settings (Box 2).

BOX 2. FIELD EXPERIENCE WITH MONITORING AND EVALUATION INDICATORS

The Care and Support Monitoring and Evaluation Technical Working Group carried out a series of pilot tests of selected care and support indicators in 2002–2003. Pilot tests were conducted in a mix of countries and regions to consider different epidemic states.

The pilot tests to date have focused on sampling from sites in each country at different levels of health care systems in which care and support activities were reported through local public and nongovernmental organization partners. The pilot tests demonstrated the potential for indicators to be tracked using household survey assessment, health facility assessment and national reviews and interviews.

Regarding routine monitoring, the pilot tests found that effective monitoring and evaluation of the activities requires that health facilities maintain updated records of HIV/AIDS care and support services. In some settings, the quantitative and qualitative nature of record-keeping varies dramatically by facility. For example, morbidity and mortality data may be routinely compiled; data on confirmed cases of HIV infection or AIDS may not be routinely recorded. Additionally, data on age and gender are often not available, limiting the inferences that can be drawn.

Overall, the pilot tests highlighted the importance of ensuring that the required resources and training are available so that information to be used in any monitoring and evaluation effort can be routinely collected in a timely manner.

Indicators for monitoring and evaluating care and support programmes

During 2002 and 2003, care and support indicators have been field-tested to provide programme managers with a standardized set of indicators that can be used to monitor national programme goals. The indicators are presented here with definitions, numerators, denominators, rationale, frequency, measurement tools and strengths and limitations. The tools for measuring these indicators are provided in a CD-ROM included with this publication. Although these tools have been field-tested, the partner organizations involved in developing the tools encourage programme managers to use the tools in a manner that allows the managers to collect the information they require at the local level. These organizations are also available to provide technical assistance to countries in adapting these tools.

Care and support is a dynamic field that will continue to evolve over a number of years. The list of indicators was intentionally selected from significantly longer lists of potential indicators. Including a short list has advantages and disadvantages and inherent tension between being thorough enough to capture a picture of the national response to the epidemic while seeking to minimize the burden on managers of national AIDS programmes. Thus, the indicators presented here represent only key selected programme outputs and outcomes. The input from international donors and national AIDS programmes should also be monitored as indicated in Fig. 4. Similarly, as care and treatment programmes develop, tracking impact evaluation (the quality of life, morbidity and mortality) is important. As knowledge evolves, measurements will also evolve as experiences are gained and lessons are learned in providing HIV/AIDS care and support and in monitoring and evaluating care and support activities.

1. Measuring indicators

To track the multiple levels of care and support, multiple measurement methods are proposed for both monitoring and evaluation:

- review of national programme reports
- interviews and review of records
- health facility surveys
- household surveys
- special studies

Monitoring indicators can usually be measured annually based on data from national programme reports. This type of indicator generally focuses on output that documents the process involved in ultimately achieving outcome or impact. Experience has shown that performing national monitoring by compiling programme reports may not always be possible because of inadequate national capacity for monitoring and evaluation; thus, surveys may have to be used to measure these indicators. Evaluation indicators for national coverage and capacity can be measured periodically (such as every 2–4 years) through more resource-intensive methods such as household- and facility-based surveys. Evaluation indicators are critical to the overall goal of measuring programme outcomes and impact, tracking national progress in building national or regional capacity and providing access to and offering services for HIV/AIDS care. This information cannot be obtained through annual pro-

gramme monitoring. Special studies and operations research complement both record reviews and surveys by providing in-depth information for programme planning. One example of a special study is a record review of people receiving antiretroviral drugs to assess the extent to which prescribed regimens of antiretroviral combination therapy adhere to internationally accepted protocols and guidelines.

Collecting data for both monitoring and evaluation requires collaboration at all levels and the cooperation of national and international partners. The nationally designated monitoring and evaluation unit should oversee ongoing monitoring activities, with reports to the national level annually or at another frequency agreed upon. These monitoring and evaluation activities require funding of specific data collection, processing, analysis and interpretation and the personnel (either staff or consultants) needed to fulfil these duties.

2. Measurement challenges

Quality

The current lists of indicators are not comprehensive or exhaustive. Overall, these indicators do not adequately measure quality, such as the quality of care, counselling or training. For example, the availability of trained staff is measured, but the indicator does not measure the quality of their training (i.e. whether the comprehensive curriculum and duration are in accordance with national or international guidelines). The indicators included measure the basic external support received by chronically ill people and by affected orphans and vulnerable children, specifying a standard for receiving health, psychological and social services within a certain time frame, but the quality of these services is not covered. In addition, the proposed indicators do not include feedback from people living with HIV/AIDS such as client interviews. To better understand the content and quality of care for people living with HIV/AIDS, the indicators need to be complemented by additional questions related to the quality of care and support services and by qualitative methods such as focus groups, community advisory boards, client exit interviews, observation, mystery client (clients seeking care without actually needing it to assess a provider's skills) or a combination of these. The pilot testing of the Care and Support Monitoring and Evaluation Technical Working Group included detailed focus groups and interviews to complement the data from health facility surveys and household surveys and help in interpreting findings.

Adapting for diverse settings

Efforts were made to make the indicators contained in this guide as applicable as possible to diverse settings, but local adaptation is necessary, depending both on the HIV characteristics of the country (such as high or low prevalence and special populations affected) and the agencies involved in planning, design, implementation, monitoring or evaluation. Adaptation should be encouraged when necessary to ensure that the indicators are relevant to the programme and meaningful to stakeholders. However, relevance must be balanced with rigorous adherence to the methods to allow trends to be tracked over time and comparability between sites. During any pilot testing, the facility survey needs to consider the health system structure and to translate and adapt the instruments as necessary. For the household survey, special populations may need to be addressed in different ways. For high-prevalence countries, a nationally representative sample survey is appropriate, whereas for lower-prevalence countries or those with concentrated epidemics in select populations, implementing the survey methods may assess only the target population based on programmatic goals and objectives.

Sampling

Sampling frames for the national-level indicators rely on nationally representative samples of health facilities or households. The indicators presented in this guide were field-tested in public and non-governmental organization programmes and facilities. The exception to this is core indicator 3, which is an indicator from the United Nations General Assembly Special Session on HIV/AIDS for which private services are included.³ Because private clinics may be providing critical services in many settings, such as antiretroviral combination therapy, these need to be evaluated. Such services can be examined through special studies or can be included in the sampling frame by using over-sampling techniques.

It was also decided for these indicators that only health facilities in the classic sense (hospitals, health centres and dispensaries) would be included in the sampling frame, thereby excluding institutions from health facility surveys such as groups of people living with HIV/AIDS or community-based organizations that may be providing clinical services such as preventive therapy. However, because these types of organizations play an important role in providing care and support, programme managers may wish to adapt the methods to include such groups. This is especially true in settings in which these groups and the private sector in general play an important part in providing care and support services.

Other measurement concerns

Although the indicators for care and support for orphans and vulnerable children and chronically ill people specify services free of user charges, this is not a requirement for the facility indicators. Critical issues such as the impact of human rights, stigma and discrimination and the access to care and treatment of special at-risk populations should be further studied and addressed. In the facility survey, the highly diverse nature of clinics from country to country (and sometimes within countries) creates such structural challenges as the departments under which health workers will be sampled and the best way of assessing testing and counselling, clinical care services and appropriate referral when these services are administered in multiple sites or satellite sites within a health facility network.

3. Types of indicators

The indicators included in this section and summarized below include 1) core indicators and 2) additional indicators. Separate sections are provided to list potential indicators for future development and other useful indicators included in other guides.

³ *Monitoring the Declaration of Commitment on HIV/AIDS: guidelines on construction of core indicators*. Geneva, UNAIDS, 2002 (http://www.unaids.org/html/pub/Publications/IRC-pub02/JC894-CoreIndicators_en_pdf.htm, accessed 1 October 2003).

4. Indicators

Core indicators	Recommended method	Frequency
CS1 Percentage of the general population aged 15–49 years receiving HIV test results and post-test counselling in the past 12 months	Programme reports	Annual
CS2 Percentage of districts with at least one health facility providing antiretroviral combination therapy	Programme reports	Annual
CS3 Percentage of people with advanced HIV infection receiving antiretroviral combination therapy ³	Programme reports and modelling	Every 2 years
CS4 Existence of comprehensive HIV/AIDS care and support policies, strategies and guidelines	Interviews and record review	Every 2 years
CS5 Percentage of facilities that provide comprehensive care referrals for HIV/AIDS care and support services (when these services are not available on site)	Health facility survey	Every 2–4 years
CS6 Percentage of health facilities that have the capacity and conditions to provide basic HIV counselling and testing and to manage HIV/AIDS clinical services (a) A system for testing and providing results for HIV infection (b) Systems and qualified staff for pre- and post-test counselling (c) Specific health services relevant to HIV/AIDS, including resources and supplies for providing these services (d) Elements for preventing nosocomial infections (e) Trained staff and resources providing basic interventions for prevention and treatment for people living with HIV/AIDS	Health facility survey	Every 2–4 years
CS7 Percentage of health facilities that have the capacity and conditions to provide advanced HIV/AIDS clinical and psychosocial support services, including providing and monitoring antiretroviral combination therapy (a) Systems and items to support the management of opportunistic infections and the provision of palliative care (symptomatic treatment) for the advanced care of people living with HIV/AIDS; (b) Systems and items to support advanced services for the care of people living with HIV/AIDS (c) Systems and items to support antiretroviral combination therapy (d) Conditions to provide advanced inpatient care for people living with HIV/AIDS (e) Conditions to support home care services (f) Postexposure prophylaxis	Health facility survey	Every 2–4 years
CS8 Percentage of designated laboratories with the capacity to monitor antiretroviral combination therapy according to national and international guidelines	Health facility survey or special laboratory study	To be determined
CS9 Percentage of adults aged 18–59 years who have been chronically ill for 3 or more months in the past 12 months whose households received, free of user charges, basic external support in caring for chronically ill adults, including health, psychological or emotional and other social and material support	Household survey	Every 2–4 years
CS10 Percentage of orphans and vulnerable children whose households received, free of user charges, basic external support in caring for the child	Household survey	Every 2–4 years

Additional indicators	Method	Frequency
CS-A1 Existence of national monitoring and evaluation capacity for HIV/AIDS care and support programmes	Interview or record reviews	Every 2 years
CS-A2 Percentage of health facilities with record-keeping systems for monitoring HIV/AIDS care and support	Health facility survey	Every 2–4 years

³ *Monitoring the Declaration of Commitment on HIV/AIDS: guidelines on construction of core indicators*. Geneva, UNAIDS, 2002 (http://www.unaids.org/html/pub/Publications/IRC-pub02/JC894-CoreIndicators_en_pdf.htm, accessed 1 October 2003).

Care and support core indicator 1 (CS1): HIV testing and counselling	
Definition	Percentage of the general population aged 15–49 years receiving HIV test results and post-test counselling in the past 12 months
Numerator	Number of people aged 15–49 years who have received HIV test results and post-test counselling in the past 12 months
Denominator	Total population aged 15–49 years
Rationale and what it measures	HIV testing and counselling are important entry points for prevention and care needs. Measuring the number of people who access these services is therefore important to indicate the number of people who could potentially benefit from prevention and care. In addition, over time this indicator provides information on the number of new people tested over time. This indicator is designed to show how many people have been tested and received post-test counselling services. This indicator can be used as a proxy for the coverage of HIV counselling and testing services. At the local level, programme managers may be interested in collecting additional information, such as the number of people tested and counselled, the number receiving their results of those tested and the number found to be HIV positive of those tested.
Frequency	Annual
Measurement tools and how to measure it	The following methods are recommended. • Health management information systems. Ideally, information for this indicator can be collected by reviewing data collected at the local level and making them available through the health management information system at the national level. • Health facility survey. If the health management information system is not fully operational, health facility surveys with a testing and counselling component in all relevant units and departments may be necessary. At the local level, such information can be collected through record reviews. A random sample of health facilities should be used, and the denominator here would need to be defined as the number of people aged 15–49 years within a specified distance from the facility. This would represent the catchment area or the number of people who can potentially benefit from the services available at the selected health facilities. • A household survey The indicator needs to be stratified by how these services are delivered and by age. Distinguishing how counselling and testing are provided is important to service delivery. In general, three service delivery methods should be considered: stand-alone or free-standing voluntary counselling and testing sites, counselling and testing units within health facilities to which people are referred (from tuberculosis, family planning and other health units, for example) and fully integrated counselling and testing services in which a provider can refer the person to a laboratory for a test but the provider carries out the counselling. Age should also be stratified, to determine what age ranges are accessing and receiving these services. The age ranges could be: 15–24, 25–35 and 36–49 years. The denominator, the total population aged 15–49 years, can be obtained from the latest census data.
Strengths and limitations	Because testing and counselling services are often not performed within discrete units (that is, outpatient or inpatient departments) or departments, reports can potentially be duplicated for the same individual being tested in multiple units or those being tested multiple times during the 12-month period. In other cases such as preventing the mother-to-child transmission of HIV and other HIV testing and counselling, services are performed in the same place. This too will lead to double reporting in the number of people tested. In addition, because of these various points of HIV testing and counselling services, linking testing to counselling through facility records may be difficult in some situations unless a strong records system is in place to track testing and counselling. If a household survey is used, double counting can be minimized. Collecting this information at the national level through a health management information system may not yet be possible in some settings. Alternative methods for collecting this information, health facility and household surveys, are resource-intensive processes that make the annual collection of these data difficult in some areas. In addition, relying on vertical voluntary counselling and testing programmes does not present an accurate picture of all counselling and testing efforts in national facilities. Finally, health facility surveys can be costly and complicated and should be done less frequently.

Care and support core indicator 2 (CS2): districts providing antiretroviral combination therapy	
Definition	Percentage of districts with at least one health facility providing antiretroviral combination therapy
Numerator	Number of districts with at least one health facility providing antiretroviral combination therapy
Denominator	Total number of districts
Rationale and what it measures	This indicator is important to measure the coverage of antiretroviral combination therapy within a country by looking at the number of districts in which this treatment is available.
Measurement tools and how to measure it	The numerator will include different types of nongovernmental organization or government health facilities (such as social security or military), depending on the level of involvement of these sectors in providing antiretroviral combination therapy. The following methods are recommended: • Record reviews of the district medical office or district AIDS office, which may have a list of all facilities providing antiretroviral combination therapy • Record reviews of the national AIDS programme or a national drug management system of the ministry of health that should also have a listing of the facilities at which antiretroviral combination therapy is available • Health facility survey Having data on district population and the prevalence per district is useful to compare how the availability of services matches the needs.
Frequency	Annual
Strengths and limitations	The method of measuring this indicator depends strongly on the ability of the national and/or district levels to collect and provide this information. This indicator is especially useful in countries where antiretroviral combination therapy is first being initiated and/or in places in which antiretroviral combination therapy is only available in a few districts. As more districts begin to provide antiretroviral combination therapy, countries should move to measuring the total coverage – the number of people who are receiving antiretroviral combination therapy divided by the total number of people in need (see care and support core indicator 3). To be useful, this indicator therefore needs to be adapted as services become widely available. If a health facility survey is used, facilities that provide antiretroviral combination therapy must be intentionally sampled.

Care and support core indicator 3 (CS3): antiretroviral combination therapy⁴	
Definition	Percentage of people with advanced HIV infection receiving antiretroviral combination therapy
Numerator	The number of people with advanced HIV infection receiving antiretroviral combination therapy is calculated as follows: A: Number of people with advanced HIV infection receiving antiretroviral combination therapy at the start of the year + B: Number of people with advanced HIV infection who commenced antiretroviral combination therapy in the past 12 months – C: Number of people with advanced HIV infection for whom antiretroviral combination therapy was terminated in the past 12 months (including those who died).
Denominator	Number of people with advanced HIV infection This number is estimated to be 15% of the total number of people currently infected.
Rationale and what it measures	As the HIV pandemic matures, increasing numbers of people are reaching advanced stages of HIV infection. Antiretroviral combination therapy has been shown to reduce mortality among those infected, and efforts are being made to make it more affordable even in less developed countries. This indicator is from the United Nations General Assembly Special Session on HIV/AIDS and assesses progress in providing antiretroviral combination therapy to everyone with advanced HIV infection.
Measurement tools and how to measure it	The numerator comes from programme monitoring reports. The denominator is generated by estimating the number of people with advanced HIV infection requiring antiretroviral combination therapy from the latest sentinel surveillance data. Private-sector antiretroviral combination therapy should be included in the calculation of the indicator wherever possible, and the extent of this should be recorded separately. The starting and ending dates of the period for which the therapy is given should also be recorded, and overlaps between reporting periods should be avoided when possible.
Frequency	Every 2 years
Strengths and limitations	Although this indicator allows trends to be monitored over time, it does not attempt to distinguish between the different types of therapy available nor does it measure the cost, quality or effectiveness of such treatment. The proportion of people with advanced stages of HIV infection will vary according to the stage of the HIV epidemic and the coverage and effectiveness of antiretroviral combination therapy. The proportion currently recommended (15%) is a crude estimate and may need to be revised. This figure is particularly relevant in situations in which the current coverage of antiretroviral combination therapy is low. The degree of antiretroviral combination therapy coverage depends on the cost relative to local incomes, service delivery, infrastructure and quality, availability and uptake of voluntary counselling and testing services and perceptions of the effectiveness and possible side effects of treatment. Therapy for preventing the mother-to-child transmission of HIV and postexposure prophylaxis are not included in this indicator. Finally, collecting the number of people on antiretroviral combination therapy in the past 12 months at the facility level is feasible, but the indicator asks for national compilation that includes programme reports not only from health facilities but also from community-based organizations, private prescribers and pharmacies as the numerator. Many settings may not have a system to compile these records.

⁴ *Monitoring the Declaration of Commitment on HIV/AIDS: guidelines on construction of core indicators*. Geneva, UNAIDS, 2002 (http://www.unaids.org/html/pub/Publications/IRC-pub02/JC894-CoreIndicators_en_pdf.htm, accessed 1 October 2003).

Care and support core indicator 4 (CS4): comprehensive HIV/AIDS care and support policies, strategies and guidelines	
Definition	Existence of comprehensive HIV/AIDS care and support policies, strategies and guidelines
Numerator	Number of policies, strategies and guidelines developed at the national level
Denominator	Total number of areas of care and support
Rationale and what it measures	This indicator assesses whether national policies, strategies and guidelines have been developed for the multiple areas of care and support.
Measurement tools and how to measure it	The following methods are recommended: • Interviews – interviews will be conducted with manager(s) of national AIDS programme and/or other appropriate agencies responsible for policy on HIV/AIDS care. • Record reviews – all documents will be requested from the relevant sources and the date of publication and revision will be noted. Policy, strategies and guidelines should cover the following areas: • Testing and counselling for HIV • Comprehensive HIV/AIDS care and support strategy • National drug policy • National essential drug list • Antiretroviral combination therapy • Home-based care • Preventing the mother-to-child transmission of HIV • Palliative care • Postexposure prophylaxis • Blood safety, including blood transfusion services • Management and treatment of sexually transmitted infections • Monitoring and evaluation of care and support • Clinical HIV/AIDS management, including opportunistic infections • Support for orphans and vulnerable children • Universal precautions • Prophylaxis for tuberculosis • Legal support for people living with HIV/AIDS
Frequency	Every 2 years
Strengths and limitations	This indicator focuses on measuring the extent to which such policies exist and does not attempt to assess their quality in terms of conforming to international or commonly agreed upon national standards. It also does not assess the distribution or usage at the implementation level.

Care and support core indicator 5 (CS5): health facilities providing comprehensive care referrals for HIV/AIDS care and support	
Definition	Percentage of facilities that provide comprehensive care referrals for HIV/AIDS care and support services when these services are not available on site Effective referral is defined as having a referral form or list that identifies specific referral site(s) for confirmed or suspected HIV-infected people at each point of service. These services include diagnosis of HIV, health services for HIV/AIDS care and/or support services.
Numerator	Number of health facilities providing comprehensive care referrals for HIV/AIDS care and support services
Denominator	Total number of health facilities surveyed that do not provide all HIV/AIDS care and support services on site
Rationale and what it measures	All people living with HIV/AIDS require a range of comprehensive care and support services depending on the stage of their infection and their psychosocial needs. Any provider who works with people living with HIV/AIDS needs to know where they can receive the services needed. This indicator attempts to identify whether referral systems are in place in sites in which only some services (such as counselling and testing) are present. Referrals can be made to the following services. Health services. HIV testing and pre- and post-test counselling; outpatient or inpatient treatment of opportunistic infections and other HIV-related conditions; preventive therapies for opportunistic infections, including tuberculosis; 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- and home-based organizations and faith-based organizations or other organizations 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 organizations and faith-based organizations or other organizations strengthen care and support interventions for orphans and vulnerable children affected by HIV/AIDS.
Measurement tools and how to measure it	Data will be collected through a facility survey at points of service for the diagnosis of HIV and/or clinical care for people living with HIV/AIDS. For each service defined above, the facility should refer for each as directed below. Referrals to services If the facility does not provide the service, they should have a functional referral system. To assess this, providers can be asked whether: • a referral directory is available listing services in the area, including the name and contact information for the service; • a written referral form is available for surveyors to see that allows providers to fill in the name and location of referral services; and • a register exists in which surveyors can see where referrals that have been made are recorded. A facility that is clearly responsible for only a specialty service and that is accessed through provider referral should not be part of the facilities chosen to participate in the survey.
Frequency	Every 2–4 years
Strengths and limitations	Although this indicator looks at the existence of a functional referral system, it cannot measure the outcome of the referrals: whether people follow through on the referral or receive the service at the referral facility. Special studies would be required to assess the extent to which people living with HIV/AIDS and their families are receiving services across the continuum.

Care and support core indicator 6 (CS6): capacity to provide basic counselling and testing and to manage clinical services for HIV/AIDS	
Definition	Percentage of health facilities that have the capacity and conditions to provide basic HIV counselling and testing and to manage HIV/AIDS clinical services Capacity to provide basic HIV counselling and testing and health services are defined as: - a a system for testing and providing results for HIV infection; - b systems and qualified staff for pre- and post-test counselling; - c specific health services relevant to HIV/AIDS, including resources and supplies for providing these services; - d elements for preventing nosocomial infections; and - e trained staff and resources providing basic interventions for prevention and treatment for people living with HIV/AIDS. Annex 1 details the individual items identified for each of these.
Numerator	1. Number of facilities at which the individual items for each service or item listed above exist 2. Number of facilities at which all components for each individual service or item (a, b, c, d or e) exist 3. Number of facilities at which all components for all individual services and items (a, b, c, d and e) exist
Denominator	For 1, the total number of health facilities surveyed For 2 and 3, the total number of health facilities at which HIV/AIDS services in each of the areas identified in the definition are offered or relevant
Rationale and what it measures	Many facilities that provide general curative care are also providing services related to HIV/AIDS and are caring for people living with HIV/AIDS. This may occur in settings that have no specific HIV/AIDS programme. For facilities that are providing these services, evaluating the degree to which capacity exists to carry these out is therefore important. The HIV/AIDS specific services and components identified and defined by this indicator are those that both support HIV/AIDS services and that can reasonably be expected to exist in almost any health facility.
Measurement tools and how to measure it	This information should be collected through a health facility survey with observation in all relevant service areas. HIV/AIDS service providers should also be interviewed. Annex 1 includes specific technical instructions on how to measure each and a checklist of items contained within each area.
Frequency	Every 2–4 years
Strengths and limitations	Although the objective is to determine the percentage of facilities that have all items within all service and item areas (a, b, c, d and e), few, if any, facilities will have this level of services. In many settings, facilities do not have all items for each service. The specific items to support each service should therefore be presented individually. This indicator does not provide individual information for voluntary counselling and testing services or for services for preventing the mother-to-child transmission of HIV except if: 1) the services are integrated within the health facility and 2) the components of these services are relevant to the areas assessed. The list of components (for CS6a) also excludes facilities that only conduct or refer for pre-employment HIV tests, excludes testing blood prior to transfusion and excludes facilities that refer people living with HIV/AIDS to another facility for assessment and testing if the referral facility is responsible for further services.

Care and support core indicator 7 (CS7): capacity to provide advanced clinical and psychosocial support services for HIV/AIDS	
Definition	Percentage of health facilities that have the capacity and conditions to provide advanced HIV/AIDS clinical care and psychosocial support services, including providing and monitoring antiretroviral combination therapy Capacity to provide advanced HIV/AIDS care is defined as: (a) systems and items to support the management of opportunistic infections and the provision of palliative care (symptomatic treatment) for the advanced care of people living with HIV/AIDS; (b) systems and items to support advanced services for the care of people living with HIV/AIDS; (c) systems and items to support antiretroviral combination therapy; (d) conditions to provide advanced inpatient care for people living with HIV/AIDS; (e) conditions to support home care services; and (f) postexposure prophylaxis. Annex 1 details the individual items identified for each of these, including detailed measurement instructions.
Numerator	1. Number of facilities at which the individual items for each service or item listed above exist 2. Number of facilities at which all components for each individual service or item (a, b, c, d, e or f) exist 3. Number of facilities at which all components for all individual services and items (a, b, c, d, e and f) exist
Denominator	For 1, the total number of health facilities surveyed For 2 and 3, the total number of health facilities at which HIV/AIDS services in each of the areas identified in the definition are offered or relevant
Rationale and what it measures	This indicator measures the availability of advanced services specific to people living with HIV/AIDS. It is assumed that the services and items measured in this indicator require substantial input and personnel training beyond what is routine for most health systems.
Measurement tools and how to measure it	This information should be collected through a health facility survey with observation in all relevant service areas. Like core indicator 6, interviews of HIV/AIDS service providers would also be needed. The specific items for each service should be presented individually and at a first level of aggregation (all components of each service or item). When a reasonable proportion of facilities begin to have all first-level aggregated components, a second-level aggregation can be presented when appropriate.
Frequency	Every 2–4 years
Strengths and limitations	This indicator examines advanced HIV/AIDS services among all health facilities. In some settings, facilities will not have all items for each item or component, and countries may have different strategies for providing select advanced services at only certain levels of the health care system (that is, referral hospitals may offer a wider range of advanced care than health centres). Although this indicator does not stratify by level of health care facility, managers of national AIDS programmes can analyse this information if desired.

Care and support core indicator 8 (CS8): laboratory capacity to monitor antiretroviral combination therapy	
Definition	Percentage of designated laboratories with the capacity to monitor antiretroviral combination therapy according to national and international guidelines To scale up antiretroviral use in resource-constrained settings, WHO categorizes currently available testing into four levels of priority: (1) absolute minimum tests before starting antiretroviral combination therapy: HIV antibody test and haemoglobin or haematocrit level; (2) basic tests: white blood cell count and differential, serum alanine or aspartate aminotransferase level, serum creatinine, blood urea nitrogen, serum glucose and pregnancy test; (3) desirable tests: bilirubin, amylase, serum lipid and CD4 count; and (4) optional tests: viral load. Designated laboratories refer to nationally designated laboratories for monitoring antiretroviral combination therapy.
Numerator	The number of designated laboratories with the capacity to monitor antiretroviral combination therapy according to national and international guidelines Laboratories are classified into three levels as follows: • level 1: they meet the minimum testing requirements for testing categories 1 and 2 (above); • level 2: they meet the minimum testing requirements for testing categories 1, 2 and 3; and • level 3: they meet the minimum requirements for all four testing categories.
Denominator	Total number of designated laboratories
Rationale and what it measures	Laboratory assessment of HIV status and need for treatment is essential to ensure the appropriate and effective use of antiretroviral combination therapy. Monitoring the ability of laboratories to carry out minimal as well as more advanced testing requirements is therefore essential. The purpose of this indicator is therefore to assess the availability of laboratories with the capacity to monitor the people receiving antiretroviral combination therapy according to international guidelines.
Measurement tools and how to measure it	Data will be obtained from a survey of designated laboratories. Data collection will entail observing the availability of functioning equipment and supplies to run the tests at each level.
Frequency	Every 2–4 years
Strengths and limitations	Although this indicator attempts to assess the quality of laboratories by assessing the existence of specific equipment, it does not address human resource needs. Specifically, the presence of a trained laboratory technician available on site to perform the tests required at each level is not currently included.

Care and support core indicator 9 (CS9): external support for chronically ill people	
Definition	Percentage of adults aged 18–59 years who have been chronically ill for 3 or more months in the past 12 months whose households received, free of user charges, basic external support in caring for chronically ill people, including health, psychological or emotional and other social and material support External support for chronically ill adults is defined as: • health care and supplies; • emotional and psychological: counselling from a trained counsellor, companionship and emotional or spiritual support; and • other social support, including socioeconomic (clothing, extra food or financial support) or instrumental (help with household work, training for a caregiver or legal services). External support is defined here as help free of user charges coming from a source other than friends, family or neighbours unless they are working for a community-based group or organization. In settings in which friends, family or neighbours provide most external support, programme managers may consider adapting this. The definition of chronically ill varies from setting to setting. Developing and noting a commonly agreed upon definition prior to initiating work is therefore important.
Numerator	Number of people 18–59 years old in households who have been ill for 3 or more of the past 12 months who reside in households that received some or all of the following basic support in the past 30 days preceding the questionnaire: • health care support at least once a month while ill; • emotional support in the past 30 days; • social support, including material support, in the past 30 days; and • all three types of support in the past 30 days. Adults 18–59 years old who were ill for 3 or more months before dying in the past 12 months should also be included.
Denominator	All adults 18–59 years old who were ill for 3 or more months during the past 12 months, including those ill for 3 or more months before death.
Rationale and what it measures	This indicator attempts to quantify the extent of support services free of user charges to households with chronically ill people.
Measurement tools and how to measure it	The following methods are recommended. • A population-based household survey can be used in high-prevalence settings. As part of a household survey, household rosters can be used to identify all eligible chronically ill people 18–59 years old. For each household with a chronically ill member, a series of questions is asked about the types and frequency of support received and primary source of the help. • A special study: the household survey tool may be used in low-prevalence settings or targeted populations with similar but adapted methods sampling networks of people living with HIV/AIDS and/or recipients of services from care and support programmes. Data should be analysed and reported by gender and age categories when sample size allows (18–24, 25–39 and 40–59 years).
Frequency	Every 2–4 years
Strengths and limitations	Household-based samples of chronically ill people are not nationally representative of all chronically ill people because they exclude those who are hospitalized, institutionalized or homeless. As a result, the proportion of the population “missed” varies.

Care and support core indicator 10 (CS10): external support for orphans and vulnerable children	
Definition	Percentage of orphans and vulnerable children whose households received, free of user charges, basic external support in caring for the child Orphans and/or vulnerable children are defined as children (under 18 years) who have at least one dead parent (mother or father) or a chronically ill parent (mother or father), defined as a parent who was very sick for 3 or more months during the past 12 months. External support for orphans and vulnerable children is defined as: • health care and supplies; • emotional and psychological: counselling from a trained counsellor, companionship and emotional or spiritual support; • school fees and school-related assistance; and • other social support, including socioeconomic (clothing, extra food or financial support) or instrumental (help with household work, training for a caregiver or legal services). External support is defined here as help free of user charges coming from a source other than friends, family or neighbours unless they are working for a community-based group or organization. In settings in which friends, family or neighbours provide most external support, programme managers may consider adapting this. Again, the definition of chronically ill varies from setting to setting, and developing and noting a commonly agreed upon definition prior to initiating work is therefore important.
Numerator	Number of orphans and vulnerable children residing in households that received: • health care support within the past 12 months; • emotional support within the past 3 months; • school-related assistance within the past 12 months; • other social support, including material support, within the past 3 months; and • all four types of support.
Denominator	Total number of orphans and vulnerable children
Rationale and what it measures	This indicator measures support given free of user charges to households with orphans and vulnerable children.
Measurement tools and how to measure it	The following methods are recommended. • A population-based household survey can be used in high-prevalence settings. As part of a household survey, household rosters can be used to identify all eligible orphans and vulnerable children (under 18 years of age). For each household that contains orphans and vulnerable children, a series of questions is asked about the types and frequency of support received and the primary source of the help. • A special study: the household survey may be used in low-prevalence settings or targeted populations with similar but adapted methods. Data should be analysed and reported by age (0–5, 6–9, 10–14 and 15–17 years) and gender when sample size allows. Depending on the epidemiological situation and available resources, programme managers may decide to aggregate age data into larger ranges (0–9, 10–14 and 15–17 years).
Frequency	Every 2–4 years
Strengths and limitations	Similar to indicator 9, this indicator misses the orphans and vulnerable children that do not live in households. The sample is therefore not representative of all orphans and vulnerable children. The duration of orphanhood plays a key role in determining the type of support needed. For example, an orphan whose parent(s) died 10 years ago needs different support than one whose parent(s) died within the past year. The child's age is also a factor (such as school assistance needs). Limiting the definition of a vulnerable child to the chronic illness of the child's biological parent does not consider that many children do not live with their biological parents and that chronic illness of a foster parent or caretaker is equally likely to make children vulnerable. However, experience from pilot testing has suggested that most children with chronically ill foster parents are already captured as they have either a sick or dead parent. Additionally, vulnerability of children may be affected by the severe illness of a household breadwinner, who may not be the parent or foster parent of the child. Thus, the definition of orphans and vulnerable children underestimates the actual population of vulnerable children, and this should be considered in interpretation.

Additional indicators

Below are two additional indicators countries can use depending on their needs and available resources. Countries should feel free to use other indicators they think will address their needs.

Care and support additional indicator 1 (CS-A1): national monitoring and evaluation capacity	
Definition	Existence of national monitoring and evaluation capacity for HIV/AIDS care and support programmes This indicator qualitatively assesses whether: • a monitoring and evaluation team has resources allocated to analyse national care and support data; • data collected on care and support programmes are compiled and analysed; • monitoring and evaluation reports are prepared periodically; • monitoring and evaluation reports are disseminated to relevant partners; and • coverage is appropriate, measured as the percentage of provinces and districts captured in the current monitoring and evaluation report.
Rationale and what it measures	This is a critical indicator of national capacity for monitoring and evaluating care and support programmes and services. All the data from the health management information system contained within the indicators in this guide rely on the integrity of this system.
Measurement tools and how to measure it	Interviews and review of records and documents
Frequency	Every 2 years
Strengths and limitations	This exercise is a separate study that may be undertaken in conjunction with a health facility survey, although it may be done separately. The checklist tool provided in the CD-ROM included with this publication thoroughly reviews the national reporting capacity for care and support at the national level.

Care and support additional indicator 2 (CS-A2): facility record-keeping systems	
Definition	Percentage of health facilities with record-keeping systems for monitoring HIV/AIDS care and support
Numerator	Number of health facilities maintaining adequate records on the services provided
Denominator	Total number of health facilities surveyed
Rationale and what it measures	This indicator is designed to measure the capacity of health facilities to collect data on care and support services and to compile these data.
Measurement tools and how to measure it	The following methods are recommended: • health facility surveys that examine records on HIV/AIDS care and support services; and • qualitative interviews with people responsible, including interviews with officers of the health management information system. The data should be disaggregated by department and service.
Frequency	Every 2–4 years
Strengths and limitations	Patient record systems are diverse within facilities, making comparison across sites difficult. There is also no international (or national) standard for data reporting that can be used to assess whether the record-keeping system is adequate.

Potential indicators for future development

This section lists indicators that cover critical areas and are suggested for potential use in the future. These will require development of instruments and methods and were not yet feasible at the time of publication. For each indicator, a potential source of data is identified in parentheses.

- Number and percentage of people living with HIV/AIDS cared for by health facilities in the past 3 months (annual programme reports or the health management information system)
- Percentage of people discontinuing antiretroviral combination therapy (special studies)
- Percentage of health workers with accepting attitudes towards people living with HIV/AIDS (health facility survey)
- Number of people trained for monitoring and evaluating HIV/AIDS programmes in the past 12 months (annual programme reports and facility surveys)
- Existence of medical and paramedical training institutions providing training on HIV/AIDS diagnosis, care, support and treatment and number of graduates in the past year of these institutions receiving this training (interviews or record review and special studies)
- Number of chronically ill people served by community- or home-based care programmes during the past 12 months (annual programme reports)
- Number (and percentage) of orphans and vulnerable children served by community- or home-based care programmes during the past 12 months (annual programme reports)
- Number and percentage of orphans and vulnerable children (with a chronically ill parent) attending school compared with children who are neither orphans nor vulnerable (household survey)
- Percentage of facilities at which people living with HIV/AIDS who receive an individual client card or chart are monitored using this card or chart (the presence of blank cards and reports that individual client cards are utilized is sufficient)
- Percentage of facilities with condoms in all service areas where post-test counselling is provided
- Number of facilities that provide curative care for malaria that have all the equipment and reagents necessary to test for malaria (microscope and Giemsa stain) the day of the survey
- Number of facilities that provide curative care for tuberculosis that have all second-line tuberculosis medicines available
- Number of facilities that provide curative care for sexually transmitted infections that have laboratory testing capacity for syphilis (either the Venereal Disease Research Laboratory (VDRL) test plus microscope or the rapid plasma reagin (RPR) test); for gonorrhoea (either Gram stain reagents plus microscope or culture media with incubator); other laboratory tests (functioning microscope plus potassium hydroxide are commonly used; to be defined based on local practices)
- Number of facilities where the register maintained for people living with HIV/AIDS seeking curative care captures syndromes that are presumably related to HIV/AIDS (specific terms for syndromes should be identified as those that document the services related to HIV/AIDS that are being provided)

Other useful indicators from other guides

This section highlights the indicators that are complementary to care and support but are (or will be) included in other guides. By its nature, care and support for people affected by HIV/AIDS cuts across a number of other programmes, sometimes well integrated and sometimes not. The indicators listed as core and additional indicators yield more information when interpreted in the light of other important indicators that may already be routinely collected in the monitoring and evaluation of other programmes. Some standard indicators are listed below; the means for collecting this information is provided in parentheses.

- Percentage of care records of people living with HIV/AIDS with antiretroviral prescriptions in line with national and international guidelines: to be included in the guide to monitoring and evaluating national programmes on antiretroviral combination therapy that will be published soon (health facility survey, chart review or special study)
- Ratio of school attendance of among children 10–14 years old comparing double orphans to non-orphaned children who live with at least one parent: to be included in the guide to monitoring and evaluating national programmes on orphans and vulnerable children that will be published soon

Operations research

Operations research is a rigorous kind of evaluation that can be used to improve a range of services along the full continuum of care for people living with HIV/AIDS and their families. It is most often used to compare programme approaches when there is no consensus about the best way to respond to a given programmatic problem.

The main objective of operations research is to provide managers, administrators and policy-makers with the information they need to develop, improve or scale up programmes. HIV/AIDS operations research focuses on the day-to-day activities or operations of HIV/AIDS prevention, care and support programmes. Specifically, it focuses on the aspects of programmes that are under the control of programme managers or policy-makers, such as approaches to training and service delivery; the location, integration and distribution of services; or selecting health communication messages and materials needed to meet programme objectives.

Operations research can be thought of as a practical, systematic process for identifying and solving programme-related problems. This process has five key steps:

- identifying and diagnosing a problem
- selecting a programme strategy
- testing and evaluating strategies
- disseminating information
- utilizing information and scaling up.

As stated in earlier chapters, the evolving areas of care and support, especially the increasing availability of treatment, require in-depth studies on models of care to develop and implement the optimal delivery of services. Examples of specific areas of care and support that may require further in-depth studies to enhance a comprehensive monitoring and evaluation framework include studies of antiretroviral combination therapy and adherence, the quality of care, training of health care providers and the evolution of programmes and methods for monitoring stigma and discrimination within the health care system.

Operations research can answer many questions that are not addressed in a routine monitoring and evaluation system. Examples include the following:

- What kind of training do health care workers require to most accurately diagnose and treat opportunistic infections?
- What kind of client counselling and education leads to the greatest levels of adherence to antiretroviral combination therapy?
- How can risk behaviour be reduced among people living with HIV/AIDS who have long-term access to antiretroviral combination therapy?
- How can AIDS-related stigma and discrimination in clinical settings be reduced as a barrier to care?
- What system would be most effective and sustainable for scaled-up clinical care for people living with HIV/AIDS: vertical, integrated or a combination?

BOX 3. EXAMPLE OF AN OPERATIONS RESEARCH STUDY

Adherence to complex, ongoing drug regimens has often been a challenge. An intervention is underway to compare the relative impact of two treatment strategies on short- and long-term adherence. People living with HIV/AIDS will be randomized into one of two treatment groups. One group will receive standard adherence case management, which consists of monthly clinic visits and adherence counselling. The other group will receive directly administered antiretroviral therapy (DAART), which is modeled after directly observed therapy (DOT) for tuberculosis. In directly administered antiretroviral therapy, the people living with HIV/AIDS receive the standard adherence case management but are also observed by health workers for the first 24 weeks of treatment. They get more frequent contact with health workers and exposure to adherence messages. Adherence will be measured and compared at 24 and 48 weeks after the beginning of treatment.

Collaborators: Family Health International/Impact Project, International Centre for Reproductive Health (ICRH), Kenya's Ministry of Health, Management Sciences for Health/Rational Management of Pharmaceuticals Plus Program (MSH/RMP Plus), Population Council/Horizons. **Funding:** United States Agency for International Development.

The strongest operations research studies strive to prove causality. That is, they are designed to prove that a given intervention brings about change and that this change would not have occurred in the absence of the intervention. Establishing this relationship requires designing a study in a manner that minimizes potential confounding and bias while also providing results that are statistically significant. Each of the following features helps in ensuring that a study meets these demands:

- control or comparison groups;
- baseline data collection;
- multiple observations over time;
- multiple sites;
- multiple types of data collection;
- research by an “objective” or outside party not affiliated with the programme;
- multivariate data analysis; and
- emphasis on outcome indicators instead of process indicators.

BOX 4. WHAT IS A QUASI-EXPERIMENT?

True experimental designs are the gold standard for demonstrating causality (that a given intervention, rather than any other factors or simultaneous events, brought about a change in the target group). True experiments have a control group and at least one experimental arm and assign individuals (or other study units such as clinics) randomly to either an experimental or the control arm. In reality, however, assigning individuals to study arms randomly is often ethically impossible or logistically difficult in operations research. A quasi-experimental design has intervention and comparison units, but these units are not randomly assigned and thus may differ in known or unknown ways. Researchers can help to compensate for this weakness by deliberately identifying study groups that are “matched” or are as similar as possible to one another at baseline.

How could operations research be used to answer the question “What strategy would ensure that orphans and vulnerable children have as much access to a quality education as their peers?”? If a programme manager, education minister or researcher did not yet know why orphans and vulnerable children have lower school enrolment, she or he might start with an exploratory study, probably featuring qualitative methods, to better understand the problem. Nevertheless, she or he might already know that, for example, poverty and the need for children’s help at home are the two leading obstacles to school participation for orphans and vulnerable children and have some ideas about how to address these obstacles programmatically to increase access to education among orphans and vulnerable children. In this case, she or he could set up an intervention study to compare these different approaches, including one or more of the following, and possibly including a control group:

- elimination of school fees;
- projects to generate family income for households affected by HIV/AIDS;
- community-based schools with flexible hours; and
- school-feeding programmes.

She or he might include a cost–effectiveness analysis in the intervention study to determine which approach costs the least for each orphan or vulnerable child completing primary school.

A typical intervention study includes baseline data collection and at least one round of data collection after the intervention is well underway. It includes one or more intervention arms (also called experimental arms) and a comparison or control group. The control group should be very similar to the intervention group except with respect to exposure to the intervention. The control group may receive no intervention or it may receive the “usual”, “status quo” or “standard of care” intervention. (It is often not ethically justifiable for the control group to receive “nothing”.) In the example above, the comparison arm might simply be an area in which nothing changed about the way schools deliver education, whereas the intervention arm would have a new experimental approach to delivering education.

BOX 5. EXAMPLE OF FINDINGS FROM AN OPERATIONS RESEARCH STUDY IN UGANDA

Using a quasi-experimental design, an operations research study in Uganda sought to determine the impact of a succession planning programme, which supports parents living with HIV/AIDS in planning for their children's futures by taking steps such as appointing guardians and writing wills. At baseline, the arms did not differ significantly in the proportion of parents who had appointed a guardian. After 2 years of programming, parents in the intervention arm were more likely than comparison parents to have taken this step (81% versus 56%, $P < 0.05$). This suggests that the succession planning intervention succeeded in supporting parents to plan for their children's future.

Collaborators: Makerere University Department of Sociology, Plan/Uganda, Population Council/Horizons. **Funding:** United States Agency for International Development.

The impact of an experimental intervention is determined using statistical analysis by exploring changes over time in the outcome of interest (such as school participation by orphans and vulnerable children) in both the intervention and control arm and also by comparing the difference between the two arms at each observation. If the intervention is effective, the outcome might be similar in the two arms at baseline (before the experimental intervention started) but be different in later observations. In this example, school participation by orphans and vulnerable children was significantly greater in the intervention arm than in the control arm by the second observation. In addition, over time there might also be significant changes in the level of school participation by orphans and vulnerable children in the intervention arm but not in the control arm. Including a baseline observation and a comparison group enables the researcher or programme managers to attribute causality to the programme or to say with greater certainty or “proof” that the changes were brought about by the intervention and not by some other factor.

A full explanation of how to conduct HIV/AIDS operations research is beyond the scope of this publication. However, useful resources can guide you through the process (see Related reading).

Related reading

Experiences in monitoring and evaluation are increasing as more countries take up routine monitoring and evaluation systems. Much literature is therefore available that programme managers can use. However, much of this is beyond the scope of this guide, and this chapter therefore provides a few useful references.

Monitoring and evaluation

National AIDS programmes: a guide to monitoring and evaluation

(<http://www.unaids.org/publications/documents/epidemiology/surveillance/JC427-Mon&Ev-Full-E.pdf>). Geneva, UNAIDS, 2000 (accessed 1 October 2003).

Monitoring the Declaration of Commitment on HIV/AIDS: guidelines on construction of core indicators. Geneva, UNAIDS, 2002 (http://www.unaids.org/html/pub/Publications/IRC-pub02/JC894-CoreIndicators_en_pdf.htm, accessed 1 October 2003).

Monitoring and evaluation modules. Geneva, UNAIDS, 2002 (<http://elink.unaids.org/menew/LIB/lib1.asp>, accessed 1 October 2003).

Operations research

Fisher AA, Foreit JR. *Designing HIV/AIDS intervention studies: an operations research handbook*. New York, Population Council, 2002 (<http://www.popcouncil.org/horizons/orhivaidshndbk.html>, accessed 1 October 2003).

Annex 1. Detailed instructions for measuring care and support core indicators 6 and 7

Care and support core indicator 6 (CS6): capacity to provide basic counselling and testing and to manage clinical services for HIV/AIDS

CS6a A system for testing and providing results for HIV infection	
Definition	This item examines the percentage of facilities that have the capacity to provide an HIV test. Capacity to provide HIV testing includes: policies or guidelines for informed consent and confidentiality, adequate supplies, a client register and documentation for recording whether the results were given to the client. This includes facilities that refer clients for the test through a formal or informal agreement with an external network laboratory or testing unit if they are responsible for follow-up on the results of those clients.
Numerator	1. Number of health facilities that have one or more of the items (see definition under Data collection and analysis) for HIV testing capacity 2. Number of facilities that have all items (see definition under Data collection and analysis) for HIV testing capacity
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities that report that they provide HIV testing or refer clients for an HIV test through a formal agreement
Data collection and analysis	Each point-of-service area for HIV testing in a facility must have all the individual items in the checklist below for it to meet all the requirements for this item. Items (a) An observed, written policy or guideline on informed consent outlining the content of an informed consent message and clarifying that the facility's policy is to inform the client prior to conducting the HIV test (this should be available in each service area where a provider orders HIV tests). (b) All necessary supplies to conduct any one test for diagnosis of HIV infection on the day of the survey. The acceptable tests will be defined locally. (c) A register or other record that provides information on HIV tests conducted and the results and that has some means for identifying the client (such as a client number). The register must be observed and up to date (a test is recorded within the prior 30 days). (d) Documentation that indicates whether the results have been provided to the client or referring provider. This may be: i) writing the results on a referral form for the client (the laboratory should have referral forms that are waiting for results available; ii) a register that indicates that the results were provided or not provided; and iii) any other system that achieves the objective. or Evidence that the facility uses written referral for laboratory tests external to the facility and has an observed register or record indicating whether the client returned or not with results and meeting the informed consent conditions and confidentiality outlined above.

CS6b Systems and qualified staff for pre- and post-test counselling	
Definition	This item examines the percentage of facilities with capacity for pretest and post-test counselling for HIV/AIDS. Capacity includes: a protocol and guidelines for pre- and post-test counselling, trained staff, a register for pre- and post-test counselling and visual and auditory privacy. Health facilities that refer clients for the test through a formal or informal agreement with an external network laboratory or testing unit if they are responsible for following up the results of those clients should be included here. If the facility refers to a site with no expected follow-up, then the facility is not included.
Numerator	1. Number of health facilities that have individual items for pretest and post-test counselling capacity 2. Number of facilities that have all components for pre- and post-test counselling capacity
Denominator	1. Number of health facilities that have individual items for capacity for curative services for chronic diarrhoea, malaria, sexually transmitted infections and tuberculosis as well as tuberculosis diagnosis 2. Number of facilities that have all components for capacity to provide curative services for chronic diarrhoea, malaria, sexually transmitted infections or tuberculosis 3. Number of facilities that have all components for capacity to provide curative services for chronic diarrhoea, malaria, sexually transmitted infections and tuberculosis
Data collection and analysis	This indicator assesses whether clients receive pre- and post-test counselling, regardless of which service in the facility refers them for HIV testing. Data are collected from all service areas where service providers directly order HIV tests. If a variety of service areas provide pretest counselling but post-test counselling is provided in only one service area, the pretest items and the post-test items are assessed in the areas where relevant. Each point-of-service area for HIV testing in a facility must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) A written policy or protocol for routine pre- and post-test counselling or with guidelines or protocols related to the pre- and post-test counselling content. (b) At least one trained counsellor. Training that qualifies a counsellor will be country-specific and may be reported by the person in charge if the staff member is not present the day of the survey. This refers to specific training for counselling and not general education for HIV/AIDS diagnosis or prevention. (c) A register or other records that document pre- and post-test counselling as well as test results. If the client did not return, there should be some documentation that a pretest client did not receive post-test counselling. The register should be up to date, with an entry for a client identifier and column for a test result within the prior 30 days. (d) Counselling is conducted in an area providing visual and auditory privacy. Visual and auditory privacy can be provided in a private room or in a screened area of a larger room if people are evidently not routinely standing or seated immediately adjacent to the screened area.

CS6c Specific health services relevant to HIV/AIDS, including resources and supplies for providing these services	
Definition	This area examines the percentage of facilities that offer services for malaria, sexually transmitted infections and tuberculosis that have the capacity to support the provision of these services. Capacity includes: protocols or guidelines, medicines, laboratory capacity and staff who have been supported through training and supervision. If the laboratory of the site does not perform tuberculosis or malaria testing but refers to an external laboratory through some formal agreement, the external laboratory can be considered the "facility laboratory" and data should be collected at that laboratory. If the facility simply refers clients but has no formal agreement with the laboratory, the facility is classified as not having the testing capacity.
Numerator	1. Number of health facilities that have individual items for the capacity to provide curative services for malaria, sexually transmitted infections or tuberculosis as well as tuberculosis diagnosis 2. Number of facilities that have all components for the capacity to provide curative services for malaria, sexually transmitted infections or tuberculosis 3. Number of facilities that have all components for malaria, sexually transmitted infections and tuberculosis
Denominator	1. Total number of health facilities surveyed 2. Total number of facilities providing curative services for malaria 3. Total number of facilities providing curative services for sexually transmitted infections 4. Total number of facilities providing curative services for tuberculosis 5. Total number of facilities providing or referring clients for tuberculosis diagnosis
Data collection and analysis	Each point-of-service area must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) At least one of the interviewed providers of services for malaria, sexually transmitted infections or tuberculosis has received pre-service or in-service training related to the particular service he or she provides (malaria, sexually transmitted infections and/or tuberculosis) within the past 3 years (b) At least half the interviewed providers of any of these services were personally supervised at least once during the past 3 months (c) Conditions for malaria treatment (1) Observed written protocol for treating malaria (2) Antimalarial medicine available the day of the survey (d) Conditions for treating sexually transmitted infections (1) Observed written protocol for treatment of sexually transmitted infections in the main service area where sexually transmitted infections are managed (2) At least one medicine for treating each of the following sexually transmitted infections is available the day of the survey: Chlamydia infection, gonorrhoea, syphilis and trichomoniasis (3) Condoms available in service area or pharmacy (e) Conditions for tuberculosis treatment (1) Observed written protocol for treating tuberculosis (2) Facility uses DOTS, has an observed register of people receiving DOTS and has relevant medicines available or Facility provides tuberculosis treatment, not DOTS and all relevant first-line medicines are available (f) Tuberculosis testing procedures: (1) Facility conducts tuberculosis tests and has all items for the test (microscope and reagents for the stain used by the facility) the day of the survey (2) Observed register or record where tuberculosis tests conducted and results of tests are recorded or The facility has a formal referral system with a laboratory for tuberculosis testing and an observed system for tracking whether the client or provider receives the results (may be the same systems as described for HIV/AIDS testing)

CS6d Elements for preventing nosocomial infections	
Definition	This area examines the percentage of facilities with the conditions for effective capacity for preventing infection in each relevant service area. Capacity includes the conditions for preventing infections at service delivery sites, the availability of specific stock items and equipment or supplies for sterilizing or high-level disinfecting equipment for reuse. Areas where diagnosis or curative care services are delivered should be assessed. If the laboratory is external to the facility but has a formal agreement and is the laboratory for the facility, the infection prevention items must be assessed there.
Numerator	1. Number of health facilities that have individual items for the capacity to prevent infection 2. Number of facilities that have all components for the capacity to prevent infection
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities that provide HIV/AIDS diagnosis and/or curative care services
Data collection and analysis	Each HIV/AIDS testing and/or curative care point-of-service area must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) Infection control (1) running water (all service areas) (2) hand-washing soap (all service areas) (3) latex gloves (all service areas) (4) sharps box (service areas where injections or relevant procedures are conducted) (5) chlorine-based decontamination solution (service areas where relevant procedures are conducted) (b) Functioning equipment with a source of electricity on the day of the survey or with relevant chemicals available for the process the facility reported for sterilizing or high-level-disinfecting equipment (c) Stock supply of: (1) disinfectant (chlorine) (2) clean latex gloves (3) disposable needles and syringes

CS6e Trained staff and resources for providing basic interventions for prevention and treatment for people living with HIV/AIDS	
Definition	This area assesses the percentage of facilities with staff and resources to support basic services for opportunistic infections (other than active malaria, sexually transmitted infections and active tuberculosis) and palliative treatment for people living with HIV/AIDS.
Numerator	1. Number of health facilities that have individual items for the capacity for basic HIV/AIDS care 2. Number of facilities that have all components for the capacity for basic HIV/AIDS care
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities that provide curative care services for people living with HIV/AIDS (either testing positive or presumed)
Data collection and analysis	Each curative care point-of-service area must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) Observed guidelines or protocols for treating common opportunistic infections for HIV/AIDS where they are treated (b) At least one provider who has had either pre-service or in-service training in treatment of opportunistic infections for HIV/AIDS during the past 3 years (c) Basic medicines for treating common opportunistic infections (other than malaria, sexually transmitted infections and active tuberculosis); the specific medicines should be adapted to those used in the country for the indicated illness (1) fungal skin infection (such as gentian violet, nystatin, miconazole or ketoconazole) (2) pneumonia (such as amoxicillin, ampicillin or chloramphenicol) (3) other infections (such as doxycycline, tetracycline, nalidixic acid or norflaxacin) (4) micronutritional deficiencies (such as iron, multivitamin and B vitamins) (5) chronic diarrhoea (such as loperamide, diphenoxylate or codeine phosphate) (6) pain medicines (such as paracetamol, aspirin or ibuprofen) (7) dehydration (such as intravenous solutions (5% dextrose and normal saline, normal saline or Ringer's lactate), infusion sets and oral rehydration salts) (8) de-worming medicine (such as mebendazole or albendazole) (d) An observed protocol for preventive therapy for tuberculosis and have isoniazid available (e) An observed protocol for preventive therapy for pneumonia and have cotrimoxazole available (f) Individual client records for people living with HIV/AIDS (g) Up-to-date register where client services and symptoms or diagnosis are reported (h) An observed confidentiality protocol or guideline in all areas where people living with HIV/AIDS receive curative services

Care and support core indicator 7 (CS7): capacity to provide advanced health and psychosocial support services for HIV/AIDS

CS7a Systems and items to support the management of opportunistic infections and the provision of palliative care (symptomatic treatment) for the advanced care of people living with HIV/AIDS	
Definition	This area examines the percentage of facilities that have the capacity to support advanced clinical management of opportunistic infections related to HIV/AIDS and other illnesses and symptoms. The capacity to provide advanced HIV/AIDS care includes: essential medicines, diagnostic laboratory tests and diagnostic equipment for providing intervention and advanced treatment.
Numerator	1. Number of facilities that have individual items for the management of opportunistic infections and other illnesses and symptoms related to HIV/AIDS 2. Number of facilities that have all components described below for the provision of advanced treatment of opportunistic infections and other illnesses and symptoms related to HIV/AIDS
Denominator	1. Total number of health facilities surveyed 2. Total number of facilities providing care services related to HIV/AIDS
Data collection and analysis	Each point-of-service area where HIV/AIDS medicines and laboratory equipment and supplies are stocked and maintained must have all the individual items in the checklist below to meet the requirements for this area. Individual components Drugs for the advanced treatment of opportunistic infections (opportunistic infections) and other illnesses related to HIV/AIDS Opportunistic infections (a) <i>Cryptococcus</i> fungal infections: (such as fluconazole or amphotericin B) (b) Respiratory infections (such as acyclovir, ciprofloxacin, ceftriaxone or gentamicin) (c) Other infections (such as procaine benzylpenicillin or amoxicillin) (d) Herpes infections (such as acyclovir) (e) Parasitic infections (such as cotrimoxazole or metronidazole or nalidixic acid) (f) Herpes ophthalmic infection (such as acyclovir ophthalmic) (g) Diseases of the nervous system and mental disorders (such as dexamethasone, phenobarbital, sulfadoxine and pyrimethamine (Fansidar®) and cotrimoxazole) Palliative symptomatic treatment (h) Relief of pain and nervous system symptoms (such as diazepam and prednisolone or dapsone, and oral morphine and codeine) (i) Fortified protein supplement Basic HIV/AIDS services (j) All medicines for basic opportunistic infections and palliative symptomatic treatment and basic HIV/AIDS services (k) Diagnostic and laboratory capacity for advanced HIV/AIDS care (1) Spinal tap kit (2) Laboratory capacity for culturing specimens (3) Laboratory capacity for liver function tests (4) Laboratory capacity for haematological testing (such as white blood cell count, anemia test, platelet count, blood urea nitrogen (BUN) and creatinine) (5) Laboratory capacity for India ink stain (6) Laboratory capacity for Gram stain (7) Laboratory capacity for enzyme-linked immunosorbent assay for HIV or a documented system for referral and receiving results for 2–7 above, including: (8) A record or register where the referral and test result is included and (9) Indication that the test result or follow-up was provided to the person tested If the laboratory or pharmacy is external to the facility but has a formal agreement and is the designated laboratory or pharmacy for the facility, the laboratory capacity and the availability of medicines should be assessed in the external referral location.

CS7b Systems and items to support advanced services for HIV/AIDS care	
Definition	This area examines the percentage of facilities with the capacity to support advanced HIV/AIDS care for people living with HIV/AIDS, including all relevant guidelines and protocols, record-keeping systems and trained staff to provide this care.
Numerator	1. Number of facilities that have individual items for advanced HIV/AIDS care for people living with HIV/AIDS 2. Number of facilities that have all components described below to support advanced services for people living with HIV/AIDS
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities that provide care services related to HIV/AIDS
Data collection and analysis	Data will be collected through observation in all relevant areas where HIV/AIDS clinical or psychological care is being provided as well as through individual health worker interviews with providers of HIV/AIDS services. Each point-of-service area where HIV/AIDS medicines and laboratory equipment and supplies are stocked and maintained must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) Number of facilities with the following observed guidelines or protocols: (1) opportunistic infections (2) provision of symptomatic palliative care (3) care for children living with HIV/AIDS (4) care protocols for all people living with HIV/AIDS (b) Number of facilities with an observed record of a system for making individual client appointments (c) At least one provider in the facility has received structured either in-service or pre-service training during the prior 3 years in which the indicated topic was addressed and in which that training is also related to that provider's job: (1) Psychosocial counselling for HIV/AIDS (2) Treatment for opportunistic infections (3) Palliative care (4) Diseases of the nervous system and mental disorders related to AIDS (5) AIDS among children (d) At least half of the interviewed providers of services for people living with HIV/AIDS in the facility were personally supervised during the prior 3 months
Strengths and limitations	This excludes facilities that only conduct or refer for pre-employment HIV/AIDS tests, excludes testing blood prior to transfusion and excludes facilities that refer clients to another facility for assessment and testing, if the referral facility is responsible for further services.

CS7c Systems and items to support antiretroviral combination therapy services	
Definition	This area assesses the percentage of facilities with the capacity to support antiretroviral combination therapy. Capacity for antiretroviral combination therapy includes: existence of guidelines and protocols, availability of essential medicines, diagnostic laboratory tests, record-keeping systems and staff training. This also includes facilities that refer clients for laboratory tests for monitoring antiretroviral combination therapy through a formal agreement with an external network laboratory or testing unit, if the referring facility is responsible for following up the results of these clients. This indicator does not provide information on antiretroviral drugs for mother-to-child transmission or HIV prevention programmes except where a) women and/or children are receiving antiretroviral combination therapy for comprehensive care through the MTCT-Plus Initiative and b) the components of that service are relevant to the domains assessed in this indicator.
Numerator	1. Number of facilities that have individual items for the capacity to provide antiretroviral combination therapy 2. Number of health facilities that have all components for the capacity to provide antiretroviral combination therapy described below
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities providing antiretroviral combination therapy
Data collection	Each point-of-service area where HIV/AIDS medicines and laboratory equipment and supplies are stocked and maintained must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) Observed guidelines or protocols for: (1) Treating and preventing opportunistic infections (2) Providing palliative care (controlling symptoms and pain) (3) Care for children living with HIV/AIDS (4) Standard operating procedures for services and interventions for people living with HIV/AIDS (5) Observed treatment guidelines for antiretroviral combination therapy for: • management of antiretroviral combination therapy for adolescents and adults • management of antiretroviral combination therapy for preadolescent children (b) Country-specific antiretroviral drugs regularly available with no reported stock-outs in the past 6 months; stock cards should be observed and any stock-outs over the past 6 months noted (c) Number of facilities with the laboratory capacity to conduct a documented system for referral and receiving results for at least one of the following tests: 1) CD4 count or CD4 alternative, total lymphocyte count test or viral load test or Number of facilities with the laboratory capacity to conduct a documented system for referral and receiving laboratory results including: (2) A record or register that includes the referral and test result and (3) Indication that the test result or follow-up was provided to the person tested (d) A system for appointments and client follow-up that indicates appointment schedules and whether the client kept the appointment or not (e) Individual client cards identifying the number of clients receiving antiretroviral combination therapy at the facility (f) At least one antiretroviral combination therapy service provider in the facility has received structured in-service training related to antiretroviral combination therapy within the past 12 months (g) At least one provider of services for people living with HIV/AIDS has received training on counselling for adherence to drug therapy within the past 12 months (h) At least one provider of services for people living with HIV/AIDS has received training on nutritional rehabilitation for nutritional problems associated with antiretroviral combination therapy within the past 12 months (i) At least half the interviewed providers of antiretroviral combination therapy services were personally supervised during the prior 3 months

CS7d Conditions to provide advanced inpatient care for people living with HIV/AIDS	
Definition	This area assesses the percentage of facilities that have all relevant items to support inpatient care. This includes the availability of essential medicines, diagnostic laboratory tests, diagnostic equipment and systems and resources to support services.
Numerator	1. Number of facilities that have individual items for providing inpatient services 2. Number of facilities that have all components for providing inpatient services for people living with HIV/AIDS
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities providing inpatient care for people living with HIV/AIDS
Data collection and analysis	Data from inpatient services are included in prior indicators when the situation of all service delivery sites is assessed. Obtaining a separate picture of inpatient service conditions is also important. Each point-of-service area for inpatient HIV/AIDS care in a facility must have all the individual items in the checklist below to meet the requirements for this area. Individual components (a) Items from indicators CS6a and CS6b (HIV testing and counselling) (b) Items from indicator CS6d (preventing nosocomial infections) (c) Items from indicators CS7a and CS7b specific to the resources and personnel available for inpatient services (d) 24-hour regular electricity supply (e) A functioning client latrine Regular electricity supply is defined as the facility reporting routinely having electricity and no break in electricity at the facility for 2 or more hours during the prior week or a back-up generator with fuel.

CS7e Conditions to support home care services	
Definition	This area examines the percentage of facilities that support home care services or have explicit referral systems for home care services for people living with HIV/AIDS, including those who are terminally ill.
Numerator	1. Number of facilities that with individual items for providing home care services 2. Number of facilities with all components for providing home care
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities providing care services related to HIV/AIDS
Data collection and analysis	At each service area where people living with HIV/AIDS receive clinical care and/or follow-up (a service area that is clearly responsible for only a specialty service and that is accessed through provider referral is not defined as a service area requiring information on the care and support services), either: (a) the provider can indicate that the facility provides home care services or (b) a written document identifying a location where home care services can be obtained is observed in the service area or (c) a written referral form is observed and the provider can name a location where clients are referred for home care services.

CS7f Postexposure prophylaxis	
Definition	This area assesses the percentage of facilities in which postexposure prophylaxis is provided and all items to support the service are available, including written protocols and guidelines, a record-keeping and monitoring system, availability of antiretroviral drugs for postexposure prophylaxis and special storage. A facility may also refer for postexposure prophylaxis but should have available a system to follow up and monitor their employees to be considered as supporting the service.
Numerator	1. Number of facilities that have individual items for providing postexposure prophylaxis 2. Number of facilities that have all items for providing postexposure prophylaxis
Denominator	1. Total number of health facilities surveyed 2. Total number of health facilities reporting that they provide or refer for postexposure prophylaxis
Data collection and analysis	Each point-of-service area for HIV/AIDS curative care in a facility must have all the individual items in the checklist below to meet the requirements for this area. Individual components Facilities offering postexposure prophylaxis (a) An observed written protocol for postexposure prophylaxis in the service area where postexposure prophylaxis is offered (b) A register or record indicating postexposure prophylaxis services are provided (c) A system to monitor clients receiving postexposure prophylaxis for full compliance with the regimen (d) Country-specific postexposure prophylaxis antiretroviral drugs available the day of the survey (e) Antiretroviral drugs for postexposure prophylaxis kept in a locked storage unit separate from other HIV/AIDS antiretroviral combination therapy services and maintained solely for postexposure prophylaxis Facilities referring for postexposure prophylaxis (a) An observed written protocol for postexposure prophylaxis in the service area or department (b) A register or record that indicates referral for and receipt of postexposure prophylaxis (c) A system to monitor personnel receiving postexposure prophylaxis

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