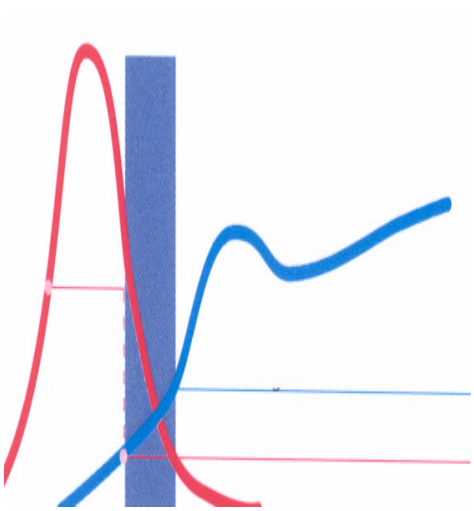
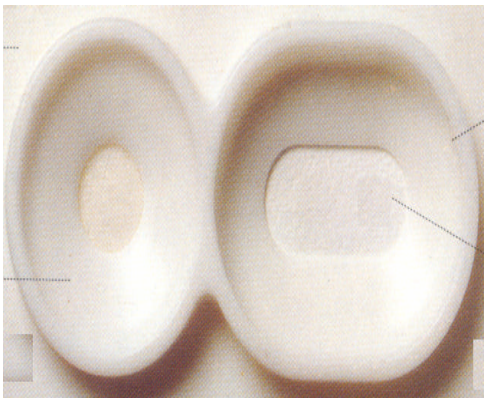
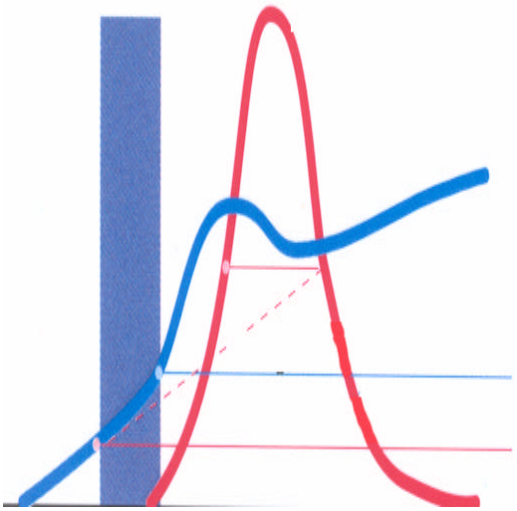
HIV/AIDS LABORATORY CAPACITY

An Assessment Report of the Capacity of Laboratories to Support HIV/AIDS Prevention and Care Programmes in the WHO/AFRO Region.

REGIONAL PROGRAMME ON HIV/AIDS

Division of Prevention and Control of Communicable Diseases

WORLD HEALTH ORGANISATION
Regional Office for Africa

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EXECUTIVE SUMMARRY

The HIV/AIDS Laboratory Network of the WHO African Region in its 2nd meeting in Accra, Ghana 20-22 November, 2002 requested WHO to conduct an assessment of existing laboratory capacities in Africa with a view to identifying the any competences and gaps. The results of the assessment would be used as an advocacy tool for mobilizing resources to strengthen laboratory services. Subsequent to this meeting an assessment questionnaire was sent out to all countries in the WHO African Region. Over 90% of the countries responded to the questionnaire. This report presents an analysis of the data from the countries that responded.

Over 98% of the countries have a National HIV Reference Laboratory. The majority of these (84%) are in the public sector while the rest are affiliated to either universities or research institutions. Over 53% receive more than half of their funding from the public sector.

Although 69% of the countries have an action plan for the laboratory there is poor correlation between the plan and the activities on the ground. This is an indication that the plans may not be appropriate to the actual situation in the country.

ELISA is mainly used in the public sector (57%) and is limited mainly to the central level (100%) and is little used at district level. The low utilization of ELISA at the periphery is due to its complexity and inappropriateness for this level. In contrast Simple/Rapid assays are increasingly being used in all sectors and all levels but more at district level (54%). This reflects an increased usage of simple assays due to their appropriateness for VCT and PMTCT programmes.

The erratic supply of reagents continues to be a major challenge. All countries reported supply interruptions with 55% reporting 1-2 interruptions in a year and the rest 6-8 interruptions. The WHO Bulk Procurement Scheme is introduced in the report and recommended as a remedy to the problem.

In 91.9% of the countries the National Reference Laboratory defines the testing algorithm for use. It is however noteworthy that 42%, 50%, 55% of the countries do not follow the recommended WHO testing strategy for blood safety, diagnosis, and surveillance respectively. Western Blot facilities are available in all countries but are limited to one or two laboratories at the central level. These are mainly used (83%) for HIV confirmatory testing.

1.0 INTRODUCTION.

The HIV/AIDS epidemic is a major public health challenge for the world in general and Africa in particular. Of the more than 42 million people infected globally 70% live in sub-Saharan Africa even though it accounts for only 10% of the global population. This has many health and socio-economic implications. Response to the epidemic in Africa is hampered by poverty, poor health infrastructure and a critical paucity of qualified personnel.

Laboratory services are a critical component in the delivery of high quality health care system. They not only provide the basis for good clinical diagnosis but also provide an objective means to monitor patient care and disease trends. The role of the laboratory in HIV prevention and intervention strategies is increasingly being recognized. The capacities of the laboratories will, therefore, need to be strengthened as African countries scale up HIV intervention programmes.

The WHO/AFRO Regional HIV/AIDS Public Health Laboratories Network second meeting in Accra, Ghana (20-22 November, 2002) requested WHO to assess the capacities of the laboratories within the region to provide support to the HIV/AIDS epidemic response. This information would provide an inventory of capacity and competence and a directory of the laboratory network to be shared with member countries. Subsequent to the meeting an assessment questionnaire was sent out to all member states. The questionnaire was completed by in country laboratory focal persons who are members of the HIV Laboratory Network in Africa. The majority of the countries, over 90%, responded to the questionnaire. The data was analysed by a consultant with the support of the Data Manager at the RPA Unit, WHO/AFRO, Harare. In calculating the percentages the number of responding countries to any given response formed the working denominator. This document presents an analysis of the responses by countries to the questionnaire.

Objectives of the document

- To provide an inventory of the laboratory infrastructure, capacity, and competence within the region
- To provide countries with baseline information for scaling up laboratory capacity to support prevention and care activities
- To act as an advocacy tool for mobilizing resources and improving laboratory services

This report has been presented in a graphic format using maps, pie charts, and histograms with supporting narrative. The graphics are intended to provide a quick visual impact of the prevailing situation. This report is primarily intended for policy makers, administrators, and laboratory managers to use as an advocacy tool for mobilizing resources for the laboratory. Consequently use of technical language has been kept to a bare minimum.

Did you know?
That the laboratory Play a key role in

- VCT programme
- PMTCT programme
  - diagnosis
  - surveillance
  - blood safety

It pays to invest in a quality laboratory service

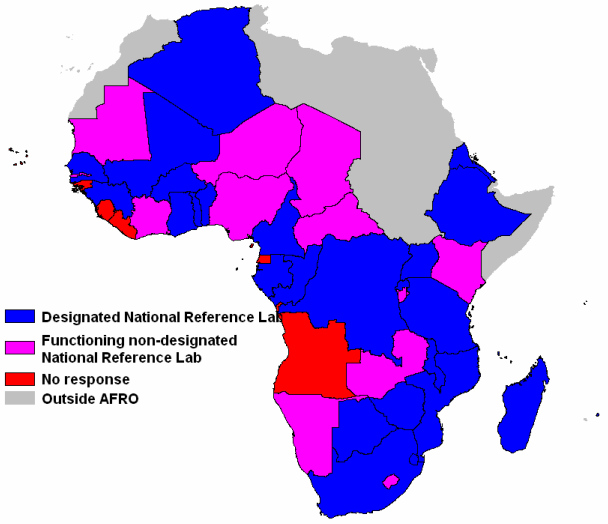
2.0 METHODS.

Questionnaires were sent to focal persons in national HIV reference laboratories of countries in the African Region. The questionnaires focused on general information, financing, laboratory facilities, equipment and expertise, storage conditions, transportation and shipment of samples within and outside the country, quality assurance, and information and communication systems. The data from completed questionnaires were analyzed by Epi Info software.

3.0 GENERAL OVERVIEW

Over 98% of the countries in Africa have a designated or functional National HIV/AIDS Reference Laboratory linked either to the Ministry of Health or to a University or Research Institution. The rest have either a private or commercial laboratory playing the role of a reference laboratory.

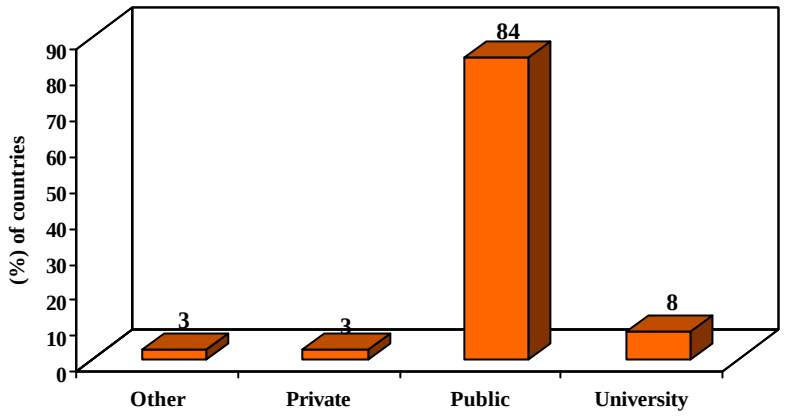
Countries with designated or functioning National Reference Laboratory



National Reference Laboratories play a key role in supporting in-country HIV/AIDS programmes to establish standardized testing protocols based on local experience and conditions, provide a supportive framework for quality assurance and staff development. This role is especially critical for the designated Reference Laboratories where linkage to the Ministries of Health may not be clear.

There exists capacity, up to district level, in all countries to screen for HIV antibodies. However a laboratory network within the district level or to higher levels exists in only 68.4% of the countries. This explains the weak support supervision mechanisms within countries.

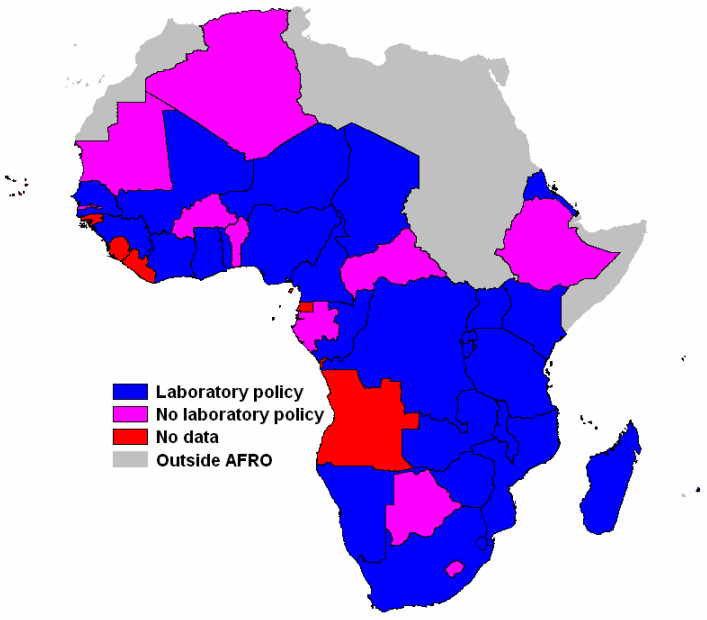
Affiliation of the National Reference Laboratory



3.1 Policy and Plan.

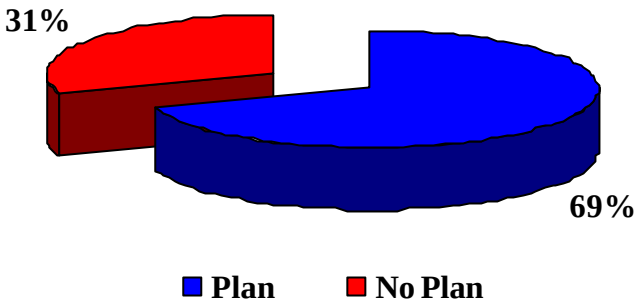
National policies and plans are critical in ensuring that services provided throughout the country are uniform. They also provide a framework for resource mobilization and distribution and help map out strategies to be employed in the provision of services.

Countries with written laboratory policies



Over 74.3% of the countries have a written laboratory policy. Only 52.7% of the countries with a policy have translated it into an action plan for laboratories while 16.7% had neither a policy nor a plan of action for HIV public health laboratories.

Proportion of Countries with National HIV/AIDS Plan for the Laboratory



Of the countries with an action plan for the laboratory, 89.4% have already incorporated the plan into the overall HIV/AIDS National Strategic Plan for the country. Although 69% of the countries have developed an action plan for the laboratories, this is not reflected in what is happening on the ground. In many countries delivery of laboratory services is still very weak and of poor quality. This is an indication that the plans may not have been appropriate for the country or may not be linked to the available resources. WHO/AFRO has already put in place systems to assist countries develop appropriate plans of action for the laboratory.

3.2 Financing.

Over the years there has been reduced resource allocation to the health sector. This has affected health care delivery especially in resource poor countries. The funds available have been directed towards provision of curative services. This has tended to starve the other services, the laboratory included, of funds. This reduction means that the laboratory finds it difficult to adequately meet the needs of the various HIV/AIDS prevention and care programmes.

Initial investment in a fully equipped laboratory, to offer a comprehensive package for HIV/AIDS prevention and care programme, may range from US$ 150 000.00 to US$ 300 000.00 with yearly running costs of $ 10 000.00. Many countries in Africa are likely to afford only one or two such laboratories.

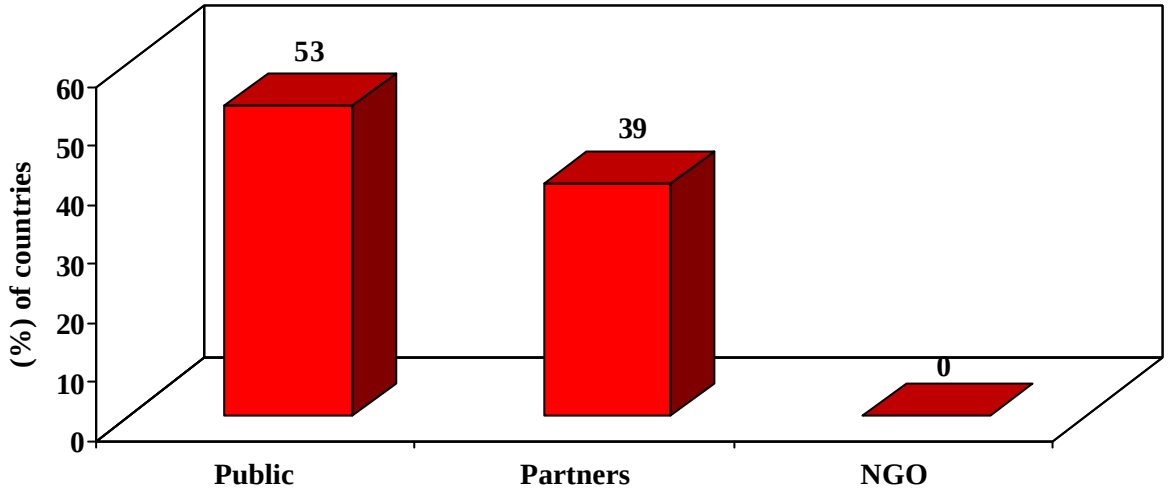
Source: The Implications of Antiretroviral Treatments, Informal Consultation April 1997 UNAIDS/WHO WHO/ASD/97.2

Few countries in Africa will have or allocate from national budgets the necessary financial resources to mount effective laboratory upgrading programmes. Governments will need to work with other development partners to mobilize additional resources for strengthening the laboratory services. In addition, countries should build internal capacity to sustain initiated programmes. WHO/AFRO will support countries in advocating for laboratory support among development partners.

3.3 Source of funding

Data obtained from different countries show that both the National Reference Laboratory and the HIV Public Health Laboratories receive financial support from many sources. In particular, in 13% of the countries, development partners provide more than three quarters of the financial support to the reference laboratory.

Level of Funding by Sector for the National Reference Laboratory



Development partners and NGOs continue to provide significant financial support to National Reference Laboratories. This underscores the need for collaboration between the public sector and the other partners and for a policy framework for such collaboration. It is significant to note that in 3% of the countries NGOs provide more than 50% of the funding to HIV Public Health Laboratories.

Level of Funding by Sector of the HIV Public Health Laboratories