ACS Management in Low-Resource Settings

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Director Cardiolink Clin Trials
Governor Elected ACC Chapter MEXICO
DISCLOSURE
(last 12 months)

Categories of potential conflict of interest

- Sponsoring of transport and/or hotel accommodations in Congresses
- Sponsored in clinical trials and/or in basic research funded by pharmaceutical companies
- Speaker in meetings sponsored by pharmaceutical companies
- Participate in normative committees of scientific trials sponsored by pharmaceutical companies
- Receive institutional support from pharmaceutical companies
- Writing of educative materials sponsored by pharmaceutical companies
- Hold stocks from pharmaceutical companies

Company

SANOFI, Pfizer, AstraZeneca, MSD, Servier, Medtronico, Boston Sci, Abbot Vascular

SANOFI, AZ, Daichi, Esai

SANOFI, AZ, Pfizer, MSD, Abbot

SANOFI, , Daichi, Esai

BI, MSD, Pfizer, Sanofi

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TEACHING POINTS

- Fighting against the same Enemy but in two different worlds
- Evolution in ACS treatment in México
- Challenges to improve the approach & treatment in ACS in México
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- Fighting against the same Enemy but in two different worlds
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Total Health Expenditure, % of GDP

2013
- United States: 16.4% of GDP
- Mexico: 6.2% of GDP

ACC Latin America Conference 2016
Total Health Expenditure, % of GDP / Billions Dlls

- United States: 16.4% of GDP
- Mexico: 6.2% of GDP

2013

2,885 billions/dlls

131 billions/dlls

22 x
Total Health Expenditure, Per Capita (USD/PPP)

- Mexico: 1,024 USD/PPP
- US: 8,713 USD/PPP

US expenditure is 8.5 times that of Mexico.
Public health expenditure, % of GDP

- 2013
  - United States: 7.9% of GDP
  - Mexico: 3.2% of GDP

- 1,442 billions/dlls
- 69 billions/dlls

21x increase
Expenditure on pharmaceuticals, % of GDP

2013

United States: 2.0% of GDP
Mexico: 1.7% of GDP

360 billions/dlls
37 billions/dlls

9x
CATH LABS in U.S. and MEXICO

Total 2,600
8.1 cath lab/million people

Total 287
2.3 cath lab/million people
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NATIONAL REGISTRIES OF ACS IN MEXICO

**RENASICA 1**
2002
N = 4,253

Lupi Herrera Eulo
Arch Cardiol Mex 2002:72

**RENASICA 2**
2005
N = 8,600

García Castillo Armando.
Arch Cardiol Mex 2005:75

**RENASICA 3**
2016
N = 8,296

Martínez Sanchez Carlos
Arch Cardiol Mex 2016:86
STEMI: Reperfusion Therapy


Martinez Sanchez et al. RENASICA 3 Mexican Registry of Acute Coronary Syndromes. Arch Cardiol Mex. 2016;86:221-32
STEMI: Mortality

<table>
<thead>
<tr>
<th>Year</th>
<th>Registry</th>
<th>n</th>
<th>Mortality</th>
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<tr>
<td>2002</td>
<td>RENASICA I</td>
<td>4,253</td>
<td>12%</td>
</tr>
<tr>
<td>2005</td>
<td>RENASICA 2</td>
<td>8,600</td>
<td>10%</td>
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<tr>
<td>2016</td>
<td>RENASICA 3</td>
<td>8,296</td>
<td>8.7%</td>
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</tbody>
</table>


UA/NSTEMI: Early Invasive Strategy/PCI

n = 4,253
n = 8,600
n = 8,296

2002
2005
2016

33
36
40

0

%
UA/NSTEMI: Mortality


Martinez Sanchez et al. RENASICA 3 Mexican Registry of Acute Coronary Syndromes. Arch Cardiol Mex. 2016;86:221-32
## Approach & Outcomes

<table>
<thead>
<tr>
<th></th>
<th>RENASICA III (n = 8,296)</th>
<th>ACCESS (n = 12,068)</th>
<th>GRACE (n = 102,341)</th>
<th>CRUSADE (n = 180,842)</th>
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<tbody>
<tr>
<td>Lytic Therapy (%)</td>
<td>37</td>
<td>30</td>
<td>50</td>
<td>21</td>
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<tr>
<td>Primary PCI (%)</td>
<td>23</td>
<td>10</td>
<td>12</td>
<td>67</td>
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<tr>
<td>Reperfusion Therapy (%)</td>
<td>60</td>
<td>40</td>
<td>70</td>
<td>88</td>
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<td>Cath (%)</td>
<td>60</td>
<td>58</td>
<td>56</td>
<td>83</td>
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<tr>
<td>PCI (%)</td>
<td>32</td>
<td>35</td>
<td>33</td>
<td>74</td>
</tr>
<tr>
<td>CABG (%)</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Death STEMI (%)</td>
<td>8.7</td>
<td>9</td>
<td>5</td>
<td>6</td>
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<tr>
<td>Death UA/NSTEMI (%)</td>
<td>3.9</td>
<td>6</td>
<td>2</td>
<td>3</td>
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</tbody>
</table>
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CARDIOVASCULAR BURDEN: OACD Data

**DISEASES**
- Diabetes in people 20 – 39 years
  - OCDE: 5.9%
  - México: 1.7%
- Obesity
  - OCDE: 32.4%
  - México: 18%
- Men Smokers
  - OCDE: 31%
  - México: 26%

**MORTALITY**
- Acute Myocardial Infarction
  - Rate per 100 thousand people
    - OCDE: 7.9%
    - México: 27.2%
- Ischemic Cerebrovascular Infarction
  - Rate per 100 thousand people
    - OCDE: 8.4%
    - México: 19.6%
- Hemorrhagic Cerebrovascular Infarction
  - Rate per 100 thousand people
    - OCDE: 29.7%
    - México: 22.6%
5 Tasks Pending

1.- Increase the Public Health Expenditure from 6% to 10% of GDP

2.- Implementation of Chest Pain Center Programs in the country

3.- Increase the number of Hospitals with Cath Lab facilities

4.- Implementation of the “Codigo Infarto” Project

5.- Develop “Reperfusion Regional Networks” in the country

6.- Avoid Fragmentation in Health Care System