Leprosy within the context of Neglected Tropical Diseases
Opening Thoughts

• Disease with a long history affecting mankind
• First ILA Conference 1897 in Berlin
• Care for patients and public health response have developed and evolved over history
• Still with mystery
The Face of Leprosy
Evolution of the Control of Leprosy
(a personal perspective)

- Treatment (Dr. Wallace Thornbloom)
- Leprosarium
- Closing the Leprosarium (Trinidad)
Evolution of the Control of Leprosy
(a personal perspective)

- Treatment (Dr. Wallace Thornbloom)
- Leprosarium
- Closing the Leprosarium (Trinidad)
- Global Targets
Elimination 1/10,000 blessing or curse?

• Momentum, clarity

 vs.

• Mis-use, confusion
Fig. 2. Prevalence and new-case detection rate for leprosy in India, 1984–2002

Lockwood, Suneetha, Bulletin WHO 2005
Lockwood, Suneetha, Bulletin WHO 2005
New endorsed WHO NTD Definition

Elimination (interruption of transmission) to mean, “reduction to zero of the incidence of infection caused by a specific pathogen in a defined geographic area, as a result of deliberate efforts; continued actions to prevent re-establishment of transmission may be required”; The term “elimination as a public health problem” should be used only where necessary for political (rather than scientific) reasons, upon achievement of measurable targets set by Member States in relation to a specific disease.
Haiti
Haiti

Embracing new technology
Haiti
Haiti

Ongoing need for care
Amazing patients showing perseverance
Haiti
Annual Leprosy New Case Detection by WHO Region

Table 2: Trends in the detection of new cases of leprosy, by WHO Region, 2005–2012

<table>
<thead>
<tr>
<th>WHO Region* – Région de l’OMS*</th>
<th>No. of new cases reported – Nombre de nouveaux cas notifiés</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
</tr>
<tr>
<td>African – Afrique</td>
<td>45,179</td>
</tr>
<tr>
<td>Americas – Amériques</td>
<td>41,952</td>
</tr>
<tr>
<td>Eastern Mediterranean – Méditerranée orientale</td>
<td>3,133</td>
</tr>
<tr>
<td>South-East Asia – Asie du Sud-Est</td>
<td>201,635</td>
</tr>
<tr>
<td>Western Pacific – Pacifique occidental</td>
<td>7,137</td>
</tr>
<tr>
<td>Total</td>
<td>299,036</td>
</tr>
</tbody>
</table>

* No reports received from the European Region. – Aucun rapport reçu de la Région européenne.
* Following the receipt of annual statistics from some countries, after publication of WER 2012 data updated for 2011. – Suite à la réception des statistiques annuelles de certains pays après la publication de l’article du REH pour 2012, les données pour 2011 ont été actualisées.

WER Aug 30, 2013
### Annual Leprosy Grade 2 Disability in New Cases

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>African – Afrique</td>
<td>3 244</td>
<td>3 570</td>
<td>3 458</td>
<td>3 146</td>
<td>2 685</td>
<td>2 300</td>
<td>2 709</td>
</tr>
<tr>
<td></td>
<td>(0.46)</td>
<td>(0.51)</td>
<td>(0.51)</td>
<td>(0.41)</td>
<td>(0.40)</td>
<td>(0.26)</td>
<td>(0.40)</td>
</tr>
<tr>
<td>Americas – Amériques</td>
<td>2 302</td>
<td>3 431</td>
<td>2 512</td>
<td>2 645</td>
<td>2 423</td>
<td>2 382</td>
<td>2 420</td>
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<tr>
<td></td>
<td>(0.27)</td>
<td>(0.42)</td>
<td>(0.29)</td>
<td>(0.30)</td>
<td>(0.27)</td>
<td>(0.27)</td>
<td>(0.28)</td>
</tr>
<tr>
<td>South-East Asia – Asie du Sud-Est</td>
<td>5 791</td>
<td>6 332</td>
<td>6 891</td>
<td>7 286</td>
<td>6 912</td>
<td>7 095</td>
<td>8 012</td>
</tr>
<tr>
<td></td>
<td>(0.35)</td>
<td>(0.37)</td>
<td>(0.41)</td>
<td>(0.41)</td>
<td>(0.39)</td>
<td>(0.43)</td>
<td>(0.39)</td>
</tr>
<tr>
<td>Eastern Mediterranean – Méditerranée orientale</td>
<td>384</td>
<td>466</td>
<td>687</td>
<td>608</td>
<td>729</td>
<td>753</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td>(0.10)</td>
<td>(0.14)</td>
<td>(0.11)</td>
<td>(0.12)</td>
<td>(0.12)</td>
<td>(0.12)</td>
</tr>
<tr>
<td>Western Pacific – Pacifique occidental</td>
<td>671</td>
<td>604</td>
<td>592</td>
<td>635</td>
<td>526</td>
<td>549</td>
<td>568</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12 392</td>
<td>14 403</td>
<td>14 140</td>
<td>14 320</td>
<td>13 275</td>
<td><strong>13 079</strong></td>
<td><strong>14 409</strong></td>
</tr>
<tr>
<td></td>
<td>(0.23)</td>
<td>(0.26)</td>
<td>(0.25)</td>
<td>(0.25)</td>
<td>(0.23)</td>
<td><strong>(0.22)</strong></td>
<td><strong>(0.25)</strong></td>
</tr>
</tbody>
</table>

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*Updated data for 2011. – Données actualisées pour 2011.
*No reports received from the European Region. – Aucun rapport reçu de la Région européenne.
*Values are numbers (rate/100 000 population). – Les valeurs sont des nombres (taux pour 100 000 habitants).
ILC 2013

Hidden Challenges
Fig. 2. Prevalence and new-case detection rate for leprosy in India, 1984–2002

Lockwood, Suneetha, Bulletin WHO 2005
ILC 2013

Hidden Challenges

New Opportunities
Uniting to Combat Neglected Tropical Diseases

Ending the Neglect and Reaching 2020 Goals
January 2012- Launched the London Declaration on NTDs
Partner overlap in London Declaration Commitments
10 London Declaration Diseases

- Guinea worm
- Lymphatic filariasis
- Onchocerciasis
- Schistosomiasis
- Trachoma
- Soil Transmitted Helminthns
- Leprosy
- Human African Sleeping Sickness
- Visceral Leishmaniasis
- Chagas
What the London Declaration says

• Sustain, expand and extend programs that ensure the necessary supply of drugs and other interventions to help eradicate Guinea worm disease, and help eliminate by 2020 lymphatic filariasis, leprosy, human African trypanosomiasis, and blinding trachoma.
• Sustain, expand and extend drug access programs to ensure the necessary supply of drugs and other interventions to help control by 2020 schistosomiasis, soil-transmitted helminthes, Chagas disease, visceral leishmaniasis and onchocerciasis.
What the London Declaration says

• **Advance R&D through partnerships and provision of funding to find next-generation treatments and interventions** for neglected diseases.

• **Enhance collaboration and coordination** on NTDs at national and international levels through public and private multilateral organizations to work more efficiently and effectively together.

• **Enable adequate funding with endemic countries** to implement NTD programs necessary to achieve these goals, supported by strong and committed health systems at the national level.

• **Provide technical support, tools and resources** to support NTD-endemic countries to evaluate and monitor NTD programs.

• **Provide regular updates on the progress** in reaching the 2020 goals and identify remaining gaps.
Leprosy and the London Declaration

• Transparence following progress
• Leprosy on the Global London Declaration Scorecard
London Declaration Scorecard

For the full London Declaration Scorecard Excel document visit: http://www.unitedtocombatntds.org/reports/London-Declaration-Scorecard.xlsx
Leprosy and the London Declaration

• On the Scorecard
• Part of the Disease Specific Working Group - ILEP
• 19/67 endorsing organizations work on Leprosy
<table>
<thead>
<tr>
<th>Diseases Targeted For Elimination</th>
<th>Diseases Targeted For Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea worm</td>
<td>Schistosomiasis</td>
</tr>
<tr>
<td>Leprosy</td>
<td>River blindness</td>
</tr>
<tr>
<td>Lymphatic filariasis</td>
<td>Soil-Transmitted Helminthes</td>
</tr>
<tr>
<td>Blinding trachoma</td>
<td>Chagas</td>
</tr>
<tr>
<td>Sleeping sickness</td>
<td>Visceral Leishmaniasis</td>
</tr>
</tbody>
</table>

Where we are now

Where we can get with existing tools and strategies

Where we can get with new tools and strategies

2020 Goals
Learning and Synergies
-i.e. what can you do for me?-

• NTD mass drug administration programs
Paradigm shift of treatment to prevention - mass drug administration

Lymphatic filariasis

Onchocerciasis

Scaling up/down and phasing out projection for LF Mass Drug Administration

<table>
<thead>
<tr>
<th>Year</th>
<th>Treatment targets</th>
<th>Treated</th>
<th># of countries</th>
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<tbody>
<tr>
<td>2000</td>
<td>0.5</td>
<td>1.4</td>
<td>92.0</td>
</tr>
<tr>
<td>2001</td>
<td>1.4</td>
<td>0.5</td>
<td>95.5</td>
</tr>
<tr>
<td>2002</td>
<td>15.0</td>
<td>32.0</td>
<td>56.0</td>
</tr>
<tr>
<td>2003</td>
<td>52.0</td>
<td>52.0</td>
<td>34.0</td>
</tr>
<tr>
<td>2004</td>
<td>117.0</td>
<td>75.5</td>
<td>20.0</td>
</tr>
<tr>
<td>2005</td>
<td>22.5</td>
<td>22.5</td>
<td>17.0</td>
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<tr>
<td>2006</td>
<td>303.5</td>
<td>303.5</td>
<td>16.0</td>
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<tr>
<td>2007</td>
<td>246.0</td>
<td>246.0</td>
<td>130.0</td>
</tr>
<tr>
<td>2008</td>
<td>300.0</td>
<td>300.0</td>
<td>67.0</td>
</tr>
<tr>
<td>2009</td>
<td>114.0</td>
<td>114.0</td>
<td>21.0</td>
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<tr>
<td>2010</td>
<td>29.0</td>
<td>29.0</td>
<td>29.0</td>
</tr>
<tr>
<td>2011</td>
<td>11.0</td>
<td>11.0</td>
<td>32.0</td>
</tr>
<tr>
<td>2012</td>
<td>4.0</td>
<td>4.0</td>
<td>11.0</td>
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<tr>
<td>2013</td>
<td>1.0</td>
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</tr>
<tr>
<td>2014</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Hidden challenges
Annual New Leprosy Cases and Grade 2 Disability 2005-12
Paradigm shift of treatment to prevention - mass drug administration

• Expand from treatment to prevention

• Chemoprophylaxis with single dose rifampicin (SDR) in Bangladesh showed a 57% reduction in leprosy incidence in the first 2 years still statistically significant after 6 years
Paradigm shift of treatment to prevention

Synergies
-i.e. what can you do for me?-

• NTD mass drug administration programs
• Reached 728 million people in 2011 (wow)
• Brazil finding new synergies- STH treatment and leprosy new case detection
Synergies

-i.e. what can you do for me?-  
• NTD mass drug administration programs  
• Reached 728 million people in 2011 (wow)  
• Brazil finding new synergies  
• Opportunities with Yaws eradication?  
• Leprosy- Care for patients  
• Leprosy- including the patients voice
Preliminary NTD Implementation Funding Gap

Assumptions:
Current Commitments and Domestic Held Steady

Total: $5.3 billion to 2020
Gap range: $4.7 billion to $3.08 billion
Annual shortfall ~$342 million

Using our voice together we can fill this gap for the world’s neglected populations
Research and Development Funding for the 10 London Declaration Diseases - G-Finder 2011

- Lymphatic Filariasis (Elephantiasis)
- Onchocerciasis (River Blindness)
- Schistosomiasis (Bilharziasis)
- Soil-transmitted helminths (Total)
- Multiple helminths
- Leishmaniasis
- Sleeping Sickness
- Chagas' disease
- Multiple kinetoplastids
- Leprosy
- Trachoma
The Face of Leprosy Today
Closing Thoughts

• Enjoy the science and always think about how it can be applied to make the program/patient better
• Look for opportunities for transformational change - you are the world’s greatest experts you can find it and make it happen
• You will change the future for leprosy and all those that suffer from the neglected diseases
• The London Declaration is a unique opportunity - you can turn it from a piece of paper into real change
THANK YOU FOR THE OPPORTUNITY TO BE HERE