5th International HIV/Viral Hepatitis Co-Infection Meeting

Viral hepatitis elimination in Latin America and globally: How close are we?

Saturday - Sunday, 20-21 July 2019
Mexico City, Mexico
Latin American perspective on HIV and viral hepatitis

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INBIRS Institute UBA-CONICET,
Buenos Aires, Argentina
Latin America

- Area: 20,111,457 km²
- Population: 639,048,639
- Countries: 20
- Languages: Spanish, Portuguese, French

Major Cities:
- Monterrey
- México DF
- Guadalajara
- Buenos Aires
- Río de Janeiro
- Belo Horizonte
- São Paulo
- Santiago
- Lima
- Bogotá

People Living in Extreme Poverty in Latin America

- Percentage of Population Living on less than $1.90 a day

Year: 2016
Source: The World Bank Group
HBV: epidemiology

- Prevalence LAC 6%
- HIV/HBV coinfection 3%
- 2.8 million people are living with hepatitis B
- 2.1 million of them in Latin America and the Caribbean
- 88,000 new infection every year
  - 56% MTC!!!!
### HBV

<table>
<thead>
<tr>
<th>Country</th>
<th>Historical prevalence (%)</th>
<th>Modelled prevalence*</th>
<th>HBsAg-positive population, thousands*</th>
<th>Treated/treatment eligible (%)</th>
<th>Diagnosed (%)</th>
<th>HBsAg prevalence in children aged 5 years</th>
<th>HBsAg-positive population aged 5 years*</th>
<th>Prophylaxis coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Latin America, Andean</strong></td>
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<tr>
<td>Peru</td>
<td>0.42%</td>
<td>0.3% (0.3 to 0.4)</td>
<td>92 (81-127)</td>
<td>310/21600 (1%)</td>
<td>12400 (13%)</td>
<td>&lt;0.1% (-0.1 to -0.1)</td>
<td>290 (260-420)</td>
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<tr>
<td><strong>Latin America, central</strong></td>
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<tr>
<td>Colombia</td>
<td>0.47%</td>
<td>0.3% (0.1 to 2.2)</td>
<td>130 (69-1056)</td>
<td>290/31200 (1%)</td>
<td>57100 (44%)</td>
<td>&lt;0.1% (-0.1 to -0.1)</td>
<td>380 (210-3200)</td>
<td></td>
</tr>
<tr>
<td>Costa Rica</td>
<td>0.20%</td>
<td>0.2% (0.1 to 0.2)</td>
<td>9 (7-11)</td>
<td>20/2300 (1%)</td>
<td>1300 (14%)</td>
<td>&lt;0.1% (-0.1 to -0.1)</td>
<td>19 (15-20)</td>
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<tr>
<td>El Salvador</td>
<td>1.05%</td>
<td>1.0% (0.5 to 1.2)</td>
<td>65 (70-76)</td>
<td>140/15700 (1%)</td>
<td>3200 (5%)</td>
<td>0.2% (&lt;0.1 to 0.2)</td>
<td>160 (80-220)</td>
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<tr>
<td><strong>Guatemala</strong></td>
<td>1.80%</td>
<td>0.6% (0.4 to 0.7)</td>
<td>100 (66-111)</td>
<td>1300/24100 (5%)</td>
<td>9200 (9%)</td>
<td>&lt;0.1% (-0.1 to -0.1)</td>
<td>330 (210-360)</td>
<td></td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td>0.21%</td>
<td>0.1% (0.1 to 0.2)</td>
<td>137 (115-250)</td>
<td>320/33300 (1%)</td>
<td>12500 (9%)</td>
<td>&lt;0.1% (-0.1 to 0.1)</td>
<td>280 (240-550)</td>
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<tr>
<td><strong>Nicaragua</strong></td>
<td>1.50%</td>
<td>0.8% (0.4 to 0.9)</td>
<td>51 (27-56)</td>
<td>190/12400 (2%)</td>
<td>3200 (6%)</td>
<td>&lt;0.1% (-0.1 to 0.1)</td>
<td>60 (30-60)</td>
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</tr>
<tr>
<td><strong>Venezuela</strong></td>
<td>1.80%</td>
<td>1.2% (1.1 to 1.8)</td>
<td>364 (340-576)</td>
<td>260/87300 (&lt;1%)</td>
<td>29000 (8%)</td>
<td>0.2% (0.2 to 0.3)</td>
<td>1000 (970-1700)</td>
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<tr>
<td><strong>Latin America, southern</strong></td>
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<tr>
<td>Argentina</td>
<td>0.26%</td>
<td>0.2% (0.1 to 0.3)</td>
<td>79 (47-117)</td>
<td>80/18900 (&lt;1%)</td>
<td>16300 (21%)</td>
<td>&lt;0.1% (-0.1 to 0.1)</td>
<td>170 (100-260)</td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>0.15%</td>
<td>0.1% (&lt;0.1 to 0.2)</td>
<td>26 (9-43)</td>
<td>50/6100 (1%)</td>
<td>22700 (89%)</td>
<td>&lt;0.1% (-0.1 to 0.1)</td>
<td>8 (3-14)</td>
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<tr>
<td><strong>Latin America, tropical</strong></td>
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<tr>
<td>Brazil</td>
<td>0.60%</td>
<td>0.4% (0.2 to 0.6)</td>
<td>750 (415-1249)</td>
<td>22500/184000 (12%)</td>
<td>212000 (28%)</td>
<td>&lt;0.1% (-0.1 to 0.1)</td>
<td>580 (330-1100)</td>
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</tr>
</tbody>
</table>

- All countries and territories in the Americas have HBV in their routine schedules for children < 1, 89% coverage.
- 21 countries recommend universal HBV vaccination of Newborns.
- 15 countries and territories recommend the vaccine for children born to mothers HBV+. 
HBV: Cascade of care

24 of 33 countries that reported to PAHO Report Hepatitis B and C Under the Magnifying Glass provide public funding for the treatment of HBV infection (*OPS Hepatitis B y C Bajo la Lupa *)

Most countries provide treatment for hepatitis B for co-infected VIH people

The cost of Tenofovir ranges between 30 and 50 US $

The cost of Entecavir between 40 and 70 US $

**Estimated annual treatment cost**: Entecavir (0.5mg/day) (USD 33 for week) 5.211 US$

  Tenofovir (300mg/day) (USD 192.44 for week) 1.387 US$

**Cost-effectiveness of two antiviral therapies for chronic hepatitis B in Peru: entecavir and tenofovir**. 2017. Rafael Bolaños-Díaz1,2,a,b,c, Romina A. Tejada1,a,b, César Sanabria3,d, Seimer Escobedo-Palza4,a

www.iasociety.org
Information from the experience of civil society HepaRed LA (NGO network of patients with chronic hepatitis in Latin America) Public financing of HBV treatment

<table>
<thead>
<tr>
<th>Countries</th>
<th>HBV + HIV</th>
<th>HBV</th>
<th>observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARGENTINA</td>
<td>YES</td>
<td>YES</td>
<td>Low demand for treatment</td>
</tr>
<tr>
<td>PERÚ</td>
<td>YES</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>CHILE</td>
<td>YES</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>COLOMBIA</td>
<td>YES</td>
<td>YES *</td>
<td>*you must insist with legal actions to obtain them</td>
</tr>
<tr>
<td>GUATEMALA</td>
<td>YES</td>
<td>YES *</td>
<td>*you must insist with legal actions to obtain them</td>
</tr>
<tr>
<td>URUGUAY</td>
<td>YES</td>
<td>NO*</td>
<td>*treatment considered low cost</td>
</tr>
<tr>
<td>REP. DOMINICANA</td>
<td>NO*</td>
<td>NO*</td>
<td>*treatment considered low cost</td>
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<tr>
<td>MÉXICO</td>
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<tr>
<td>BRASIL</td>
<td>YES</td>
<td>YES</td>
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</tbody>
</table>
HBV treatment in Brazil

- Tenofovir (TDF) 300mg: $0.28 pill to $0.07/pill (2019)
- Entecavir 0.5mg: $2.21/pill to $0.58/pill (2019)
  - 19,260 with tenofovir
  - 16,016 with entecavir
- Universal vaccination for HBV
HCV: epidemiology

- Prevalence 1.7% in the Americas
- 7.2 million people are living with HCV in the Americas
- 4.1 million LAC
- HIV/HCV LAC 8% (5-50%)
- HCV prevalence is high among high risk groups compared to general population

Combined, HBV and HCV are estimated to be responsible for 31% of cirrhosis and 64% of HCC cases in LAC

## HCV: epidemiology

<table>
<thead>
<tr>
<th>Location</th>
<th>Viraemic prevalence, 2015(^*)</th>
<th>Viraemic population (1000s), 2015(^*)</th>
<th>Genotype(s)</th>
<th>(1a)</th>
<th>(1b)</th>
<th>(1c)</th>
<th>(1) (other)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>Mixed or other</th>
</tr>
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<tbody>
<tr>
<td><strong>Latin America, Andean</strong></td>
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<tr>
<td>Peru</td>
<td>0.5% (0.3-0.6)</td>
<td>167 (99-182)</td>
<td>74.0%</td>
<td>12.0%</td>
<td>0</td>
<td>0</td>
<td>2.0%</td>
<td>10.0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.0%</td>
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<tr>
<td><strong>Latin America, Central</strong></td>
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<tr>
<td>Colombia</td>
<td>0.8% (0.6-0.9)</td>
<td>409 (272-436)</td>
<td>5.7%</td>
<td>82.8%</td>
<td>0</td>
<td>0</td>
<td>8.5%</td>
<td>2.8%</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Mexico</td>
<td>0.4% (0.3-0.5)</td>
<td>532 (304-557)</td>
<td>45.4%</td>
<td>24.9%</td>
<td>0</td>
<td>0</td>
<td>21.8%</td>
<td>7.2%</td>
<td>0.3%</td>
<td>0.1%</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Panama</td>
<td>0.3% (0.2-0.3)</td>
<td>12 (7-14)</td>
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<tr>
<td>Venezuela</td>
<td>0.4% (0.2-0.4)</td>
<td>118 (59-126)</td>
<td>37.0%</td>
<td>26.0%</td>
<td>0</td>
<td>0.4%</td>
<td>33.0%</td>
<td>4.0%</td>
<td>0</td>
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<tr>
<td><strong>Latin America, Southern</strong></td>
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<tr>
<td>Argentina</td>
<td>0.8% (0.3-1.2)</td>
<td>326 (144-490)</td>
<td>20.3%</td>
<td>38.1%</td>
<td>0</td>
<td>0.8%</td>
<td>21.7%</td>
<td>17.8%</td>
<td>1.3%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chile</td>
<td>0.3% (0.2-0.5)</td>
<td>57 (31-94)</td>
<td>7.9%</td>
<td>72.7%</td>
<td>0</td>
<td>0</td>
<td>2.0%</td>
<td>16.5%</td>
<td>0.6%</td>
<td>0.3%</td>
<td>0.1%</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>Latin America, Tropical</strong></td>
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<tr>
<td>Brazil</td>
<td>0.9% (0.6-0.9)</td>
<td>1787 (1293-1896)</td>
<td>31.0%</td>
<td>33.4%</td>
<td>0</td>
<td>0.4%</td>
<td>4.6%</td>
<td>30.2%</td>
<td>0.2%</td>
<td>0.1%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The Polaris Observatory Collaborators. Lancet Gastroenterol Hepatol. 2018
HCV: cascade of care

HCV treatment in Argentina

Programa nacional de Hepatitis virales. Secretaría de Salud de la Nación
HCV treatment in Argentina

Programa nacional de Hepatitis virales. Secretaría de Salud de la Nación
Brazil: HCV elimination plan

50,000 available treatments for 2019

CDA/Polaris, 2018
Other hepatitis

- HAV: endemicity (i.e. ≥ 50% natural immunity by 15yo)
  - Improvement of sanitary conditions in LAC, shifting from young children to older individuals, decreasing the number of adults with natural immunity and increasing the likelihood of outbreaks
  - Argentina, Paraguay, Uruguay incorporated vaccine

- HEV: complex epidemiological picture in Latin America.
  - Argentina and Brazil = North America and Europe
  - Caribbean and Mexico involves the water-borne, non-zoonotic viral genotypes responsible for epidemics in Asia and Africa.
# HIV

## Latin America (2017)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>People living with HIV</td>
<td>1.8m</td>
</tr>
<tr>
<td>Adult HIV prevalence</td>
<td>0.5%</td>
</tr>
<tr>
<td>New HIV infections</td>
<td>100,000</td>
</tr>
<tr>
<td>AIDS-related deaths</td>
<td>37,000</td>
</tr>
<tr>
<td>Adults on treatment</td>
<td>61%</td>
</tr>
<tr>
<td>Children on treatment</td>
<td>55%</td>
</tr>
</tbody>
</table>

*All adults/children living with HIV

Source: UNAIDS Data 2018
HIV

DISTRIBUTION OF NEW HIV INFECTIONS AMONG POPULATION GROUPS

2017

Source: UNAIDS special analysis, 2018

Latin America

- 3% Sex workers
- 3% People who inject drugs
- 41% Gay men and other men who have sex with men
- 6% Transgender women
- 24% Clients of sex workers and other sexual partners of key populations
- 23% Rest of population

www.avert.org
HIV

**CARIBBEAN**
Progress towards 90 90 90 targets (all ages)

- **73%**
  - Aware of their HIV status

- **79%**
  - On HIV treatment
  - = 57% of all people living with HIV

- **70%**
  - Virally suppressed
  - = 40% of all people living with HIV

20% late diagnosis

Source: UNAIDS Data 2018

(Website: www.avert.org)
HIV

- Impressive progress has been made in Latin America in increasing the number of people who know their HIV status and receive treatment.
- Latin America has shown strong commitment to funding its HIV response, yet many services for high-risk groups are being funded by donors.
- Barriers to progress include violence and stigma towards key affected populations and those living with HIV in Latin America and the Caribbean.
Thank you for your attention