

Antiretroviral Treatment in the spotlight: a public health analysis in Latin America and the Caribbean

2013

Pan American Health Organization

Introduction and Objectives

- 2nd report on the situation of ART in LAC, its progress, difficulties and vulnerabilities.
- Participation of GCTH and networks of civil society
- Objectives:
 - To show advances of the last 2 years with regard to care and ART and its relation to changes in world recommendations, as well as areas left behind or vulnerable.
 - To promote sustainable regional progress in order to achieve the goal of universal access to ART in 2015

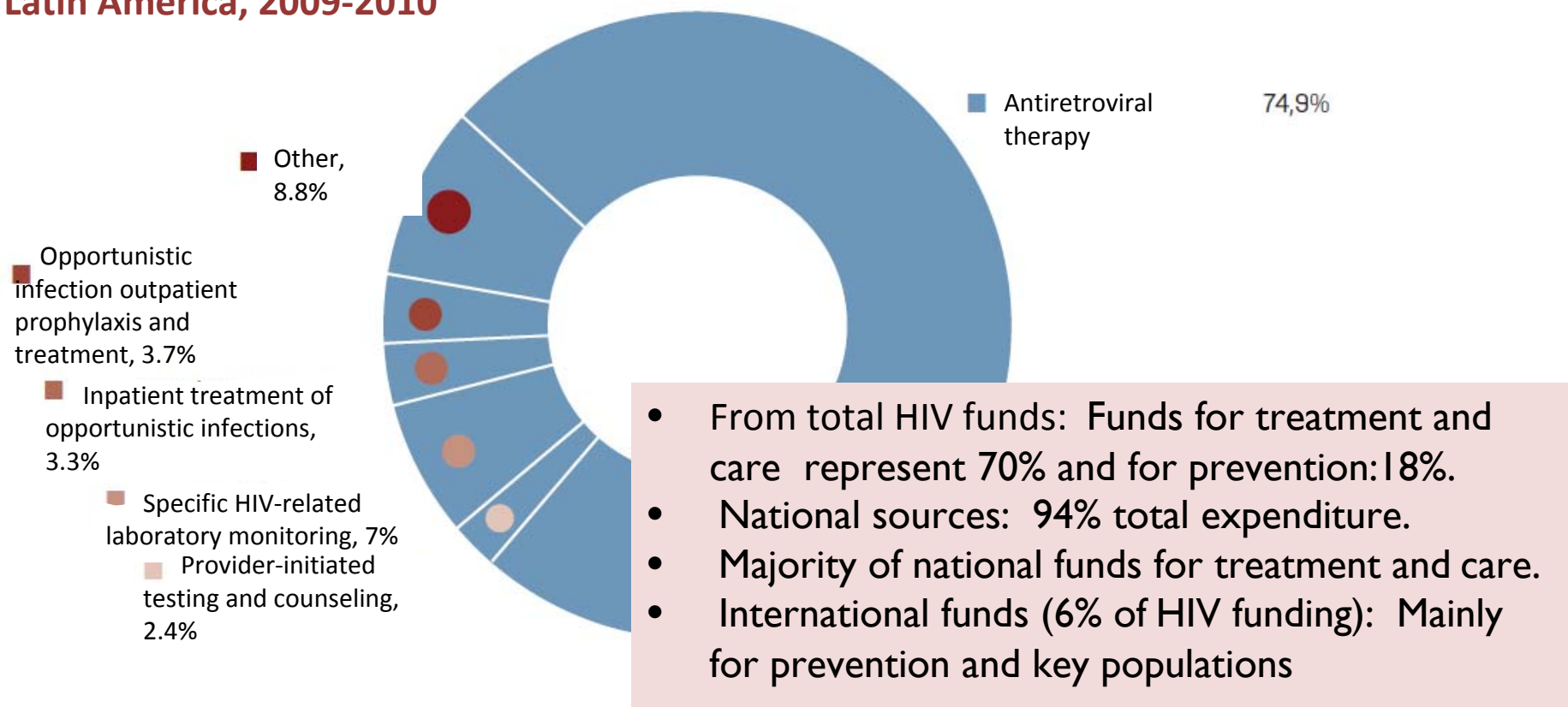


Analytical Framework

- **Sustainability:**
 - Dependence on external funding
- **Costs:**
 - Regimen cost
- **Optimization:**
 - Compliance with WHO recommendations
 - Number of regimens
 - Obsolete drugs in use
 - Preferential regimen
 - Stock outs
- **Programmatic effectiveness:**
 - Patients per line
 - Viral load
 - ART coverage
 - Retention on ART
 - Cascade of HIV care
 - Community participation

ARV Funding

Distribution of spending on HIV treatment and care in Latin America, 2009-2010



Distribution of countries by dependency on external sources for ARV financing, 2007/2008--2013

	High 75-100% external funding of ARV	Medium 20-75% external funding of ARV	Low 5-20% external funding of ARV	No Dependency 0%-5% external funding of ARV
2007-2008	Antigua and Barbuda Bolivia Dominica Grenada Guyana Haiti Jamaica Nicaragua St. Kitts and Nevis St. Vincent and the Grenadines Dominican Republic St. Lucia Suriname	Cuba Guatemala Anguilla Belize Ecuador Honduras British Virgin Islands Monserrat Peru El Salvador Paraguay		Argentina Bahamas Barbados Brazil Chile Colombia Costa Rica Mexico Panama Trinidad and Tobago Uruguay Venezuela
2013	Antigua and Barbuda Bolivia Dominica Grenada Guyana Haiti Jamaica Nicaragua St. Kitts and Nevis St. Vincent and the Grenadines	Cuba Guatemala Dominican Republic St. Lucia	El Salvador Paraguay	Anguilla Belize Ecuador Honduras British Virgin Islands Monserrat Peru Suriname Netherlands Antilles Argentina Aruba Bahamas Barbados Brazil Chile Colombia Costa Rica Curacao Cayman Islands Turks and Caicos Mexico Panama Saint Marteen Trinidad and Tabago Uruguay Venezuela

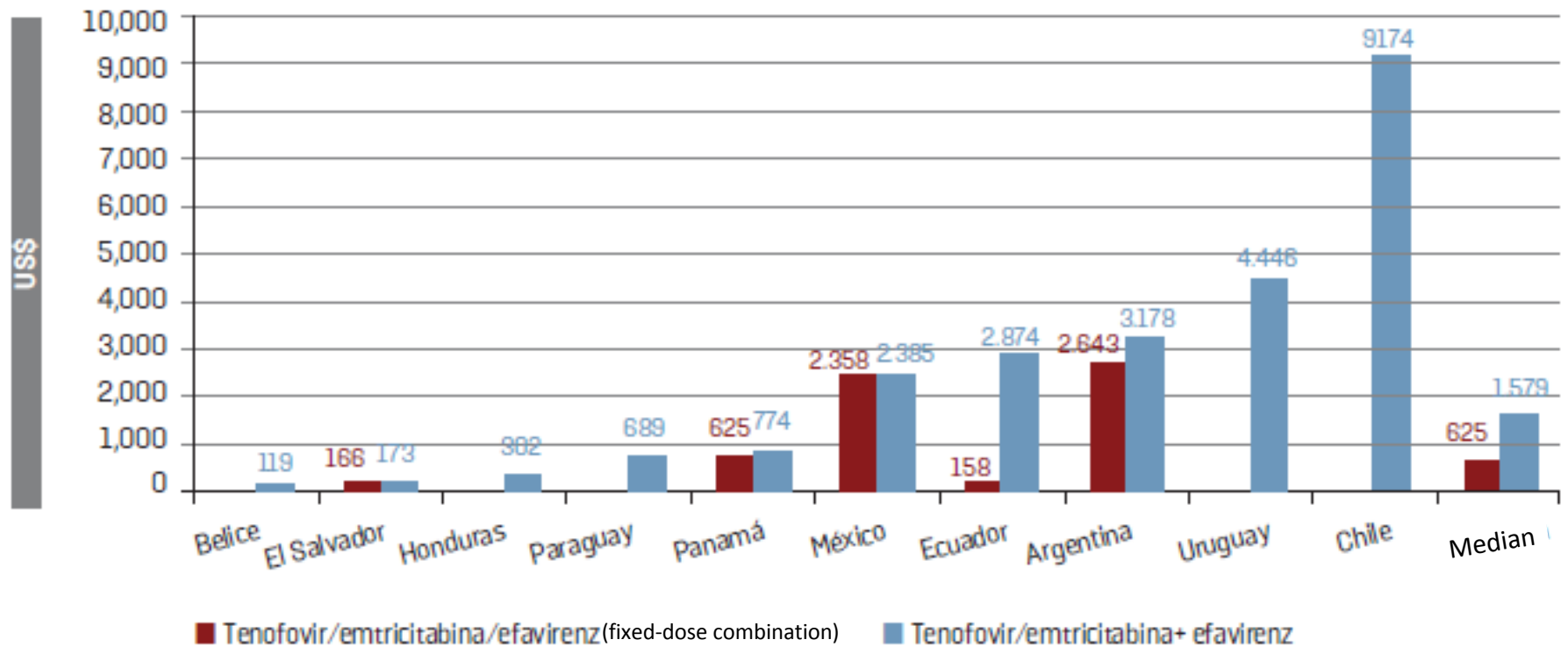
WHO Antiretroviral Use Survey, 2013; PAHO. Antiretroviral therapy under in the spotlight: a public health analysis in Latin America and the Caribbean 2012.

ARV Regimen Cost

- New guidelines imply ART expansion to a greater number of people: 400 000 more than with the previous recommendations (for 2013).
- This implies an increase of the ARV expenditure: between \$250 and \$475 million (3% to 24% more than the total HIV expenditure).
- High variation of ARV prices: up to 77 times higher than the lowest.

ARV Regimen Cost: GCTH 2012-2013 study

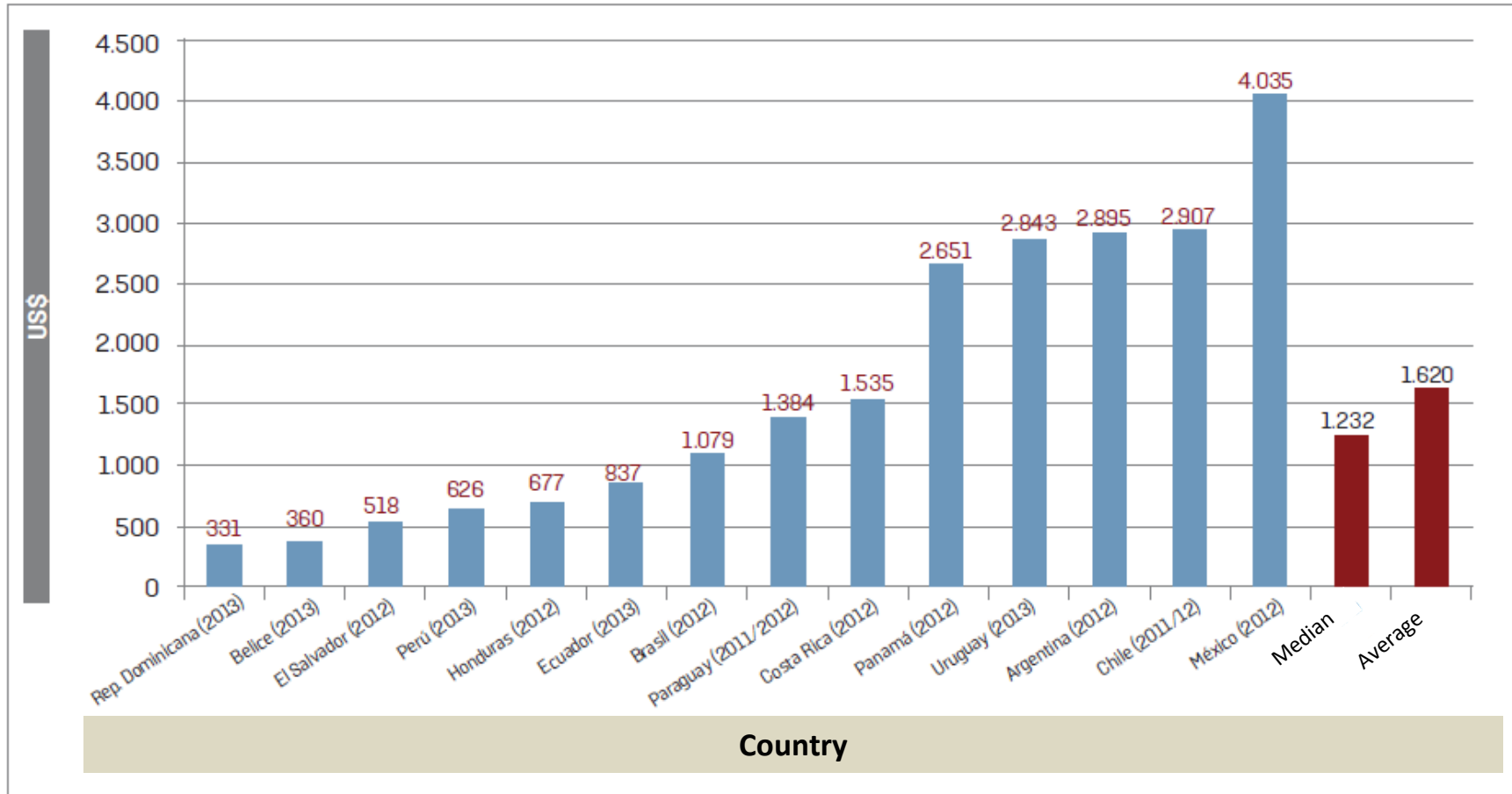
Annual cost per patient of tenofovir/emtricitabine + efavirenz (2012) and of tenofovir/emtricitabine/efavirenz in fixed-dose combination (2012-2013), per country



GCTH with the technical assistance of the Director of AIDS and STDs and Director of Health Economics of the Ministry of Health of the Nation (Argentina). Análisis de precios de medicamentos antirretrovirales en el ámbito del GCTH de Latinoamérica y el Caribe. Argentina: GCTH; 2013

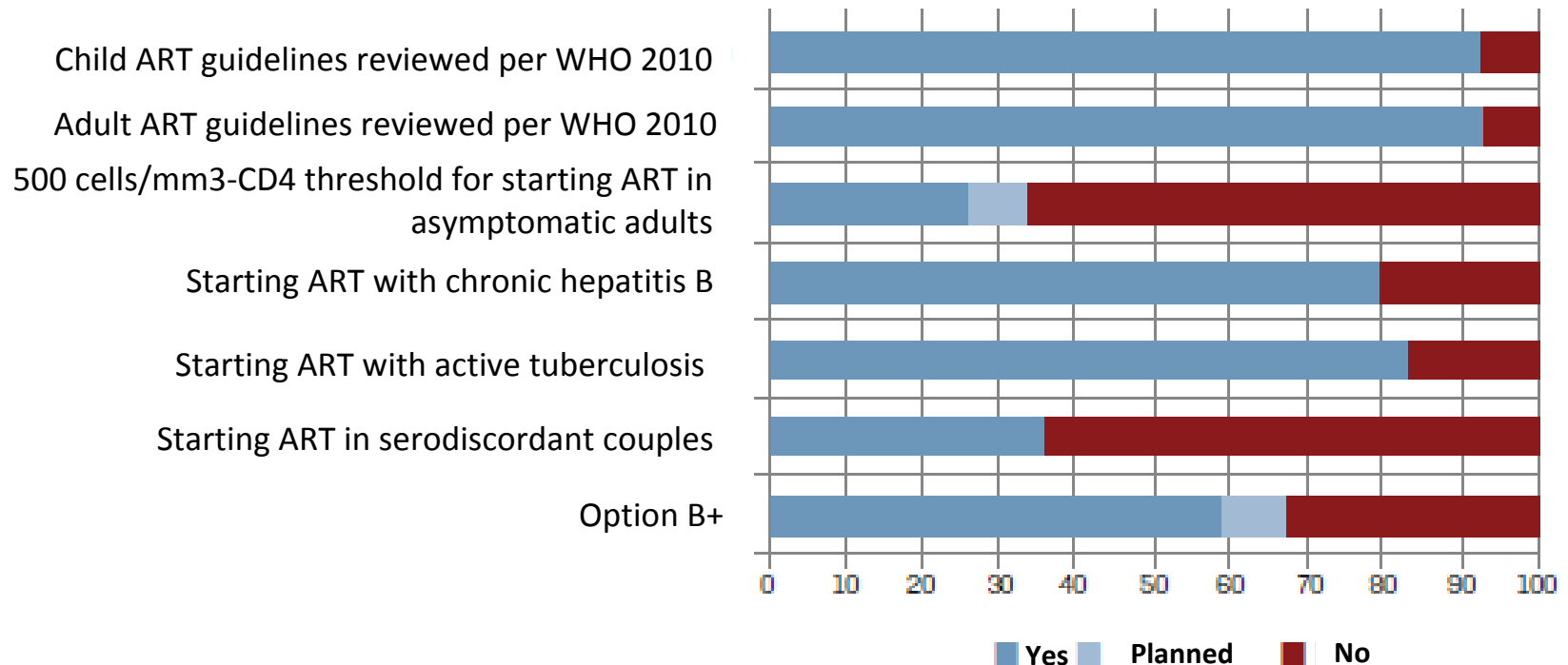
ARV Regimen Cost: GCTH 2012-2013 study

Annual cost per patient of the regimen
zidovudine/lamivudine + lopinavir/ritonavir, 2011-2013, per country



National guidelines for ART in Latin America and the Caribbean

Proportion (%) of LAC countries that adapted their national guides to WHO recommendations and criteria to start ARV treatment, August 2013



Compliance with the WHO ART recommendations of 1st and 2nd line

Adults in regimens

recommended by WHO for:

- 1st line: 78% (range 28-100%)
- 2nd line: 39% (range 0-95%)

Increase from 2010 to 2012:

- 13 percentage points for 1st line treatments
- 12 points for 2nd line

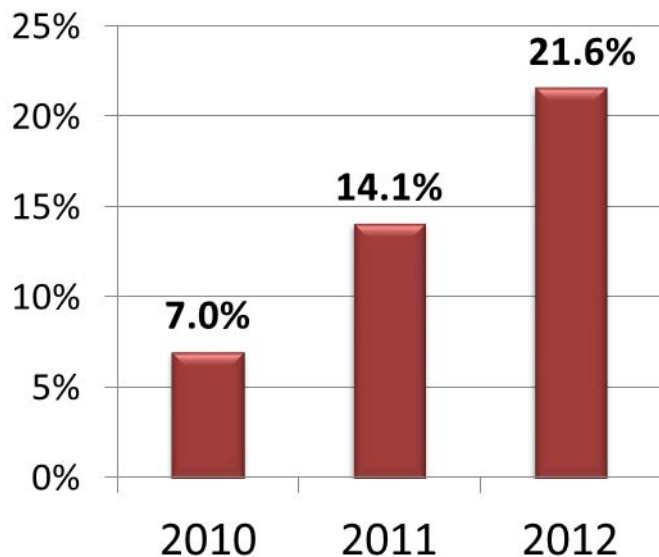


WHO Antiretroviral Use Survey, 2013



Use of the preferential first-line regimen (TDF/ FTC or 3TC/ EFV)

**% Patient in preferential regimen on
1st line in LAC**



WHO Antiretroviral Use Survey, 2011-2013.

Country	Patients in preferential first-line regimen (TFV+FTC or 3TC+EFV (%))		
	2010	2011	2012
Anguilla	0.0	0.0	0.0
Antigua and Barbuda	0.0	ND	ND
Argentina	2.2	4.8	6.6
Barbados	ND	29.1	41.6
Belize	4.5	ND	7.4
Bolivia	0.3	0.0	36.2
Costa Rica	ND	ND	1.8
Cuba	0.0	0.0	0.0
Dominica	ND	ND	19.1
Ecuador	2.3	ND	19.6
El Salvador	0.0	0	7.5
Grenada	0.0	3.5	12.5
Guatemala	54.8	57.0	57.8
Guyana	73.4	70.3	76.7
Haiti	ND	ND	18.5
Honduras	5.6	0.0	6.6
Mexico	39.9	ND	43.4
Virgin Islands (RU)	ND	6.7	12.5
Turks and Caicos Islands	ND	ND	6.9
Nicaragua	9.1	11.3	12.4
Panama	8.1	ND	66.0
Paraguay	0.7	1.7	5.1
Peru	0.0	ND	0.0
Saint Lucia	ND	17.9	ND
St. Vincent and the Grenadines	ND	11.1	ND
Suriname	1.0	ND	1.1
Dominican Rep.	11.0	11.1	21.2
Uruguay	0.1	0.5	0.9
Venezuela	0.0	ND	24.6
TOTAL	7.0	14.1	21.6

Number of ART regimens of 1st and 2nd line in adults

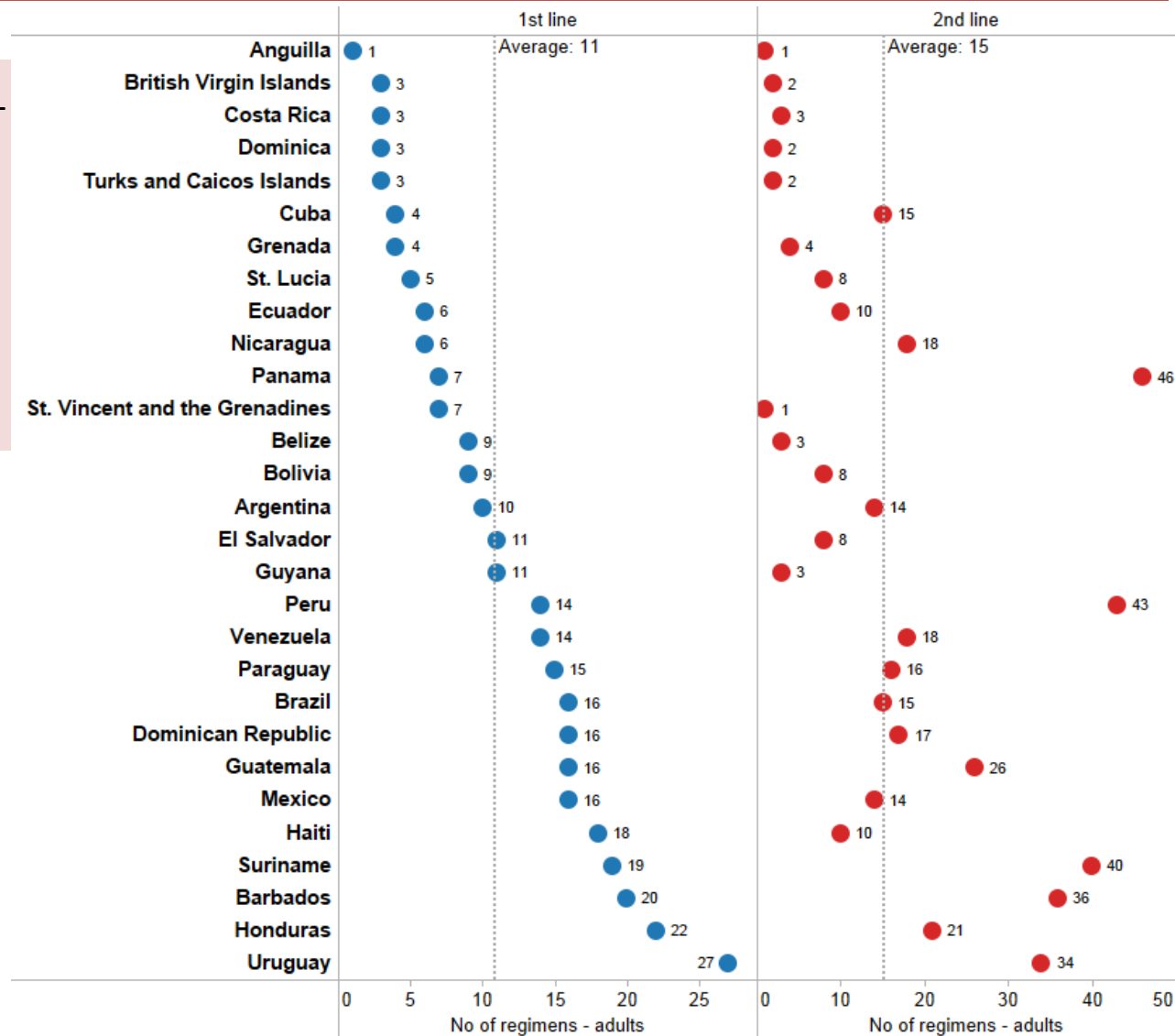
- Although there is a concentration of more patients in the preferred regimens, the number of regimens in use in LAC is still high.
- Very few countries have reduced sufficiently the number of regimens on every line.

Changes in the number of regimens by line of treatment, 2010-2012

	First line	Second line
Countries that increased number of regimens	Argentina, Brazil, El Salvador, Grenada, Guyana, Honduras, Panama, Paraguay, Peru, and Uruguay	Argentina, Brazil, El Salvador, Guyana, Honduras, ^a Mexico, Panama, Paraguay, Peru, Suriname, and Venezuela
Countries that decreased the number of regimens	Belize, Bolivia, Cuba, Ecuador, Rep. Dominican, Suriname, and Venezuela	Bolivia, Cuba, Ecuador, Guatemala, Nicaragua, Dominican Republic and Uruguay
Countries with the same number of regimens	Guatemala, Mexico, Nicaragua	----

Number of ART regimens of 1st and 2nd line in adults

- The regional average is 11 different regimens on 1st line and 15 on 2nd line, similar to 2010 with an average of 12 and 15 regimens on 1st and 2nd line, respectively.



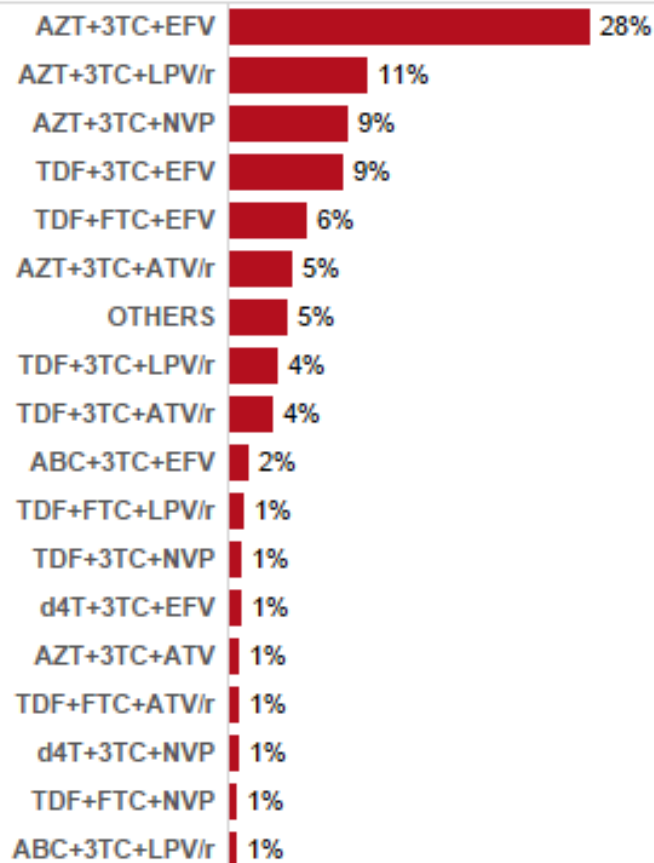
WHO Antiretroviral Use Survey, 2013.

Note: The data of St Lucia and St Vincent and the Grenadines refer to 2011

Number of ART regimens of 1st and 2nd line in adults

- Very few countries have reduced sufficiently the number of regimens in each line.
- A concentration of patients in a small number of regimens has been observed:
 - 70% of the patients are concentrated in 6 regimens.

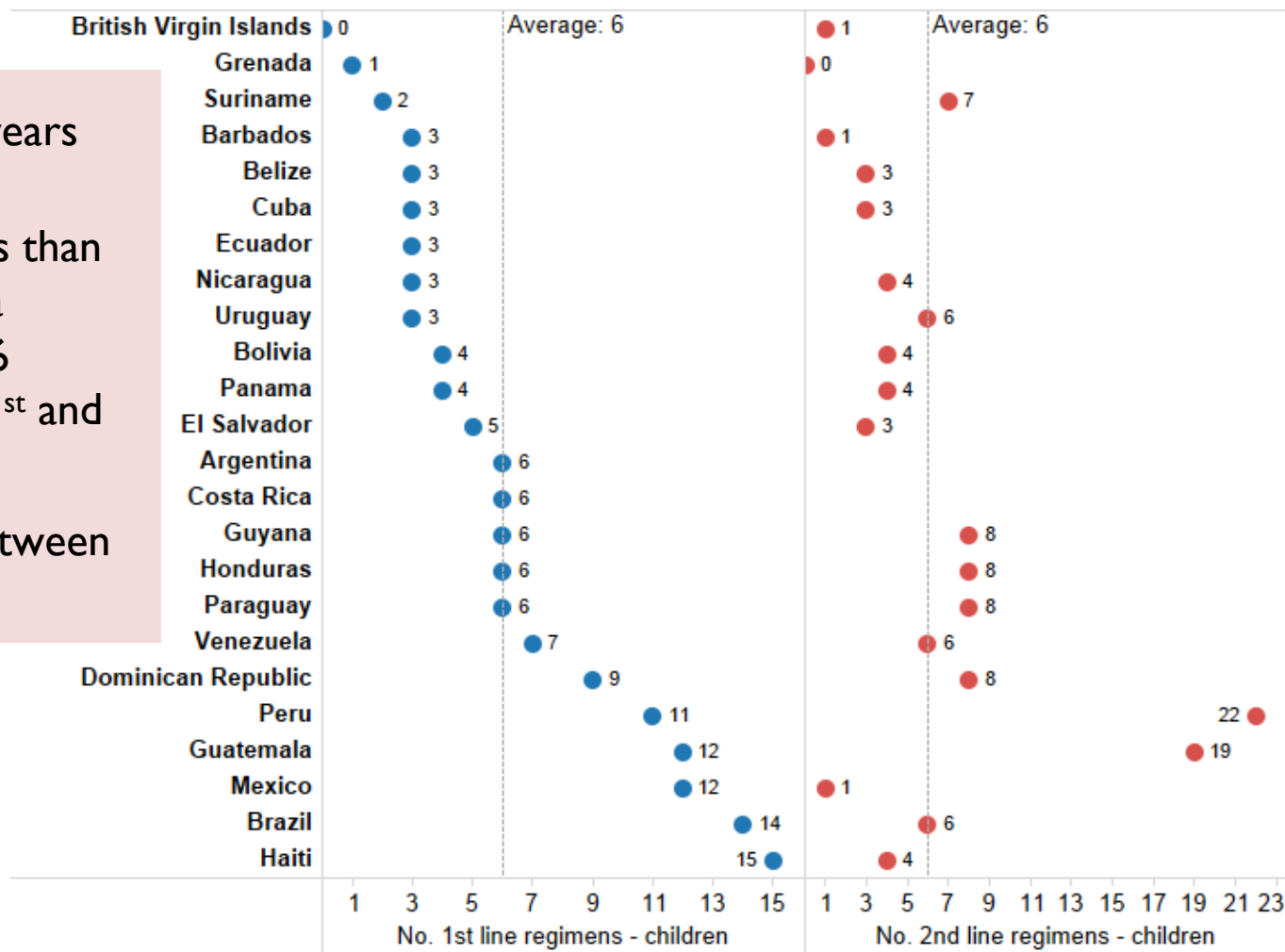
Distribution of patients by regimens in LAC, 2012



WHO Antiretroviral Use Survey, 2013.

Number of ART regimens of 1st and 2nd line in children (< 15 years old)

- For children < 15 years old, the number of regimens used is less than that of adults, with a regional average of 6 regimens, both for 1st and 2nd line in 2012
- Without change between 2010 and 2012.

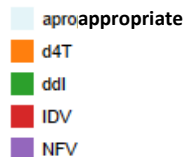
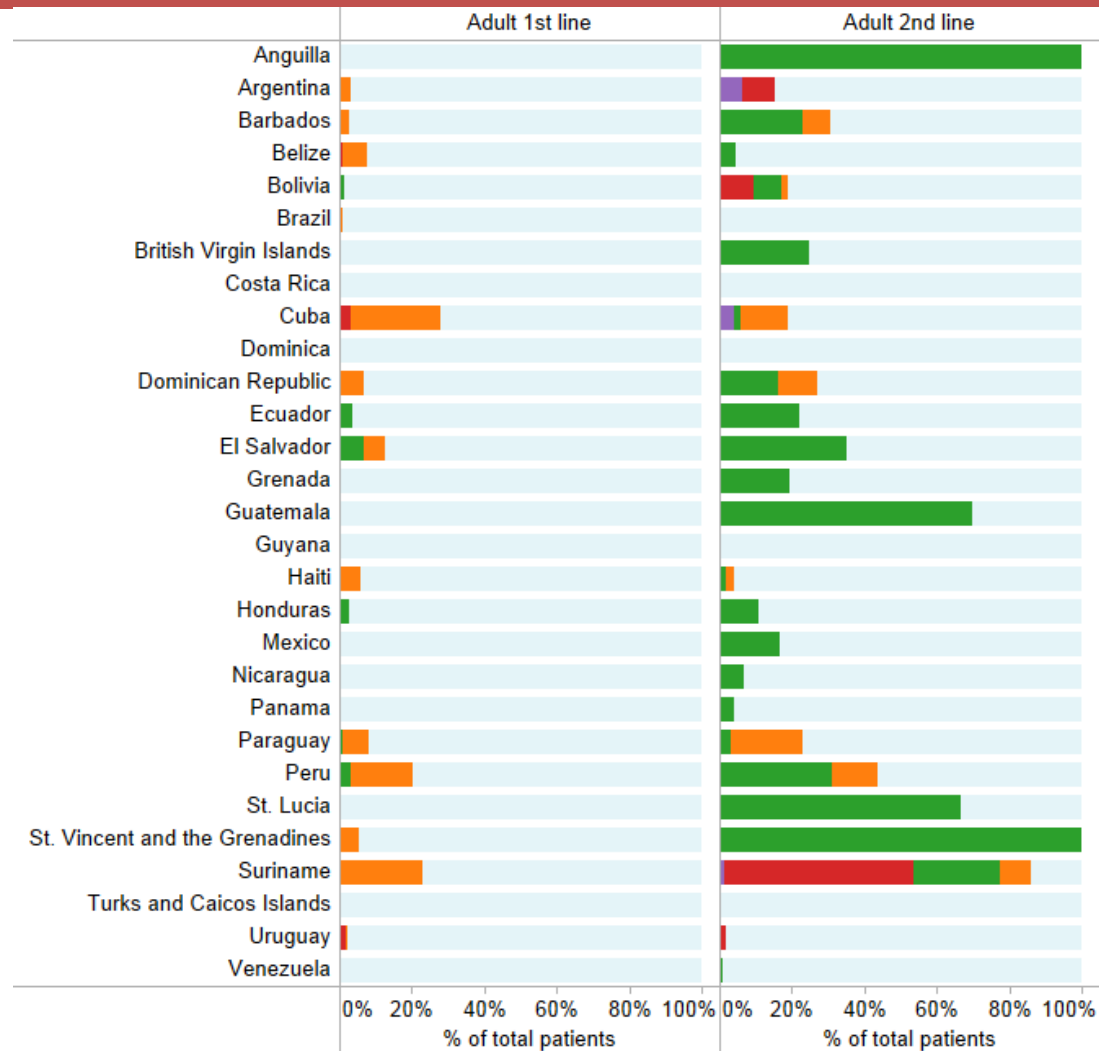


WHO Antiretroviral Use Survey, 2013.

Anguilla and Dominica have no children on ART. Argentina, Costa Rica, and Ecuador did not provide second-line regimen data. The data from Peru are for children under 17 years of age.

Use of obsolete or inappropriate drugs

- In 2012, 4% of the patients of LAC received obsolete or inappropriate ARV :
 - 3% of the patients in 1st line
 - 5% of those of 2nd line
- Three percentage points less than in 2010.
- The most used is d4T: 3% of the patients on 1st line (this amounts to 86% of the obsolete ARV used on 1st line).
- The next most used is ddl: 0.4% and 3% of patients in 1st and 2nd line, respectively.



ARV stock-out episodes

- In 2012, 45% (14/31) of the countries reported at least one stock-out episode; that proportion was 54% (14/26) in 2010.

Latin America and the Caribbean countries that presented some episodes of ARV stock-outs in 2012

Stockout	Country
Yes	Anguilla, Antigua and Barbuda, Bahamas, Belize, Brazil, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Panama, Peru, Venezuela
No	Argentina, Barbados, Bolivia, Cuba, El Salvador, Grenada, Guyana, Haiti, Honduras, Virgin Islands (RU), Jamaica, Paraguay, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay

There are countries without official data reported in which declarations of groups of civil society suggest the presence of problems of supply of ARV; for example, Chile and Colombia.

- Improvement in 17 countries comparing data of 2010, 2011 and 2012.
- Although there is improvement from 2010 to 2012, the region is still experiencing a high frequency of these events.

ARV stock-out episodes: Perception of civil society

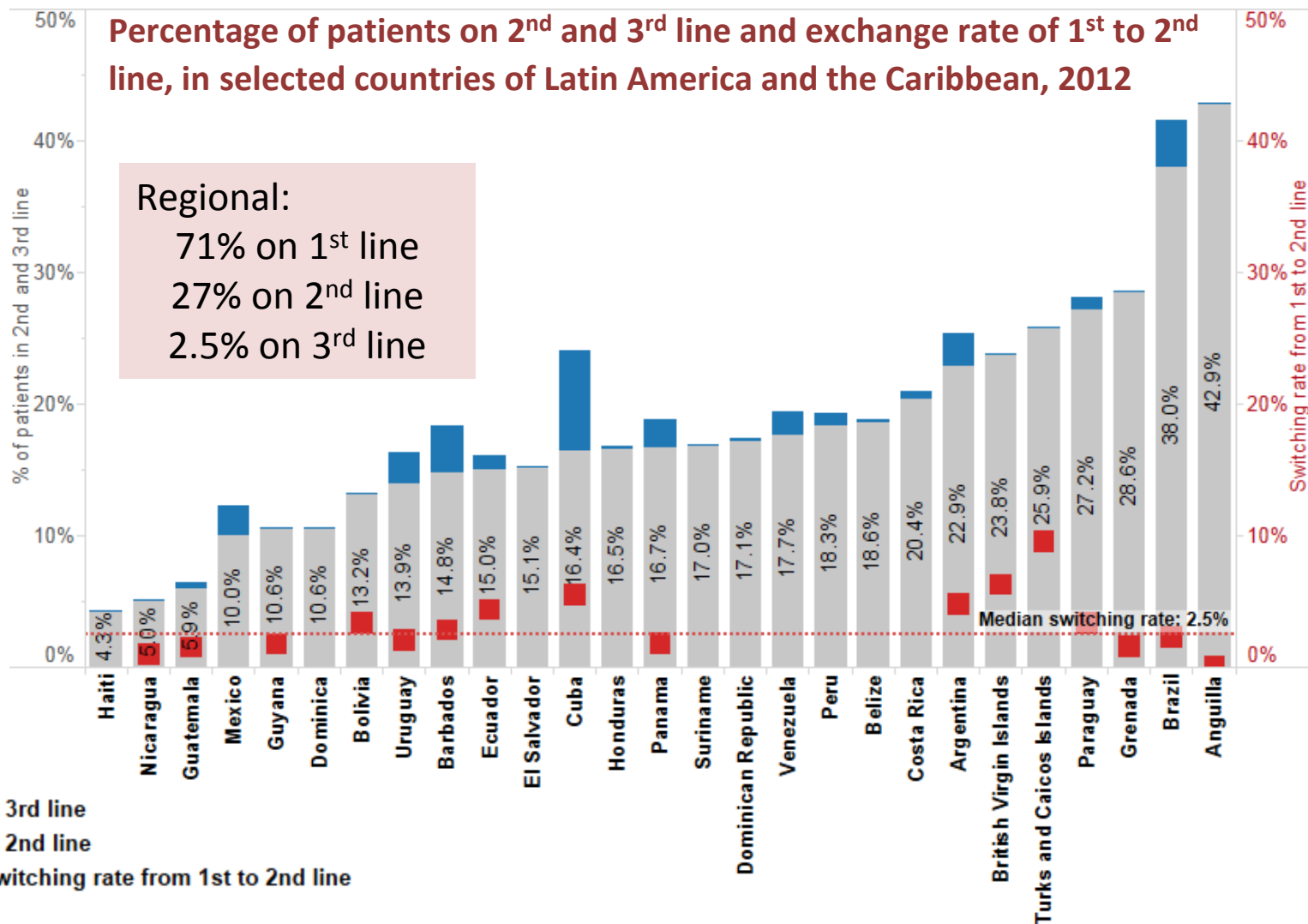
- Participants of 18 countries responded
- Among the countries that had reported that they had NOT had stock-out episodes, the average scoring was 7.9 (median 8, range 6-10).
- Of the 7 countries that reported that they had experienced stock-outs, the average scoring was 6.1 (median 7, range 1- 8).

Countries	Perception by civil society groups of how well national programs ensured a constant supply of ARV Scale from 1 (worst) to 10 (best) ^a
Argentina	9
Barbados	10
Bolivia	6
Colombia	4.5
Costa Rica	8
Chile	4 and 10
Ecuador	5.5
El Salvador	8
Guatemala	8
Honduras	6
Nicaragua	8
Paraguay	6 (peripheral level) 8 (central level)
Peru	7
Dominican Republic	5
Saint Lucia	9
Suriname	6
Uruguay	9
Venezuela	1

Source: PAHO-GCTH civil society survey, 2013.

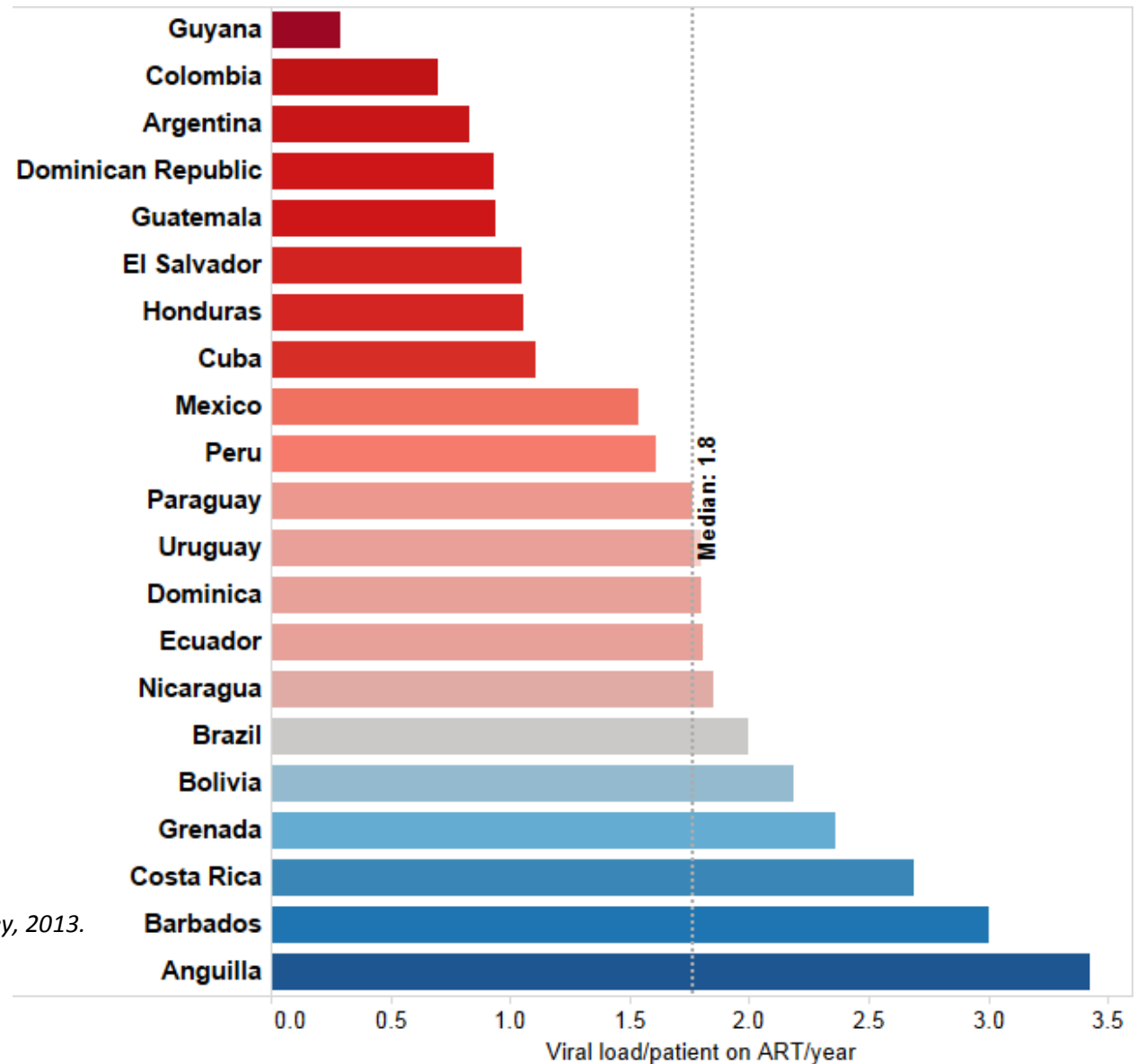
Note: ^a 1 indicates the lowest and worst score in the perception of a constant supply and 10, the highest and best.

Distribution of patients by ART line and switching rate from 1st to 2nd line



Virological monitoring intensity

Ratio of viral load tests
by patient on ART per
year, 2012
Regional: 1.8

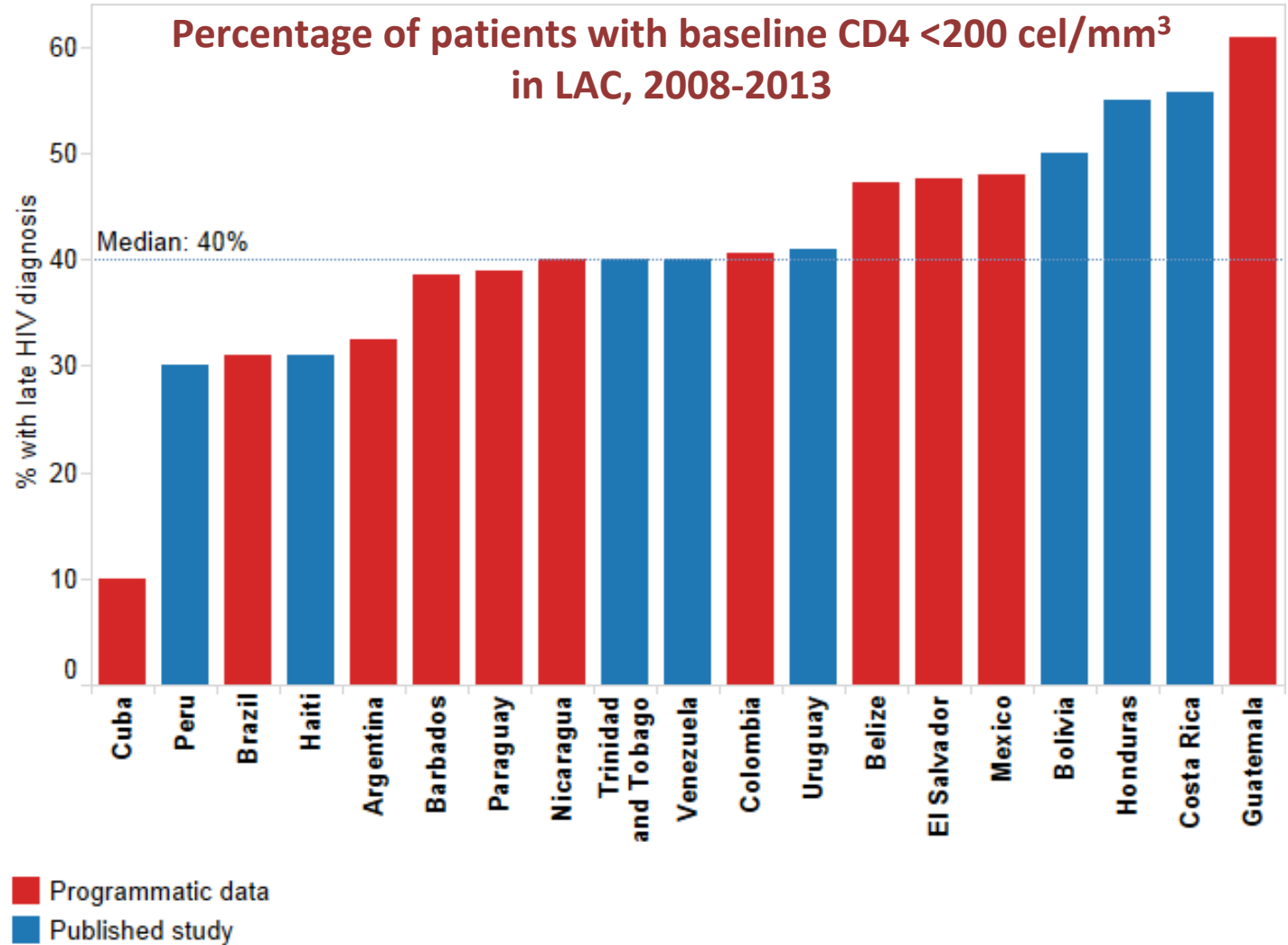


WHO Antiretroviral Use Survey, 2013.

HIV testing and early access to HIV diagnosis and care

- 2nd region with greater number of tests by population (after Sub-Saharan Africa).
 - 36 tested people per 1000 population in 2012 (median value of data of 29 countries), corresponding to 23 million tested people in LAC.
- The tests directed at pregnant women are approximately 30% of all the tests carried out in LAC in 2012.
- Coverage of HIV testing in pregnant women in 2012: 63%
- Slow progress in HIV testing in TB patients (regional value):
 - 39% in 2006
 - 52% in 2011, with stagnation in recent years

HIV testing and early access to HIV diagnosis and care: % with late diagnosis



In half of the countries 40% or more of patients present an advanced immunological stage (<200 cell/mm³) in their 1st CD4 determination

HIV testing and early access to HIV diagnosis and care

- Persistence of HIV diagnosis algorithms that depend on confirmation by Western Blot or other complex techniques and multiple intermediate tests.
- 40% of the countries (out of 42) still use exclusively Western Blot for the confirmation.

Countries that use Western Blot to confirm HIV infection, 2013

Confirm exclusively with Western Blot	Do not confirm exclusively with Western Blot
<p>Latin America: Chile, Colombia, Ecuador, Mexico, Paraguay, Peru^a, Uruguay, and Venezuela</p> <p>Caribbean: Anguilla, Bonaire, Cayman Islands, Jamaica, Saba, Statia, St. Eustatius, St. Martin (French and Dutch), Turks and Caicos Islands</p>	<p>Latin America: Argentina, Bolivia (in transition), Brazil, Costa Rica (in transition), El Salvador, Guatemala (in transition), Honduras, Nicaragua, Panama</p> <p>Caribbean: Antigua and Barbuda, Barbados, Bahamas, Belize, Cuba, Dominica, Grenada, Guyana, Haiti, British Virgin Islands, Montserrat, St. Kitts and Nevis, St Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago</p>

Country communications to WHO, 2013

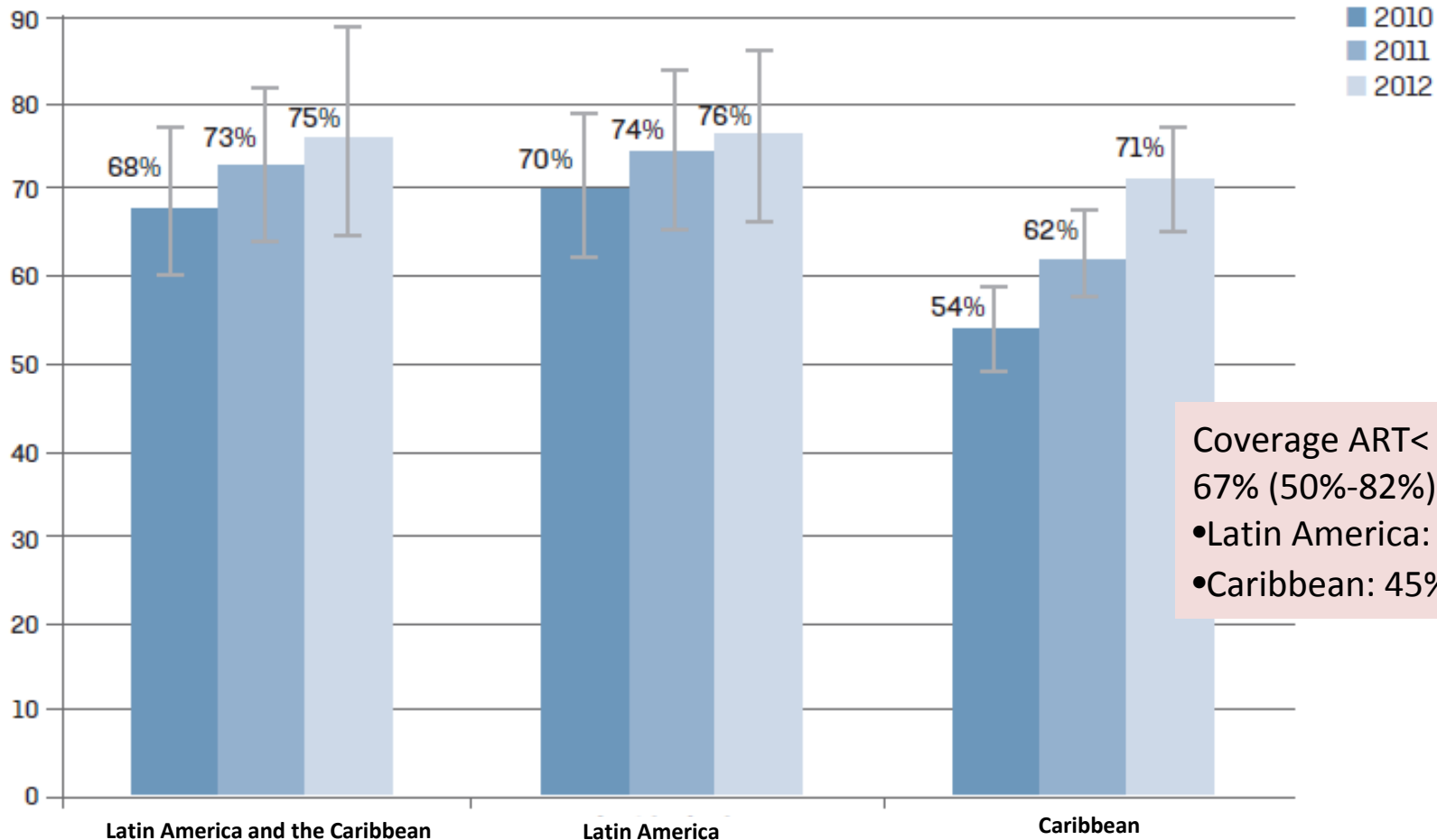
Note: ^a Confirmation with immunofluorescence, not with Western Blot.

ART Coverage

- The number of patients on ART in LAC continues to increase.
- In 2012:
 - 725,000 patients on ART in LAC, of which 26,900 < 15 years old.
 - 715,000 patients on ART in LAC from low and middle income countries, 26,700 < 15 years old.

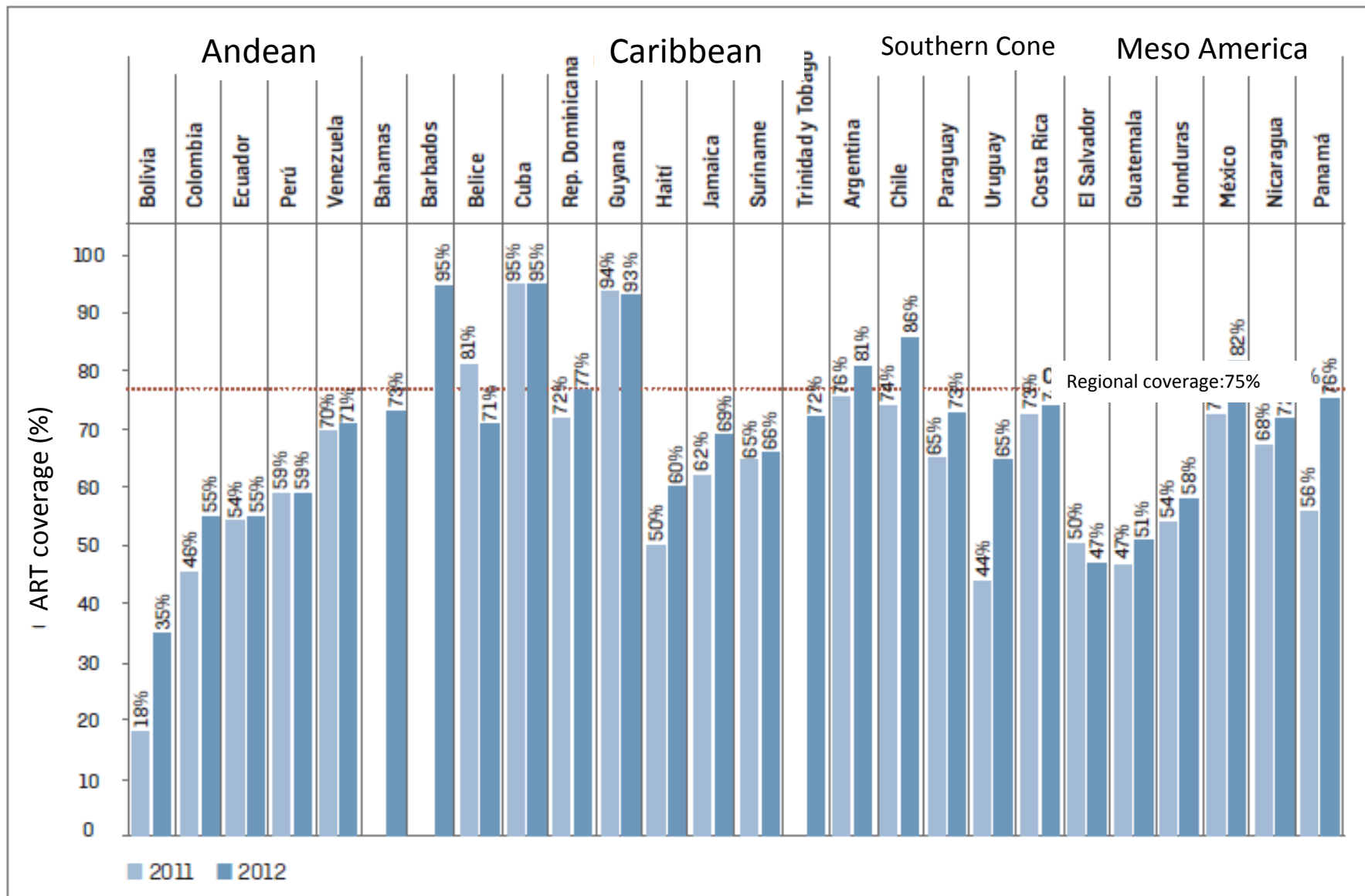
ART Coverage

Antiretroviral therapy coverage (%) in Latin America and the Caribbean, per year, 2010 to 2012



Coverage ART < 15 years old:
67% (50%-82%)
• Latin America: 73%
• Caribbean: 45%

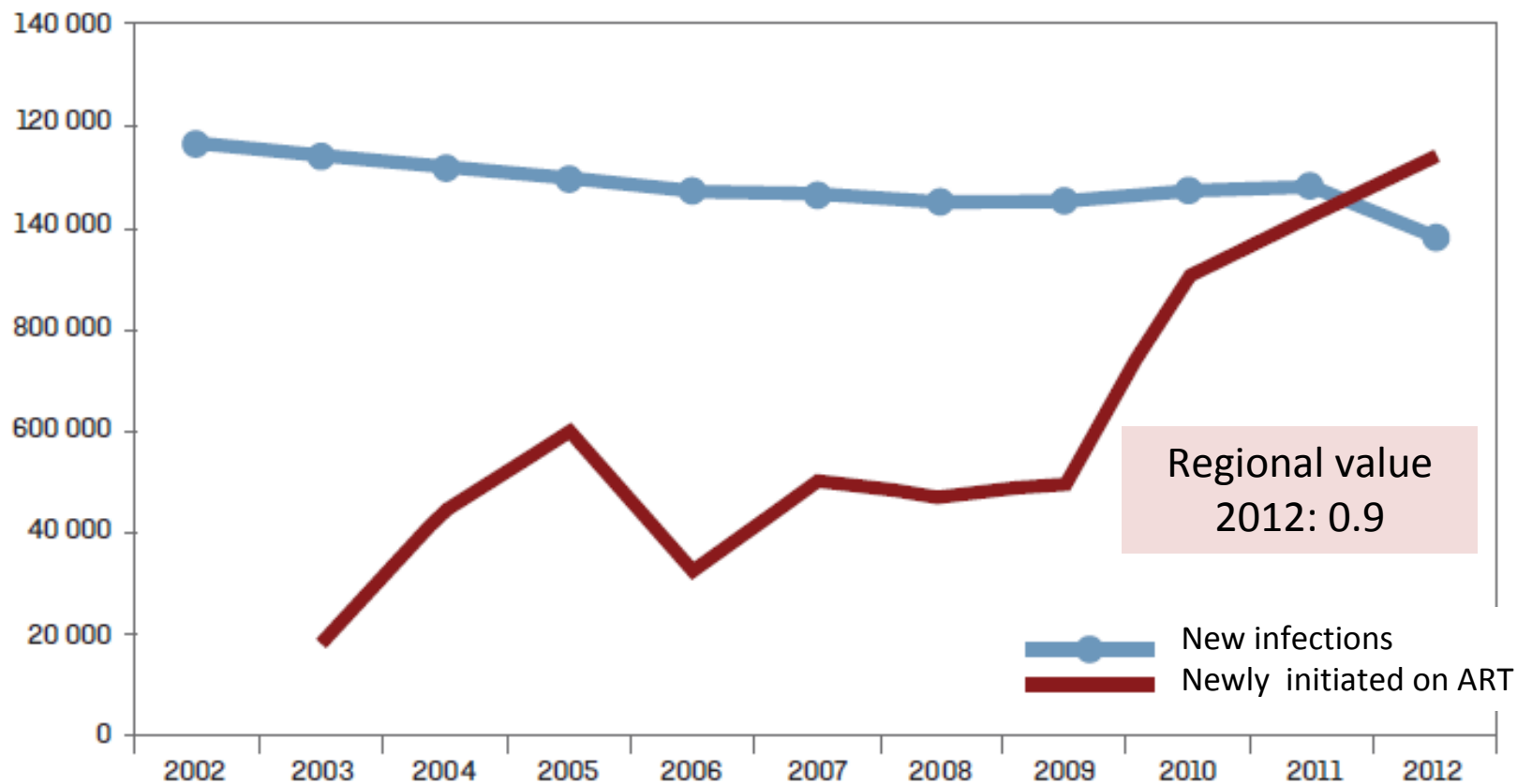
Coverage of the antiretroviral therapy (%) in Latin America and the Caribbean, per country, 2011 and 2012



Retention in ART

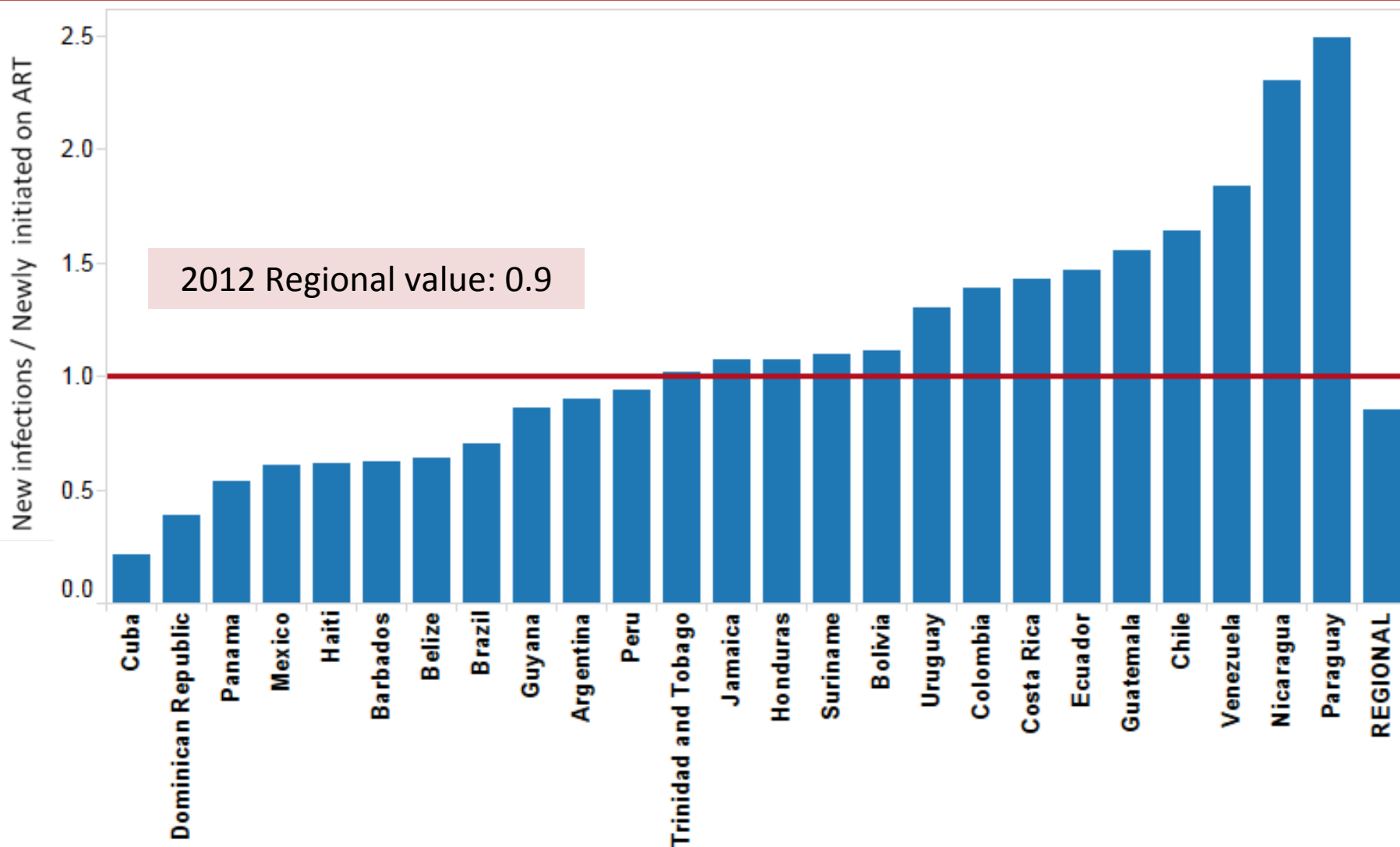
- Retention on ART at 12 months after initiating ART ranges between the countries of the region from 53% to 97% for 2012.
- There are no observed differences between the retention in men and women. Median of retention in LAC:
 - 79% women
 - 78% men
- Although there are differences among countries, there are no observed clear patterns of retention in ART at 12 months between men and women.

Program tipping point in the response to HIV in LAC, 2002 to 2012



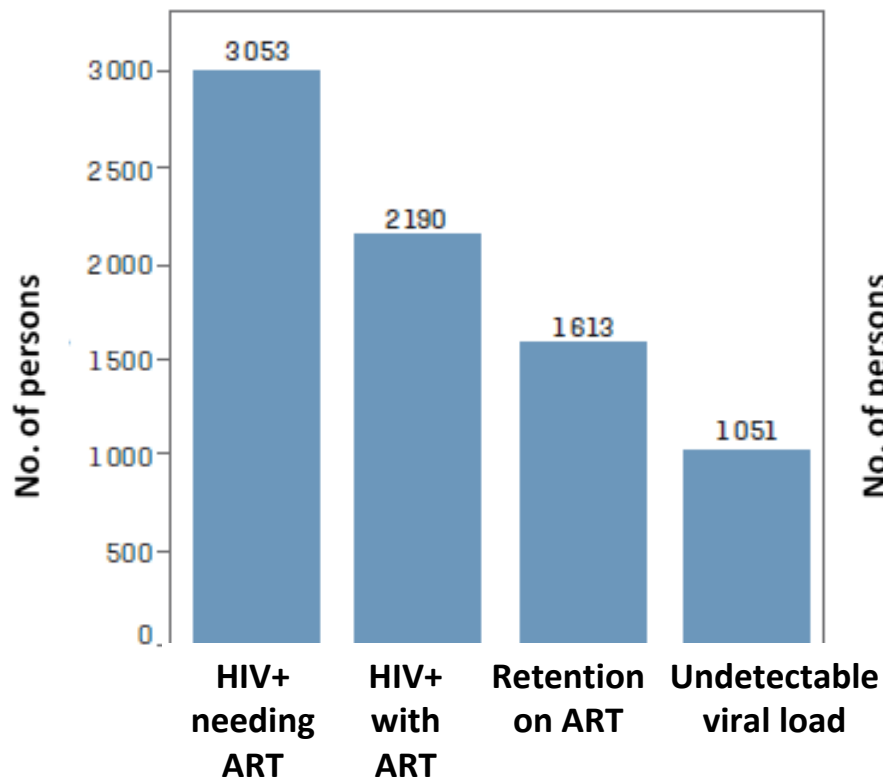
Data on newly start of antiretroviral treatments: WHO. National reports on progress toward universal access, 2005-2012. New infection data: UNAIDS. Estimates of new infections. Geneva, 2013.

Program tipping point in the response to HIV: ratio of new HIV infections in patients who begin ART, LAC, 2012

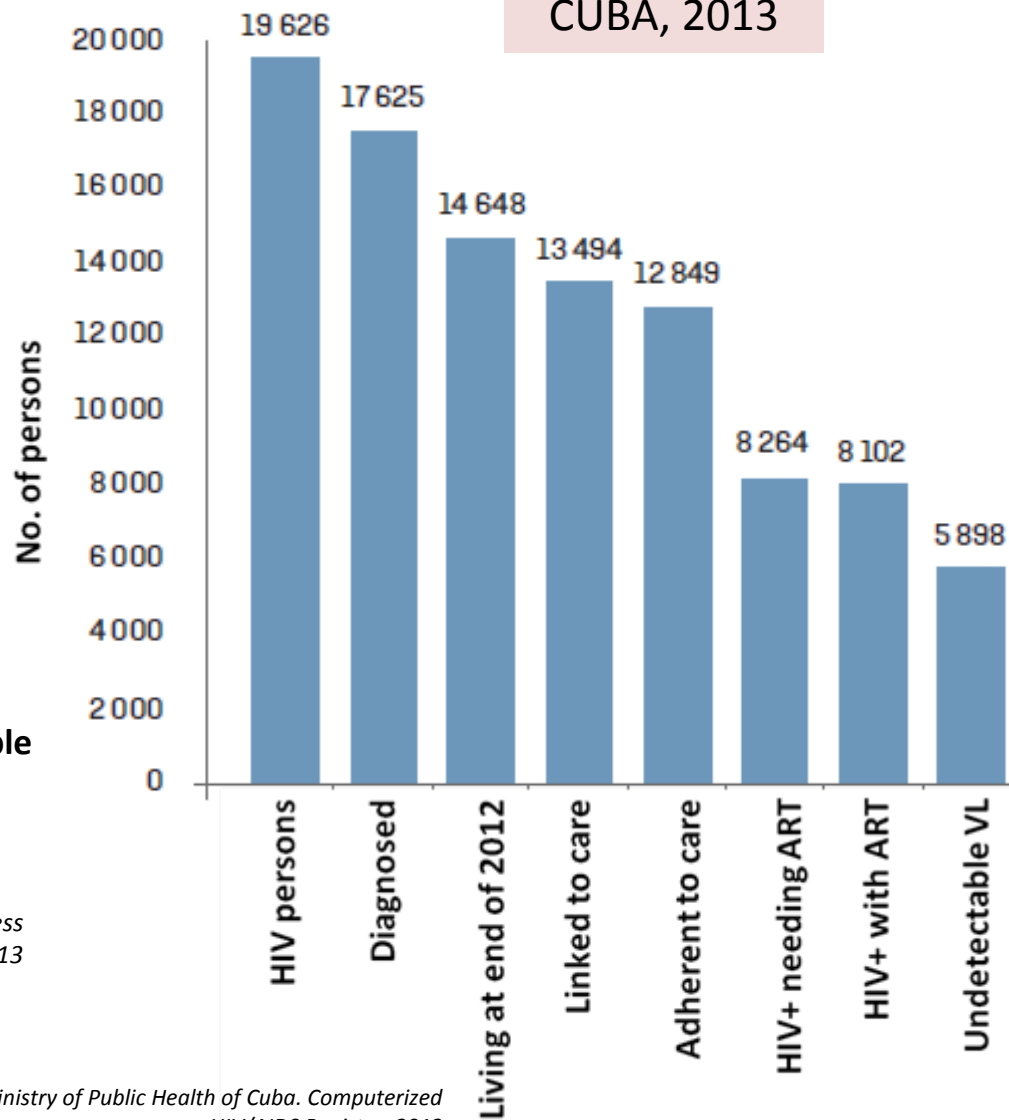


Measurement of the effectiveness of the program for treatment: the HIV care cascade

NICARAGUA, 2012



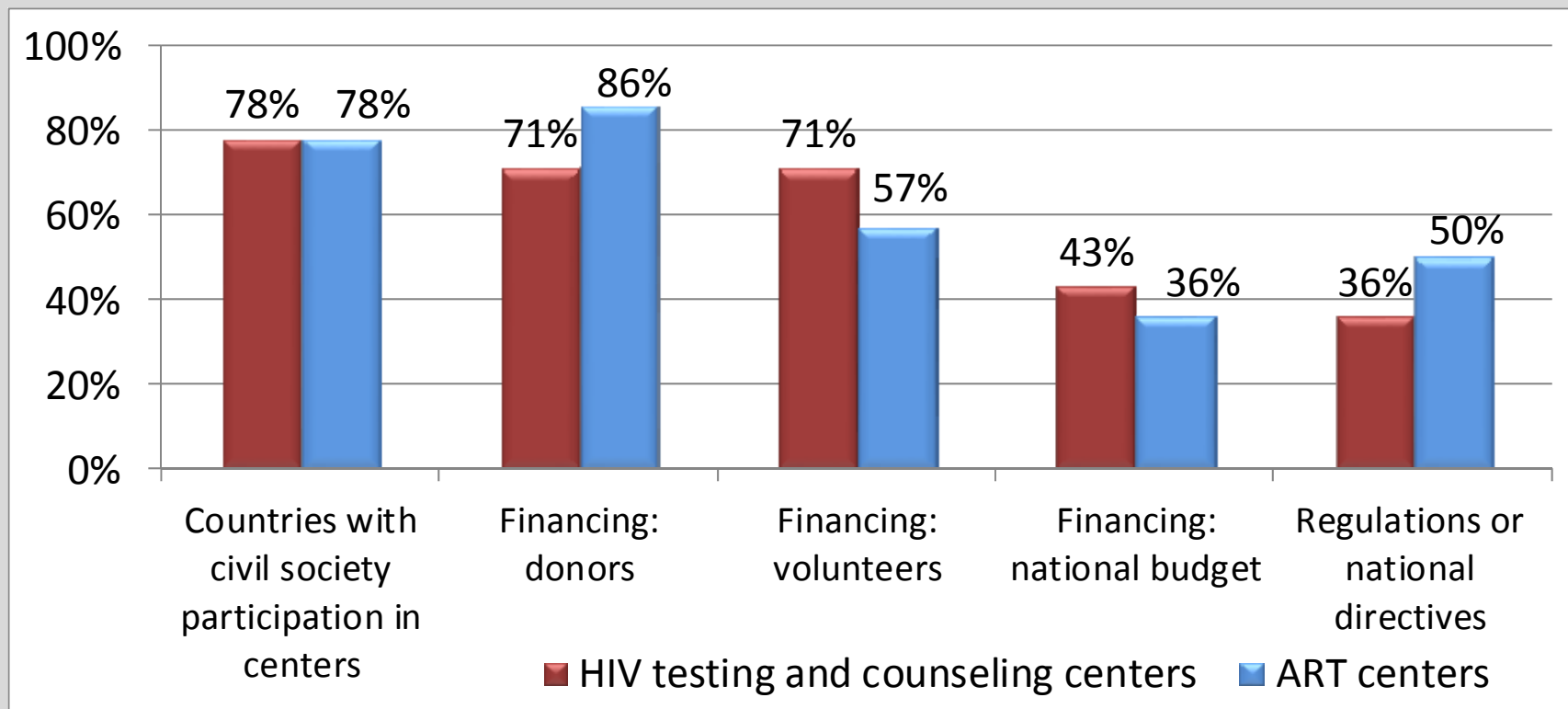
CUBA, 2013



UNAIDS. Estimates of needs for treatment, 2013; Nicaragua report on progress toward universal access 2013 (WHO); WHO survey of antiretrovirals, 2013

Community participation in testing and counseling centers and in ART centers

- Organizations of 18 countries of the region answered the survey.
- Community participation is irregular (non-universal in countries), with limited coverage, vulnerable from financial standpoint.



Conclusions

- 2nd report on ART in LAC, with collaboration of GCTH and networks of civil society.
- The progress with regard to the expansion and sustainability of the ART is documented.
- Countries aligned with the recommendations of WHO, with strengthening of public health perspective of the ART and advances in innovation.
- However, important gaps persist, for example in the early diagnosis, that keep from taking maximum advantage of ART benefits.