Cristina Sánchez, Christina Sanko, Van Lansingh, John Trevelyan, and Juan Batlle
Global Data on Visual Impairment. Geneva 2010

<table>
<thead>
<tr>
<th>Region</th>
<th>Population (millions)</th>
<th>Blindness # in millions</th>
<th>Low Vision # in millions</th>
<th>Total # in millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>America</td>
<td>915</td>
<td>3</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>Worldwide</td>
<td>6637</td>
<td>39</td>
<td>246</td>
<td>285</td>
</tr>
</tbody>
</table>
Barriers to GAP in Latin America?

1. LACK OF DATA
2. SOCIOECONOMIC LEVEL
3. LACK OF EDUCATION
4. POVERTY
5. LACK OF OPHTHALMOLOGISTS
6. RURAL POPULATION
7. AGING POPULATION
8. OTHER HEALTH PRIORITIES PAHO
9. APPROPRIATE TECHNOLOGY
10. DIABETES EPIDEMIC
11. OPTOMETRY VS OPHTHALMOLOGY
12. UNIVERSAL HEALTH CHALLENGE
BARRIER 1-Latin America is so Diverse
Data is needed
BARRIER DOWN- RAAB´S IN ALMOST EVERY COUNTRY

KUDOS TO HANS LIMBURG!

DOMINICAN REPUBLIC RAAB-2008
Typical RAAB of the Americas

Main Causes of Blindness

Blindness Survey
RAAB 2008, Dominican Republic
## Prevalence of Blindness Data from RAAB Studies Performed by Hans Limburg

<table>
<thead>
<tr>
<th>Country</th>
<th>Best Corrected Visual Acuity &lt;20/400</th>
<th>Visual Acuity as it Presents &lt;20/400 (IC 95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuba</td>
<td>1.8 (1.2-2.4%)</td>
<td>1.9 (1.3-2.5%)</td>
</tr>
<tr>
<td>Paraguay</td>
<td>1.3 (0.3-2.3%)</td>
<td>3.1 (2.2-4.4%)</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>1.9 (1.5-2.3%)</td>
<td>2.7 (1.6-2.5%)</td>
</tr>
<tr>
<td>Venezuela</td>
<td>2.0 (1.5-2.5%)</td>
<td>2.3 (1.7-2.8%)</td>
</tr>
<tr>
<td>Argentina</td>
<td>1.0 (0.7-1.3%)</td>
<td>1.3 (0.9-1.6%)</td>
</tr>
<tr>
<td>Brazil</td>
<td>1.4 (0.7-2.1%)</td>
<td>1.6 (1.0-2.2%)</td>
</tr>
<tr>
<td>México</td>
<td>1.3 (0.9-1.7%)</td>
<td>1.5 (1.1-1.9%)</td>
</tr>
<tr>
<td>Chile</td>
<td>1.2 (0.7-1.7%)</td>
<td>1.4 (0.8-1.9%)</td>
</tr>
<tr>
<td>Perú</td>
<td>2.6 (2.1-3.1%)</td>
<td>3.6 (2.9-4.3%)</td>
</tr>
<tr>
<td>Guatemala</td>
<td>3.5 (2.9-4.2%)</td>
<td>3.6 (2.9-4.3%)</td>
</tr>
</tbody>
</table>
Latin America
Prevalence of Blindness/Visual Impairment

Blindness
Visual Impairment

Argentina
Bolivia
Brazil
Brazil
Colombia
Dominican
Ecuador
Honduras
Mexico
Paraguay
Peru
Uruguay
Venezuela

Prevalence (%)
BARRIER 2- Blindness Correlates Inversely to Socioeconomic Conditions and Health as a Priority

<table>
<thead>
<tr>
<th>Economy/Health as a Priority</th>
<th>% Blind</th>
<th>No. Blind per Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0.25</td>
<td>2,500</td>
</tr>
<tr>
<td>OK</td>
<td>0.50</td>
<td>5,000</td>
</tr>
<tr>
<td>POOR</td>
<td>0.75</td>
<td>7,500</td>
</tr>
<tr>
<td>Very Poor</td>
<td>1.00+</td>
<td>10,000+</td>
</tr>
</tbody>
</table>
BARRIER 3- Literacy Rates Correlate with Cataract Surgical Rates
To get from here to there you need: Education
NEW MILLENIUM OBJECTIVES

Objetivo 1
Erradicar la pobreza extrema y el hambre

Objetivo 2
Lograr la enseñanza primaria universal

Objetivo 3
Promover la igualdad de género y el empoderamiento de la mujer

Objetivo 5
Mejorar la salud materna
BARRIER 4
Blindness Correlates with Per Capita Income

GNI Per Capita in U.S. Dollars
- $785 or less
- $786 - $3,125
- $3,126 - $9,656
- Above $9,656
- No data

The values for the class intervals above are taken from the World Bank’s cutoff figures for low-income, lower-middle-income, upper-middle-income, and high-income economies.
Barrier Down- CSR´s are improving across the board in almost every country in Latin America
For the Interactive Map of the Americas Visit Vision2020-la
Barrier Down- interactive map of CSR´s thanks to IAPB
Barrier 5- Not enough Ophthalmologists

[Graph showing the number of ophthalmologists per million populations for various countries in the Americas.]

- Argentina: 130
- Brazil: 70
- Cuba: 50
- Mexico: 40
- Peru: 30
- Colombia: 20
- Dominican Republic: 15
- St. Lucia: 10
- El Salvador: 5
- Costa Rica: 5
- Nicaragua: 5
- Honduras: 4
- Haiti: 2
- Barbados: 1

This graph illustrates the disparity in ophthalmologist availability across the Americas, with Argentina having significantly more ophthalmologists per million population compared to other countries.
Barrier Down-
Ophthalmologists per Million Increasing
Barrier 6 - Percentage of Population Living in Rural Areas
A Mission in the Amazon River of Peru
Operating Theater
Inside the Boat
Post Operative Instructions
Barrier 7- Percentage of Population $\geq 60$ years of age
Samples of Age Structure From the World
Barrier 8- There Are Other Priorities for PAHO

Ten diseases targeted for elimination as a public health problem

- Lymphatic Filariasis
- Onchocerciasis
- Blinding Trachoma
- Chagas disease (domestic vectors, blood transfusion)
- Human Rabies transmitted by Dogs
- Plague
- Leprosy/Hansen’s disease
- Malaria (where possible)
- Neonatal Tetanus
- Congenital Syphilis

Katia Díaz, PhD, www.paho.org Information Systems Adviser for PAHO/WHO Office of the Director,
WHO Grading of Health Policy

Health Policy Characteristics of the World by Regions

- Sub-Saharan Africa
- South East Asia
- Latin America/Caribbean
- Eastern Europe and Central Asia
- Middle East/North Africa
- Asia and Pacific
- Well Developed Countries
Stakeholders in Latin America
Workshop in Santo Domingo
Muchos Necesitan de Nosotros
How much does blindness cost?
The Economics of the Problem

- Unemployment
- Needs a guide
- Loses mobility
- Cannot read
- Increased dependence on others
- Quality of Life Diminishes
- Becomes an Economic Burden
Cost of Blindness/Visual Impairment in Latin America

- Total cost range:
  - $11.0 billion
  - $28.3 billion

Cost of Blindness and Visual Impairment (Cataract) ≥ 50 years old
Barrier 9-Appropriate Technology

- **Phacoemulsification**
  - More Expensive
  - Small Incision 2-3 mm
  - Less Time
  - Sutureless
  - Less Astigmatism
  - Wants 2nd eye done
  - Longer Learning Curve
  - Serious Complications for Beginner

- **MSICS, Extracapsular**
  - Less Expensive
  - Incision 6-8 mm
  - Takes Longer
  - Needs Sutures (?)
  - More Astigmatism
  - Waits for 2nd eye
  - Short Learning Curve
  - Easy to teach and the complications are less serious
Phaco vs. Manual
Surgical Technique for Cataract Extraction at Hospital Dr. Elías Santana
2000-2006
Femtosecond Laser Assisted Cataract Surgery

- **Catalys™ Precision Laser System** - OptiMedica
- **LensAR Laser System™**
- **Victus of B&L**
- **Alcon LenSx® Laser**
BARRIER 11- THE DIABESITY EPIDEMIC

WHO DATA
BLINDNESS FROM DIABETIC RETINOPATHY IS ON THE UPSWING

PRINCIPALES CAUSAS DE CEGUERA

- 64% Catarata
- 7% Glaucoma
- 4% Retinopatía Diabética
- 3% Segmento posterior/SNC
- 1% DMRE
- 5% Complicaciones Quirúrgicas
- 1% Ptisis
- 15% Anormalidades del globo
Barrier 11- The Battle of the Bulge between Ophthalmology and Optometry

- **Coexist**
  - Colombia
  - Mexico
  - Venezuela
  - Panamá
  - El Salvador
  - Honduras
  - Nicaragua
  - Bolivia
  - Ecuador

- **Optometry not Allowed**
  - Brazil
  - Argentina
  - Chile
Barrier 12- The Problem of Health coverage

- Law 100 in Colombia
- Law 87-01 in Dominican Republic
- Caja de la Seguridad Social in Costa Rica
- Sistema Único de Saúde in Brazil
- Salud Universal en Méjico: Teoría
- FONASA e ISAPRE en Chile
- Obama’s “Affordable Healthcare Act” in the U.S.A
AUGE Guarantees Cataract Surgery
Guaranteed Health Coverage by Govermental Decree “Universal Health Care”

1. Mandate to Purchase

A mandate that all Americans (and legal residents) purchase Health Insurance. It will be a misdemeanor offense (resulting in a fine only) for a live legal resident person to be found uninsured.
Population of patients that is annually integrated into the National Health Insurance of the Dominican Republic in the Subsidized Category of SeNaSa

Total Population
10 Million


45,000  65,017  266,531  513,416  1,081,936  1,224,616  1,404,225 [VALOR] 2,099,635  2,297,242  2,360,717

[Valor]
Population of Patients in the National Health Insurance of the Dominican Republic in the Paying Category of SENASA

Total Population 10 Million

 sept.-dic.
Sept.-Dic. 2007 2008 2009 2010 2011 2012 2013 (mayo)
75,055 117,896 214,797 322,502 426,036 456,244 468,271

Total Population 10 Million
Insurance Situation of the Dominican Republic
March of 2013

1. National Health Insurance Subsidized
   2,360,717

Private Health Insurance Paying
   2,747,735

4,900,000
Million People Uninsured

Data from ADARS
THANK YOU FOR YOUR GENEROUS SUPPORT AND CONTRIBUTION TO THE REALIZATION OF THE VISION 2020 LATIN AMERICA STRATEGIC PLAN!

GROUP PHOTO FROM MARCH 2012 V2020 LA STRATEGIC PLAN MEETING IN LIMA, PERU