Use and prices of antiretroviral therapy in resource-limited countries: a dynamic market

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• Results of the WHO survey on ARV use in 2008 in low and middle income countries

• Trends in the use of ARVs by comparison with 2006 and 2007 survey

• Price of regimen
Survey 2008: Approach and results

Questionnaire sent to 43 countries - 36 responded by June 2009

Total number of patients: 2,634,000 patients (65% total patients Dec 2008)

Adults 93% / Children 7%

Compliance with WHO 2006 recommendations:

1st line: 99%
2nd line: 81%

…but still large a variety of regimen used: 62 first line and 108 second line in adults
List of 36 responding countries

- Angola
- Benin
- Botswana
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Chad
- China
- Cote d'Ivoire
- Djibouti
- Ethiopia
- Ghana
- Guyana
- India
- Iran
- Kenya
- Lesotho
- Liberia
- Malawi
- Mali
- Mozambique
- Namibia
- Nigeria
- Pakistan
- RDC
- Rwanda
- Senegal
- Sudan
- Swaziland
- Tanzania
- Togo
- Uganda
- Ukraine
- Zambia
- Zimbabwe
Only 2% adults on second-line and more than half using tenofovir (56%) and a predominance of LPV/r (93%)
97% children on first-line, with an almost equal distribution between ZDV (51%) and d4T (48%), and 78% using NVP
3% children on second-line with:
more than half from 2 countries, 17% not receiving a PI

Main children 2nd line regimens
(n=5 997)
Four million people on ART by December 2008: The consolidation of trends in an expanding market

<table>
<thead>
<tr>
<th>% first and second line regimen</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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<tbody>
<tr>
<td>Recent ART programmes (&gt;2003)</td>
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<tr>
<td>Proportion of patients in 1(^{st}) line therapy</td>
<td>96%</td>
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<tr>
<td>Proportion of patients in 2(^{nd}) line therapy</td>
<td>4%</td>
<td>3%</td>
<td>2%</td>
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<tr>
<td>Others: Latin American countries</td>
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<td>Brazil 2(^{nd}) line</td>
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Recent ART programmes (>2003):
- Proportion of patients in 1\(^{st}\) line therapy: 96%, 97%, 98%
- Proportion of patients in 2\(^{nd}\) line therapy: 4%, 3%, 2%

Others: Latin American countries:
- Brazil 2\(^{nd}\) line: 21%, 20%
- Mexico 2\(^{nd}\) line: 34%, 15%
Impact of financial crisis on choice of preferred 2nd line regimen

The issue: switch to 2\textsuperscript{nd} line affected?
- South Africa: 3\% on 2\textsuperscript{nd} line, with AZT-ddI-LPV/r
- India: 0.2\% on 2nd line, with AZT-3TC-TDF-LPV/r (350 patients)
- Thailand: 5\% on 2nd line, 2NRTI + LPV/r
- Kenya: 3\% on 2\textsuperscript{nd} line, protocol will depend on 1st line strategy adopted (availability of resources?)

Other strategy: transition period to new 2\textsuperscript{nd} line will continue
- Zambia: 2\% on 2\textsuperscript{nd} line, with AZT-3TC-LPV/r (instead of TDF based regimen)

Source: WHO HIV Département, AIDS Medicines & Diagnostics Service, October \textsuperscript{9}2009
Low-income countries

- 3TC+NVP+d4T [150+200+30]mg: 83
- EFV+[3TC+d4T] 600mg+[150+30]mg: 183
- 3TC+NVP+ZDV [150+200+300]mg: 147
- EFV+[3TC+ZDV] 600mg+[150+300]mg: 250
- TDF/FTC/EFV 300/200/600 mg: 613
Lower middle-income countries

- 3TC+NVP+d4T [150+200+30]mg: 93
- EFV+[3TC+d4T] 600mg+[150+30]mg: 162
- 3TC+NVP+ZDV [150+200+300]mg: 143
- EFV+[3TC+ZDV] 600mg+[150+300]mg: 230
- TDF/FTC/EFV 300/200/600 mg: 1034
Upper middle income

- 3TC+NVP+d4T
  - [150+200+30]mg
- EFV+[3TC+d4T]
  - 600mg+[150+30]mg
- 3TC+NVP+ZDV
  - [150+200+300]mg
- EFV+[3TC+ZDV]
  - 600mg+[150+300]mg
Low-income countries

- [3TC+ZDV]+[LPV+RTV] [150+300]mg+[200+50]mg: 606
- 3TC+[LPV+RTV]+TDF 150mg+[200+50]mg+300mg: 690
- ddI+[LPV+RTV]+ZDV 400mg+[200+50]mg+300mg: 869
- ABC+ddI+[LPV+RTV] 300mg+400mg+[200+50]mg: 1050
Lower middle-income countries

- [3TC+ZDV]+[LPV+RTV]
  - [150+300]mg+[200+50]mg
  - 1149

- 3TC+[LPV+RTV]+TDF
  - 150mg+[200+50]mg+300mg
  - 1221

- ddI+[LPV+RTV]+ZDV
  - 400mg+[200+50]mg+300mg
  - 1954

- ABC+ddI+[LPV+RTV]
  - 300mg+400mg+[200+50]mg
  - 2192
Upper middle income

- **[3TC+ZDV]+[LPV+RTV]**
  - [150+300]mg+[200+50]mg
  - **1149**

- **3TC+[LPV+RTV]+TDF**
  - 150mg+[200+50]mg+300mg
  - **1221**

- **ddl+[LPV+RTV]+ZDV**
  - 400mg+[200+50]mg+300mg
  - **1954**

- **ABC+ddl+[LPV+RTV]**
  - 300mg+400mg+[200+50]mg
  - **2192**