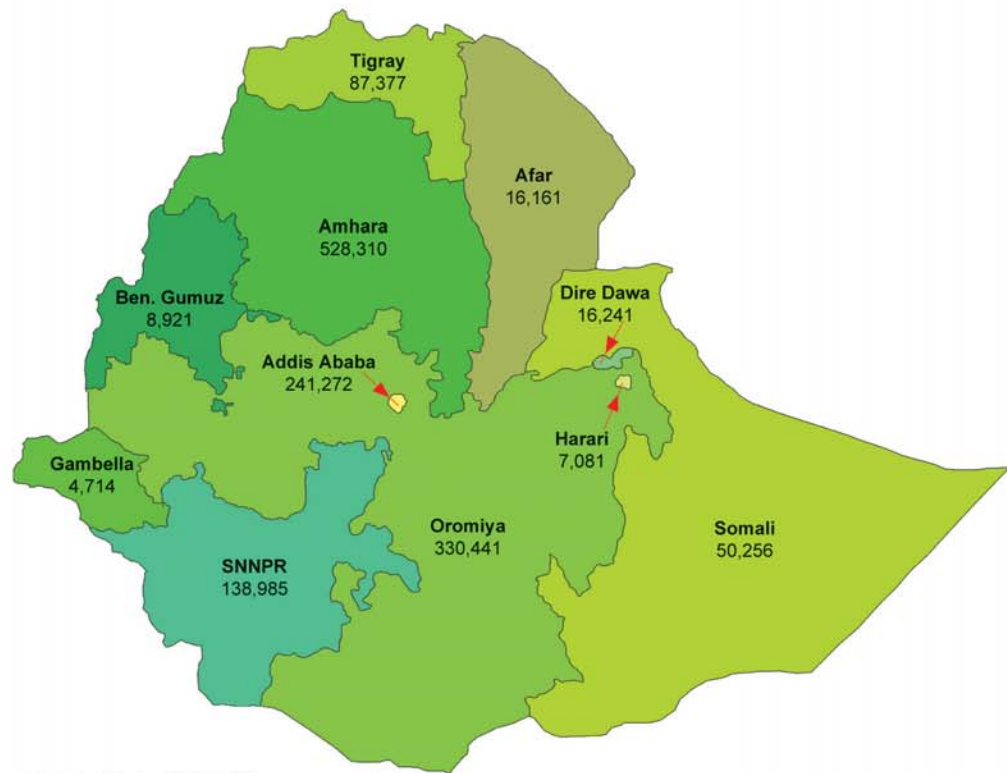


INTRODUCTION



MAP 1: NUMBER OF PEOPLE LIVING WITH HIV/AIDS BY REGION, 2003



Ethiopia Total = 1,474,758

Section 1

Introduction

The current report is a supplement to the AIDS in Ethiopia: 5th Report, and provides detailed technical data for the report. Because of that, the current report mainly contains tables, graphs, and descriptions of estimation methods. The main discussions on the surveillance findings have been presented in the “AIDS in Ethiopia, 5th Report”.

The AIDS in Ethiopia: 5th Report is the 5th in the AIDS in Ethiopia series. The 1st edition appeared in 1996, while the 4th was published in 2002. All previous reports dealt with summaries of national-level HIV/AIDS epidemic updates. For the first time the 5th report presents regional estimates and trends as well as detailed national level surveillance data. This was made possible because of the significant expansion of surveillance sites in rural areas in the year 2003. Additionally, all essential HIV and AIDS related indicators for all the regions were determined. Since the AIDS in Ethiopia: 5th Report only describes the summary of the magnitude and trends of HIV infection and AIDS at the national level, it was necessary to produce this technical supplement.

This technical report presents detailed tables for the national level as well as each region (disaggregated by rural and urban populations), and projections for the years 1982 to 2008. HIV and syphilis prevalence data from each site from the 2002 and 2003 surveys are also included.

The technical report as well the main AIDS in Ethiopia, 5th Report are based on the analysis of all sentinel surveillance data from all available years (1989 – 2003). The 2003 ANC surveillance round collected data from 37 urban and 29 rural sites from all regions in the country. Pregnant women attending selected antenatal care clinics and routinely tested for syphilis (RPR testing) were sampled and tested for HIV in anonymous and unlinked manner using blood leftover after RPR tests.

The contents of the current report were discussed in detail during two separate consultative workshops. The first was held among the regional HIV focal persons, while the second was among experts working in the area of HIV/AIDS. All comments obtained during those workshops have been incorporated in the current technical document as well as in the AIDS in Ethiopia: 5th Report.

It is believed that the information contained in this technical document will be very useful for stakeholders in HIV/AIDS treatment, prevention and control at all levels in the country (federal, regional, woreda and site) as well as in the international community for surveillance, program planning, implementation, monitoring and evaluation of HIV/AIDS intervention programs in Ethiopia.

TABLE 1.1 Basic Health Indicators, 2002/2003

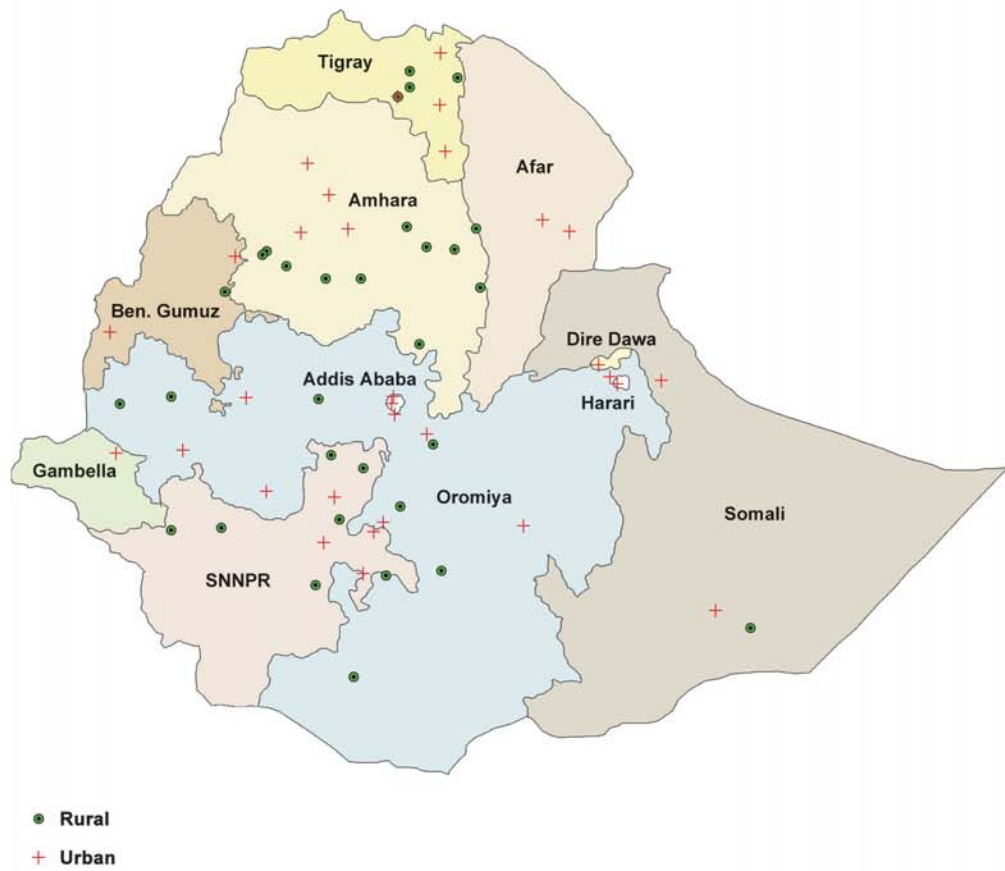
Total Population	69,127,021
Rural Population Proportion (%)	84.5
PHS Coverage (%)	61.3
PHS Coverage (%) with Health Posts	70.2
Health Service Utilization (%)	29.0
Contraceptive Prevalence Rate (%)	21.5
Antenatal Coverage (%)	27.4
Infant Mortality Rate (per 1000)	96.8
Under 5 Mortality Rate (per 1000)	140.1
Total Fertility Rate (per 1000)	5.9
Life Expectancy Female (years)	55.8
Life Expectancy Male (years)	53.4
Number of Facilities	
Hospitals	119
Health Centers	451
Health stations	2,396
Health Posts	1,432
Private Clinics	1,229
Pharmacies	302
Drug Shops	299
Rural Drug Vendors	1,888
Human Resources (at Service)	
Physicians	2,032
Health Officers	631
Nurses	14,160
Health Assistants	6,856
Para Medicals	4,641
Human Resources (Graduate)	
Specialists	103
Physicians	182
Health Officers	181
Nurses	1,465
Para Medicals	1,054

Source: Health and Health Related Indicators - 1995 Ethiopian Calendar: Planning and Programming Department, MOH – 2004

METHODS

2

MAP 2: ANC SURVEILLANCE SITES, 2003



Section 2

Methods

ANC-BASED HIV SENTINEL SURVEILLANCE

The ANC HIV surveillance system is based on the National HIV Sentinel Surveillance Guidelines. All RHB and site staff were trained prior to surveillance start, using a training manual developed by the MOH. Data were collected from 37 urban and 29 rural sites in 2003 (see figure above). The surveillance guidelines require a minimum of 250 and 400 specimens collected from each urban and rural site, respectively. The sites were selected jointly by the MOH and the respective region based on the feasibility to reach the minimum sample size, the presence of continuous ANC services, regular blood drawing for routine ante-natal care, and staff commitment. The maximum sampling period was 12 and 20 weeks for urban and rural sites respectively. Sites that achieved the minimum sample size could continue sampling at the discretion of the RHB focal person for surveillance.

Clinics that were unlikely to achieve the target sample size cooperated with one or more health facilities (“satellite” sites) nearby to increase the sample size. These satellite sites were health centers, clinics, or health posts, located near the main site. For analysis, data from all satellite sites were pooled with that from the main site. For three rural sites, the main site was located in urban settings, while their satellite sites were located in rural settings. These sites were Dangla, Haik, and Mertolemariam Health Centers (all in Amhara region). For analysis, only their satellite data were used; data from the main sites were excluded. No complete overview of all the satellite sites for the 66 main sites was available. The number of satellite sites per main site varied; satellite sites were routinely used for rural main sites, less often so for urban sites.

Routine ANC care includes RPR testing for syphilis screening. RPR-reactive ANC attendees are treated for syphilis. For surveillance, left over blood remaining after syphilis screening was collected. For this purpose, only blood from ANC clients aged 15-49 years and not referred from other health facilities was utilized (yet all ANC clients were screened for syphilis). ANC clients were to be sampled consecutively. However, the proportion of eligible specimens sampled was unknown. All ANC clients were encouraged to receive voluntary counseling and testing for HIV where available nearby.

Left-over serum from ANC clients meeting above eligibility criteria was aliquotted into cryotubes. The cryotubes were labeled with surveillance code numbers. Confidentiality was maintained throughout the process. At no time were the names or other personal identifiers of the ANC clients' to be recorded or linked to the HIV test results. Routine demographic and syphilis test data were transcribed on standardized data collection forms without recording of names or personal identifiers.

Specimens were transported to regional testing laboratories (N=20) maintaining standard cold chain procedures for anonymous and unlinked HIV testing. All specimens were tested with Vironostika® EIA and the test results were recorded on the same data collection forms. A sub-sample was re-tested at EHNRI in Addis Ababa using the same test kit.

Data collection sheets were forwarded to the MOH for central data processing using the CDC developed EpiInfo software. Data were double-entered and cleaned.

The 2003 ANC serosurveillance round comprised 66 sites, 29 rural, and 37 urban. Two of these sites catered for specific groups - the Federal Police and the Armed Forces General Hospital – and were not included during the construction of regional and national prevalence estimates. In 2002, the total number of sites was only 35 (26 urban and 9 rural). ANC surveillance data and population-based survey data from previous years were also used.

HIV PREVALENCE ESTIMATES

Analysis was done at the national, regional, and site level. ANC clinic prevalence data from all preceding years were used alongside the 2003 ANC clinic prevalences for the purpose of estimating HIV prevalence on the regional and national level. The clinic-based HIV prevalence values were fed into the EPP (Epidemic Projection Package) software. EPP models the prevalence data for all available years and suggests an HIV prevalence curve over time that best fits all available data points. EPP prevalence curves were obtained for every region, including rural, urban, and total data (three curves for each region), as well as for all of Ethiopia (rural, urban, and total Ethiopia). For all regions (urban and rural combined), prevalence curves were weighted by the urban/rural regional population sizes.

For national prevalence curves, estimates were weighted by urban/rural regional population sizes. The start year of the epidemic in urban Ethiopia was assumed to be 1982, and 1984 for rural Ethiopia. Some regions lacked sufficient amounts of ANC clinic prevalence data, particularly for rural areas. For these, ANC clinics from other regions were selected to “represent” the population of these regions. Regions with insufficient rural ANC surveillance data included Afar, Somali, Benishangul Gumuz, Gambella, and Diredawa for which rural site data from other regions were added. For Harari both urban and rural ANC prevalence data from other regions had to be added.

HIV/AIDS IMPACT AND HIV INCIDENCE ESTIMATES

The SPECTRUM software package was used to estimate HIV/AIDS impact and other estimates. For this purpose, demographic SPECTRUM files containing data on population size, age and sex distribution, life expectancy, fertility, and other parameters were created for every region (urban, rural, and total). These data were obtained from the 1994 census and projected for each year between 1982 (the epidemic’s assumed start) and 2008 (the last year for which estimates were obtained) using standard assumptions for population growth, fertility, migration, and other parameters. The EPP-based prevalence estimates were fed into the demographic SPECTRUM files. SPECTRUM then provided estimates for parameters such as HIV incidence, AIDS cases and deaths, HIV-positive births, or orphan estimates for mid years of the projection periods. Rural and urban regional estimates were added up to obtain total regional estimates. National estimates were likewise obtained by the simple addition of regional figures. Only incidence and HIV prevalence by sex were obtained by formula, not simple addition.

For a detailed description on the methods applied to estimates and projections please refer to the methodology section in the annex.

OTHER DATA SOURCES

Data on AIDS cases reported quarterly by the regions were compiled and analyzed at MOH using EpiInfo. The reports are aggregated by age and sex. In almost all instances, no institution-specific or individual data were available.

HIV/AIDS data from all other available sources, including blood donors, VCT clients, and visa applicants, were gathered, compiled, analyzed and are included in this report. Results of various impact studies are also summarized and presented in the report.