HIV epidemic in the Caribbean

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Epi (upon) - demos (people)

An *epidemic* occurs when new cases of a certain disease, in a given human population, and during a given period, *substantially exceed what is "expected,“ based on recent experience.

The Plague of Athens, 430 - 427 BC
A concise history of the HIV epidemic

• 1981: “Emergence” of AIDS epidemic in gay men East and West Coast US

• 1983/84: Discovery of the causative agent: HIV

Nobel prize for medicine 2008 goes to AIDS pioneers and cancer researcher

L. Montagnier, F. Barre-Sinoussi, professor Harald

• Many theories about it’s origin:
  – ‘Hunter’ theory
  – ‘Oral Polio Vaccine’ theory
  – ‘Conspiracy’ theory
  – ‘Contaminated Needle’ theory
  – ‘Colonialism’ theory

• First plasma:
  – Demographic Republic Congo 1959
  – Origin of HIV: 1884-1929

Global HIV epidemic 1990–2007

Number of people living with HIV (millions)  % HIV prevalence, adult (15–49)

A global view of HIV infection, 2007
33 million people [30 - 36 million] living with HIV, 2007

**Figure 2.2**

- Adult prevalence (%):
  - 15.0% - 28.0%
  - 5.0% - <15.0%
  - 1.0% - <5.0%
  - 0.5% - <1.0%
  - 0.1% - <0.5%
  - <0.1%
  - No data available
Rapid spread of the epidemic?

1. Men having sex with men
2. Poverty
3. Traveling
4. Other
Highest HIV prevalence in the region? (14 - 49)

1. Haiti
2. Dominican Republic
3. Jamaica
4. St. Maarten
<table>
<thead>
<tr>
<th>Country</th>
<th>HIV Prevalence (15-49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuba</td>
<td>&lt;0.1-0.2 %</td>
</tr>
<tr>
<td>Canada</td>
<td>0.2-0.6 %</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.2-0.5 %</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.4-0.8 %</td>
</tr>
<tr>
<td>USA</td>
<td>0.4-1.0 %</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.5-0.8 %</td>
</tr>
<tr>
<td>Barbados</td>
<td>0.8-1.7 %</td>
</tr>
<tr>
<td>D.R.</td>
<td>0.9-1.2 %</td>
</tr>
<tr>
<td>Curaçao</td>
<td>1.0-1.7 %</td>
</tr>
<tr>
<td>Trin. &amp; Tobago</td>
<td>1.0-2.1 %</td>
</tr>
<tr>
<td>Jamaica</td>
<td>1.1-2.1 %</td>
</tr>
<tr>
<td>Neth. Antilles</td>
<td>1.3-2.1 %</td>
</tr>
<tr>
<td>Suriname</td>
<td>1.5-4.3 %</td>
</tr>
<tr>
<td>Haiti</td>
<td>1.9-2.5 %</td>
</tr>
<tr>
<td>Bahamas</td>
<td>1.9-4.2 %</td>
</tr>
<tr>
<td>St. Maarten</td>
<td>2.1-3.5 %</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Island</th>
<th>Registered PLWHA</th>
<th>Estimated prevalence HIV</th>
<th>Estimated prevalence HIV in 15-49 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curaçao</td>
<td>± 300</td>
<td>0.62 – 1.05 %</td>
<td>1.03 – 1.72 %</td>
</tr>
<tr>
<td>Bonaire</td>
<td>16</td>
<td>0.41 – 0.69 %</td>
<td>*</td>
</tr>
<tr>
<td><strong>Sint Maarten</strong></td>
<td>177</td>
<td>1.41 – 2.34 %</td>
<td>2.09 – 3.48 %</td>
</tr>
<tr>
<td>Sint Eustatius</td>
<td>5</td>
<td>0.55 – 0.91 %</td>
<td>*</td>
</tr>
<tr>
<td>Saba</td>
<td>9</td>
<td>1.84 – 3.07 %</td>
<td>*</td>
</tr>
<tr>
<td>Neth. Ant.</td>
<td>± 500</td>
<td>0.76 – 1.27 %</td>
<td>1.25 – 2.09 %</td>
</tr>
</tbody>
</table>

*Due to small or unknown numbers not calculated.

** Range prevalence calculated using multiplication factors 3 and 5 for PLWHA.

**Epidemiology & Research Unit; Medical and Public Health Service Curaçao.**

*preliminary data for 2008  Gerstenbluth & Lourents, April 2009*
HIV prevalence in NL?

1. 0.001%
2. 0.01%
3. 0.1%
4. 1%
SXM: Newly diagnosed PLWH per year?

1. 10 - 30
2. 30-90
3. 90-200
4. >200
Incidence HIV + per 1000 population 2000-2008*
Netherlands Antilles, Curaçao and Sint Maarten

*preliminary data for 2008
Gerstenbluth & Lourents, April 2009
Limited data

- Laboratory based surveillance
- Confirmation testing
- Time of transmission unknown
Incidence of known HIV infections by year
Netherlands Antilles 1985-2008*

*preliminary data for 2008 Gerstenbluth & Lourents, April 2009

*2008 Bon 1, SXM 23 Cur 90

*preliminary data for 2008
Known HIV-infected Netherlands Antilles per agegroup; Netherlands Antilles 1985 – 2008*

*preliminary data for 2008

Gerstenbluth & Lourents, April 2009
SXM: What behavior is leading the epidemic?

1. Men having Sex with Men (MSM)
2.Prostitutes
3. Answer A +B
4. None of the above
A = Abstinence
B = Be Faithfull
C = Condom use
Last 25 year:

– Biomedical approach
– Behavioral changes
– Structural changes
Casus:

• What prevention intervention would you recommend a 28 year old single women?

• What would you recommend to a teenage boy of 15 years old?

• What kind of prevention intervention would you recommend to a man of 57 years old, in different concurrent relationships?
# Effect of prevention interventions

<table>
<thead>
<tr>
<th>Prevention Intervention</th>
<th>Positive Impact</th>
<th>Negative Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom</td>
<td>Sex workers, high risk groups</td>
<td>Regular, concurrent partners</td>
</tr>
<tr>
<td>HIV testing</td>
<td>HIV positive</td>
<td>HIV negative</td>
</tr>
<tr>
<td>Treatment STI's (6RCTs)</td>
<td>1</td>
<td>2 (no effect on HIV), 2 (HSV) discouraging</td>
</tr>
<tr>
<td>Abstinence</td>
<td>Young people</td>
<td>Most infection occur during 20's</td>
</tr>
<tr>
<td>Multiple partners</td>
<td>Great impact</td>
<td></td>
</tr>
<tr>
<td>Male circumcision</td>
<td>Men and women</td>
<td></td>
</tr>
<tr>
<td>Microbicides</td>
<td></td>
<td>Not effective</td>
</tr>
<tr>
<td>Vaccines</td>
<td></td>
<td>Not effective</td>
</tr>
</tbody>
</table>

Reassessing HIV prevention, Potts et al. Science vol 320, 9 May 2008,
Recently:

Infrastructure & Strategies
Highly Active HIV Prevention

- Behavioural change
- Treatment/antiretroviral/STI/antiviral
- Biomedical strategies
- Social justice and human rights

Leadership and scaling up of treatment/prevention efforts

Community involvement

Highly active HIV prevention
Organization
- Co-ordination
- Collaboration

Quality
- Reporting
- Efficacy
St Maarten

Diagram:
- Leadership and scaling up of treatment/prevention efforts
- Behavioural change
- Biomedical strategies
- Treatment/antiretroviral/STI/antiviral
- Social justice and human rights
- Highly active HIV prevention
- Community involvement
SXM: What kind of HIV epidemic?

1. Low rate epidemic
2. Concentrated epidemic
3. Generalized epidemic
4. Unknown
Concluding: Epidemiology of SXM (1)

• Number of PLWH is relatively high

• HIV incidence unknown, but still growing

• No detailed data
  – Certain risk behavior
  – Sero-prevalence of HIV in certain sub-populations
  – Data on STDs
Concluding: Epidemiology of SXM (2)

- Highly Active HIV prevention
  - Community involvement (RED Campaign & AIDS Foundation)
  - Leadership (Public health, RED campaign)

- ↑ Data on populations or behavior most at risk
  - Through “ACT RED, GO TEST”