Antiretroviral Treatment in the Spotlight: A Public Health Analysis in Latin America and the Caribbean

BELIZE

Pan American Health Organization
Regional Office of the World Health Organization

110 110th ANNIVERSARY

Development, HIV epidemic, and response indicators

Human Development Index: Belize /LAC (2009)	0.696/0.72
Estimated number of people living with HIV (2010)	4,800 [4,000-5,700]
Estimated % of people living with HIV who are women (2009)	54%
HIV prevalence (15-49) (2010)	2.3%
HIV prevalence in women 15-24 (2009)	1.01%
HIV prevalence in men 15-24 (2009)	1.01%

Source: UNAIDS 2010, Human Development Report, UNDP

	2009	2010
ART coverage	48% [42-56]	53% [47–60]
Proportion of pregnant women who received HIV testing		81% (reported by country: 93%)
Rate of HIV testing /1,000 inhabitants in Belize /LAC		163.9/ 81.2
% CD4<200 at beginning of care		n/a

Source: WHO/UNAIDS/UNICEF. Global HIV/AIDS Response. Progress Report 2011

Treatment

Belize reported 1,053 ART patients in 2010, of whom 96 were children, and 50% were women. The reported number of patients initiated on ART was 335 for 2010, with a net increase of 198 patients from 2009 to 2010 (Figure 1). All patients (100%) were on first-line treatment (Figure 2).

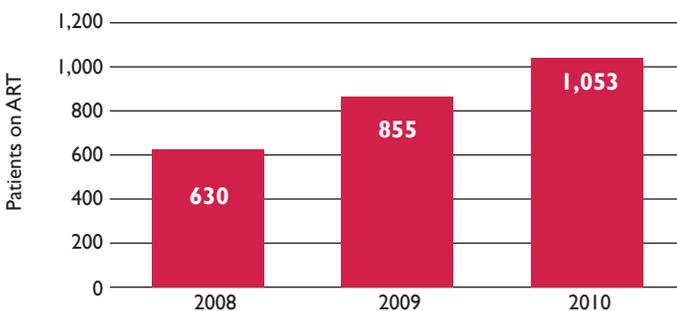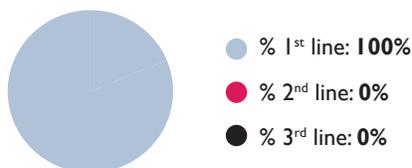**Figure 1** **Patients on antiretroviral treatment 2008-2010**

Figure 2 **Percentage of patients on antiretroviral treatment per line of treatment**

% 1st line: **100%**
% 2nd line: **0%**
% 3rd line: **0%**

Service delivery

In 2010, Belize had 11 public facilities providing ART. Of those, eight provided services to fewer than 100 patients, and one facility provided services to more than 500.

Quality of services and rational use of ARVs

Total ART regimens for adults (first-line)	10
Adults in first-line ART under a WHO-recommended regimen	80%
Total ART regimens for adults (second-line)	0
Adults in second-line ART under a WHO-recommended regimen	n/a
Stock-out episodes	0
Stock-out risk episodes	0
Patients lost to follow up in the 1st year of ART	16%
Retention at 12 months from beginning of ART	76%
Viral load tests per ART patient/year (average)	n/a

Source: Country ARV survey report, WHO 2010. Country reports of early warning indicators (2009-2011), PAHO survey of stock-out episodes

Figura 3 **Percentage of patients by main treatment schemes**

Percentage of 1st line schemes in use

Recomended by WHO
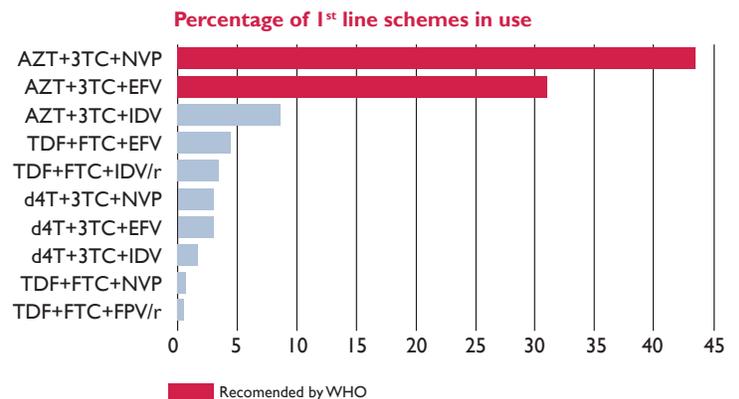
TB-HIV co-infection

In 2010, 99% of TB patients were tested for HIV, with 20% testing positive (29 patients co-infected with TB-HIV). There were eight reported deaths from TB-HIV.

Mortality from HIV

There is an irregular trend in the standardized HIV mortality rates, although rates in men are consistently higher than in women and appear to have decreased since 2003–2004 (Figure 4).

Figura 4 **Standard mortality rate due to HIV by sex**
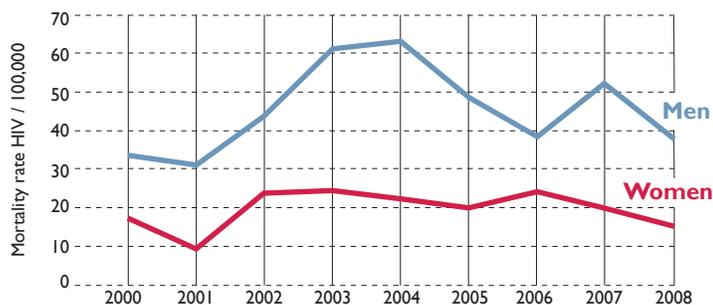
Expenditure

For 2009, Belize's national health expenditure was US$ 32 million, of which 43% was government spending (US$ 14 million). Public expenditure on health was 1% of GDP.

Annual public spending on HIV for 2009 is shown in Figure 5. Spending on ARV was US$ 198,159, of which public financing was 97%. ARV spending accounted for 1.4% of public spending on health. The cost per patient receiving ART was estimated at US$ 232, the lowest in the LAC region.

Figure 3 Annual spending on HIV, care and treatment, ARV treatment, and public spending on ARV
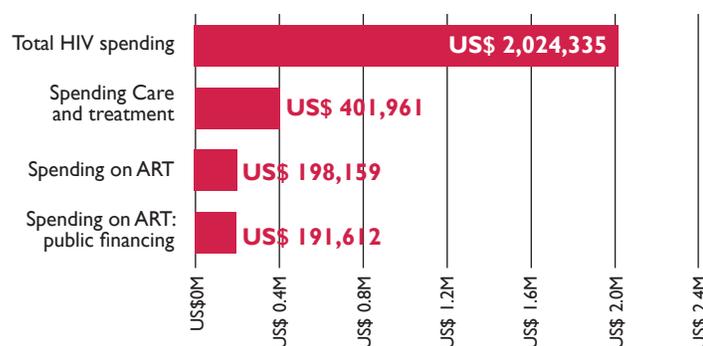
External financing: Global Fund (GF)

Belize has the support of the Global Fund for its HIV response. The value of active grants is US$ 2,170,299. The currently funded proposal includes an ART component. This funding will end on 31/12/12 but could be extended for three years. These figures correspond to the first phase of the project, after which the country may renegotiate a grant for phase 2. Since 2008, funding for ARVs has been mostly public, and current funding of ARVs is 100% from public sources.

Analysis and conclusions

Access to HIV testing is high, and ART coverage has increased by 5% in one year. All patients are on first-line treatment, but the use of obsolete ARVs such as stavudine (d4T) persists. Losses to follow-up in the first year are high. Nevertheless HIV mortality has declined over the past four years (from 2004 to 2008), but rates remain high, particularly among patients with TB-HIV co-infection. Spending for patients on ART is among the lowest in the LAC region. Belize is not dependent on external funds to finance ART. Data on the quality of treatment are limited and in some cases inconsistent, e.g., retention in the first year of ART is high, but there are high losses to follow-up.

In conclusion, the provision of ART in Belize follows the principles of treatment optimization. There are opportunities for improvement, including the transition to schemes without d4T and strengthening of monitoring systems for key indicators such as viral load and baseline CD4.

Sources and methodology

The data on patients receiving ARV treatment, retention at 12 months, and programming are drawn from the *Country Reports on Progress toward Universal Access for HIV Prevention, Care, and Treatment 2011* and the *2011 Surveys on Antiretroviral Use*, which the competent agencies of each country complete for PAHO/WHO. Data on the supply of medication and stock-outs come from a PAHO special survey sent to Latin American countries in 2010, which was filled out by national HIV/AIDS programs. Countries routinely report mortality figures to PAHO. The data on TB-HIV co-infection are from WHO's Global Tuberculosis Control 2011. Data on mortality from TB-HIV are from the country responses to a PAHO special survey (TB program).

Data on HIV expenditure are from the MEGAS studies carried out by UNAIDS in collaboration with the countries. These data as well as estimates of the HIV epidemic are compiled in UNAIDS' AIDSinfo database (http:/www.unaids.org/en/dataanalysis/tools/aidsinfo/).

Health expenditure data are also drawn from PAHO Basic Indicators and the United Nations Department of Economic and Social Affairs. Data on Global Fund projects were taken from the Global Fund website.

Definitions

ARV stock-out episode: "A situation in which a product cannot be dispensed due to a lack of supplies and which causes the forced interruption of treatment in at least one patient."

Stock-out risk: "A stock level below the established minimum level or the need to take unplanned measures to prevent a stock-out (emergency purchases, loans, etc.)."

% CD4<200 at beginning of care: "Percentage of patients with basal CD4 <200 cell/mm³ relative to total patients with basal CD4."

Abbreviations

ART= antiretroviral therapy; **ARV**=antiretroviral; **GDP**=gross domestic product; **GF**=Global Fund; **LAC**= Latin America and the Caribbean; **TB**= tuberculosis; **VL**= viral load.

Acknowledgments

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