SHORTAGES AND GEOGRAPHIC MALDISTRIBUTION OF PHYSICIANS IN BRAZIL

3RD GLOBAL FORUM ON HUMAN RESOURCES FOR HEALTH,
10-13 NOVEMBER 2013
RECIFE, BRAZIL
Team EPSM

• Alice Werneck Massote
• Ana Cristina van Stralen
• Cristiana Leite Carvalho
• Flávio Paiva Loureiro
• Jackson Freire Araujo
• Joice Carvalho Rodrigues
• Júlia Leite de Carvalho Fernandes
• Lucas Wan Der Maas
• Sabado Nicolau Girardi (Coordinator)

http://epsm.nescon.medicina.ufmg.br
Background

➢ Shortage and maldistribution of physicians is a serious and persistent problem in Brazil.

➢ In general, the most remote and isolate geographic areas and the poorest segments of the population are the most vulnerable to shortage of physicians.

➢ Combined with other socioeconomic and health needs, physician shortages aggravates the essential deprivation status that affects these populations.

➢ A study aimed to construct an index on physician shortage (by EPSM – NESCON/UFMG), showed that in 2012 there were 1156 municipalities with shortage of primary care physicians (PCP) in Brazil.

➢ There are huge geographic mal distributions. The ratio Phys/pop is extremely uneven across regions of the country, ranging from 0.59 doctors per 1000 in the state of Maranhão (Northeast) to more than 3 doctors per 1000 inhabitants in the Federal District, the country’s capital.
Criteria to define and classify primary care physician shortages

The definition of shortage took into account three dimensions: the availability/supply of primary healthcare, the existence of health high needs and socioeconomics deprivations.

For each one of these dimensions the following indicators were defined:

- Population-to-primary care physician ratio (FTE);
- Infant mortality rate per 1000 live birth;
- Percentage of households in extreme poverty: proportion of municipalities with family per capita income below to the poverty level.
Distribution of municipalities with physician primary care shortage in Brazil 2012
Distribution of municipalities with physician primary care shortage and high levels of shortage of physician in Brazil 2012
Percentage of the resident population in municipalities with primary care physician shortage related to the total population in non-metropolitan municipalities according to geographic region.

- North: 47.6%
- Northeast: 33.8%
- Southeast: 4.9%
- South: 9.6%
- Midwest: 32.6%
- Brazil: 21.8%
Measures of Geographic Maldistribution of Physicians

- Physician-to-population ratios (FTE)
- Gini coefficients
- Location Quotient
### Physician to Population Ratio (FTE), Gini Coefficients and Location Quotient for All Physicians by Region in Brazil

<table>
<thead>
<tr>
<th>Region</th>
<th>Ratio Physician/1.000</th>
<th>GINI</th>
<th>Up to 0.5</th>
<th>From 0.5 to 1.0</th>
<th>Above 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1.73</td>
<td>0.4339</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>North</td>
<td>0.98</td>
<td>0.6525</td>
<td>86.86</td>
<td>10.91</td>
<td>2.23</td>
</tr>
<tr>
<td>Northeast</td>
<td>1.24</td>
<td>0.4983</td>
<td>82.72</td>
<td>15.38</td>
<td>1.9</td>
</tr>
<tr>
<td>Southeast</td>
<td>2.17</td>
<td>0.4916</td>
<td>50.72</td>
<td>37.83</td>
<td>11.45</td>
</tr>
<tr>
<td>South</td>
<td>1.84</td>
<td>0.4323</td>
<td>61.62</td>
<td>31.65</td>
<td>6.73</td>
</tr>
<tr>
<td>Midwest</td>
<td>1.78</td>
<td>0.6372</td>
<td>69.96</td>
<td>27.68</td>
<td>2.36</td>
</tr>
</tbody>
</table>
Physician to Population Ratio (FTE), Gini Coefficients and Location Quotient for Primary Care Phys. by Region in Brazil

<table>
<thead>
<tr>
<th>Region</th>
<th>Ratio Physician/1.000</th>
<th>GINI</th>
<th>Up to 0,5</th>
<th>From 0,5 to 1,0</th>
<th>Above 1,0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>0,19</td>
<td>0,0078</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>North</td>
<td>0,18</td>
<td>0,1885</td>
<td>9,35</td>
<td>19,82</td>
<td>70,82</td>
</tr>
<tr>
<td>Northeast</td>
<td>0,26</td>
<td>0,0383</td>
<td>1,17</td>
<td>6,3</td>
<td>92,53</td>
</tr>
<tr>
<td>Southeast</td>
<td>0,15</td>
<td>0,2184</td>
<td>16,55</td>
<td>12,65</td>
<td>70,8</td>
</tr>
<tr>
<td>South</td>
<td>0,19</td>
<td>0,0575</td>
<td>10,86</td>
<td>11,78</td>
<td>77,36</td>
</tr>
<tr>
<td>Midwest</td>
<td>0,19</td>
<td>0,2723</td>
<td>1,72</td>
<td>11,8</td>
<td>86,48</td>
</tr>
</tbody>
</table>
Concluding remarks

- Shortage and maldistribution of physicians are combined in Brazil and produce a perverse reality that calls for immediate and strong actions by the government.
- As we can see PCP are much better distributed across the country than other specialties. It is the results of the Family Health Strategy.
- What does it means? Governmental action results in more equitative distributions than the action of the invisible hand of the market.
- Better distributed but not enough. Severe shortages and deprivation are persistent especially in remote and undeserved areas.
- Beyond “Mais Médicos” we need more, e.g. expanded scopes of practice – *The Final Frontier*
Thank you!

ESTAÇÃO DE PESQUISA DE SINAIS DE MERCADO

http://epsm.nescon.medicina.ufmg.br

epsm@nescon.medicina.ufmg.br