Gaps and Priorities in U.S. Contributions to Global Disease Challenges:
What has the U.S. done well and not as well?

The Neglected Tropical Diseases
‘The NTDs’

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The Challenge of NTDs

- Impairment of intellectual and physical development in children
  - Worm infections cause over 200 million years of lost primary schooling
  - Hookworm: 43% reduction in future wage earning

- Adverse pregnancy outcome
  - Hookworm and schistosomiasis

- Reduced productive capacity/worker productivity
  - LF: $1.5 billion
  - Trachoma: $5.3 billion

NTDs promote poverty
Major Findings

- Seven most common NTDs:
  - Over 1 billion people infected
  - 52 million DALYs
  - 90% NTD burden

- Rapid impact package (4 drugs)
  - Albendazole or Mebendazole
  - Praziquantel
  - Ivermectin or DEC
  - Azithromycin

- Highly cost effective
  - US $0.40-0.50 per person per year
  - US $1-4 per DALY averted
U.S. Contribution

- U.S. Vertical partnerships (PPPs) for NTD Control
  
  **Resulting Successes**
  - Control of onchocerciasis in West Africa -- 600,000 cases blindness prevented
  - Near elimination of onchocerciasis in the Americas (OEPA)
  - Trachoma eliminated in Morocco (ITI and Pfizer)
  - Near eradication of Guinea worm

- U.S. Government Support since 2007
  - Congressional Support through USAID
    - 2007 NTD Control Program $100 million
    - 2008 White House announcement $350 million
  - G8 Summit in Hokkaido, Japan

- Non-profit Collaboration
  - Global Network for NTDs
    - 2006 Clinton Global Initiative
    - Major implementing NTD Partnerships
    - Advocacy, Resource Mobilization
Gaps in Knowledge

- Complete disease mapping and use of GIS/RS
- Monitoring and evaluation of Integrated NTD Control
  - Pharmacovigilance/safety studies
  - Working through national health control programs
- Risk of drug resistance due to mass drug administration
  - Mebendazole vs. hookworm
  - Ivermectin vs. onchocerciasis
- NTDs and co-infection (malaria and HIV/AIDS – 3 fold increase)
  - Linking NTD control with malaria control
- Regional control in the Americas and Asia
  - Different diseases
  - Multisectoral approaches
- New tools
  - New anthelminthics
  - Anthelminthic vaccines
  - New drugs and vector control for HAT, Chagas, Leishmaniasis
### Recommendations

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<tr>
<th>Funds for scale-up</th>
<th>Total needs US$3-4 billion (USG contribution only 10%)</th>
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<td>Public/private support through new alliance</td>
<td>US$2.0-2.5 billion for global NTD control – 7 NTDs</td>
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<td>Encourage Southern ownership</td>
<td>Additional $1 billion for other vector borne NTDs:</td>
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<td>Encourage private investment</td>
<td>- African trypanosomiasis</td>
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<td>Secure Access to Essential Medicines</td>
<td>- Leishmaniasis</td>
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<td>Encourage Parallel Research and Development</td>
<td>- Chagas disease</td>
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<td>Additional $1 billion for R&amp;D</td>
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<td>Geneva Global and high net-worth individuals</td>
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<td>5% of praziquantel available</td>
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<td>Operational/implementation research (eg Fogarty)</td>
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<td>New tools: Drugs, Vaccines, Diagnostics (eg Gates, NIH)</td>
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Strengthening Health Systems

- Integration is two years old
  - Impact of integrated NTD control on health systems needs to be examined
  - Additional Cost-benefit studies
- The next generation
  - Integrating NTD control with malaria control -- “Roll back anemia”
- Encourage linking of control programs
- Greater use of 400,000+ NTD community drug distributors (CDDs)
  - Bednet use increases 9-fold
  - New WHO/TDR study on CDDs
- Track record of NTD in areas of conflict