Chronic Kidney Diseases as a Global Public Health Problem
Approaches and Iniciatives

KDIGO – Amsterdam - 2006

CKD in Latin America

Emmanuel A. Burdmann
LATIN AMERICA 2004

539,041,148 inhabitants

Per capita income US$ 3,600

Life expectancy: 70.9 y

Annual populational growth: 1.4%

Source: World Development Indicators 2005
20 countries
21 national societies
4,700 nephrologists
• Around 228,500 patients currently treated for renal failure.
  ✓ 128,260 in hemodialysis
  ✓ 54,180 in peritoneal dialysis
  ✓ 48,450 with a functioning renal transplant
LATIN AMERICA 2004 – ACCESS to RRT

- Argentina, Brazil, Cuba, Puerto Rico, Uruguay, Venezuela 100 %
- Colombia 56.2%
- Peru 30%
- Paraguay 25 %
- Bolivia 63% (55.6% only twice a week)

Latin American Registry of Dialysis and Transplantation - SLANH
Latin American Registry 1992-2004
Treatment of ESRD, prevalence rate, all modalities

Last 10 years: increase 245%
Since 1992: increase 328.7%
GNI and Prevalence

Puerto Rico
Argentina
Brazil
Mexico
Panama

SLANH 2005
Incidence by Country 2002-2004

Latin American Registry of Dialysis and Transplantation - SLANH
Diabetic nephropathy as etiology (2004)

Argentina  22 %
Bolivia     36 %
Chile       33 %
Colombia    30 %
Guatemala   20.7 %
Puerto Rico 55.2 %
Mexico      40 %

Mean 7 countries  34.22%

Latin American Registry of Dialysis and Transplantation - SLANH
# HEMODIALYSIS REIMBURSEMENT

<table>
<thead>
<tr>
<th>Country</th>
<th>US$</th>
<th>Reuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>60</td>
<td>yes</td>
</tr>
<tr>
<td>Brazil</td>
<td>45</td>
<td>yes</td>
</tr>
<tr>
<td>Colombia</td>
<td>87-90</td>
<td>no</td>
</tr>
<tr>
<td>Chile</td>
<td>68</td>
<td>yes</td>
</tr>
<tr>
<td>Guatemala</td>
<td>85</td>
<td>no</td>
</tr>
<tr>
<td>Mexico</td>
<td>81-145</td>
<td>almost not</td>
</tr>
<tr>
<td>Uruguay</td>
<td>70</td>
<td>yes</td>
</tr>
<tr>
<td>Venezuela</td>
<td>28-30</td>
<td>no</td>
</tr>
</tbody>
</table>
CKD DETECTION AND SURVEILLANCE PROGRAMS

Argentina
Bolivia
Brazil
Chile
Costa Rica
Guatemala
Mexico
Uruguay
Venezuela

- National Societies
- Governmental
- Academic Institutions
- Dialysis Groups
- Kidney Foundations
Brazilian Society of Nephrology

✓ Program “Previna-se”
✓ Blood/urinalysis, BP, health survey
✓ Different locations (2003-2006)
✓ 188 different locations in 2006
### Clinical and dipstick abnormalities

<table>
<thead>
<tr>
<th></th>
<th>Screened population (n=8883)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td>48±16</td>
</tr>
<tr>
<td><strong>Male gender (%)</strong></td>
<td>45</td>
</tr>
<tr>
<td><strong>History of Systemic Hypertension (%)</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>History of Diabetes Mellitus</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Hematuria (%)</strong></td>
<td>30</td>
</tr>
<tr>
<td><strong>Proteinuria (%)</strong></td>
<td>6</td>
</tr>
<tr>
<td><strong>Glycosuria (%)</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Hematuria and Proteinuria</strong></td>
<td>4</td>
</tr>
</tbody>
</table>

Miguel Carlos Riella
Curitiba
Detection of renal dysfunction based on serum creatinine levels in a Brazilian community. The Bambuí Health and Ageing Study

2,000,000 individuals
Abnormal serum creatinine: 0.43%
In elderly (>60 years): 5.09%
Elevated creatinine: 6.7 %
Creatinine clearance < 30 ml/min: 0.18%
Creatinine clearance 30-80 ml/min/1.73 m^2: 21%
Proteinuria: 14.2%
Hypertension: 34%

Chile National Health Survey 2003 (ENS 2003, PUC – 3619 subjects)

Sérgio Mezzano, Villarrica Conference 2006
### ESTIMATED CHRONIC KIDNEY DISEASE in URUGUAY

According NANHES III distribution and the Uruguayan ESRD prevalence

<table>
<thead>
<tr>
<th>Stage</th>
<th>NANHES III % of Population</th>
<th>Uruguay % of Population</th>
<th>Uruguay CKD Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>3,3</td>
<td>2,0</td>
<td>47.783</td>
</tr>
<tr>
<td>Stage 2</td>
<td>3,0</td>
<td>1,8</td>
<td>43.521</td>
</tr>
<tr>
<td>Stage 3</td>
<td>4,3</td>
<td>2,6</td>
<td>62.380</td>
</tr>
<tr>
<td>Stage 4</td>
<td>0,2</td>
<td>0,12</td>
<td>2.900</td>
</tr>
<tr>
<td>Stage 5</td>
<td>0,2</td>
<td>0,12</td>
<td>2.900</td>
</tr>
<tr>
<td>total</td>
<td>11,0</td>
<td>6,7</td>
<td>159.576</td>
</tr>
</tbody>
</table>

Population over 20 years old: 2,386,032

Nelson Mazzuchi, Villarrica Conference 2006
Meetings hold in Chile, Argentina, Mexico, Uruguay, Paraguay, Venezuela, Colombia, Equator, Puerto Rico, Peru, Brazil
CKD in Latin America

- Extremely heterogenous pattern.
- Significant increase in prevalence.
- Large number of patients are not diagnosed.
- Increasing burden of chronic diseases like diabetes.