

“Neglected Tropical Diseases,

“Maladies Tropicales Négligées,

2007



Succès ignorés,

“Nouvelles opportunités”

Hidden successes,

Emerging opportunities”



World Health
Organization

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World Health
Organization

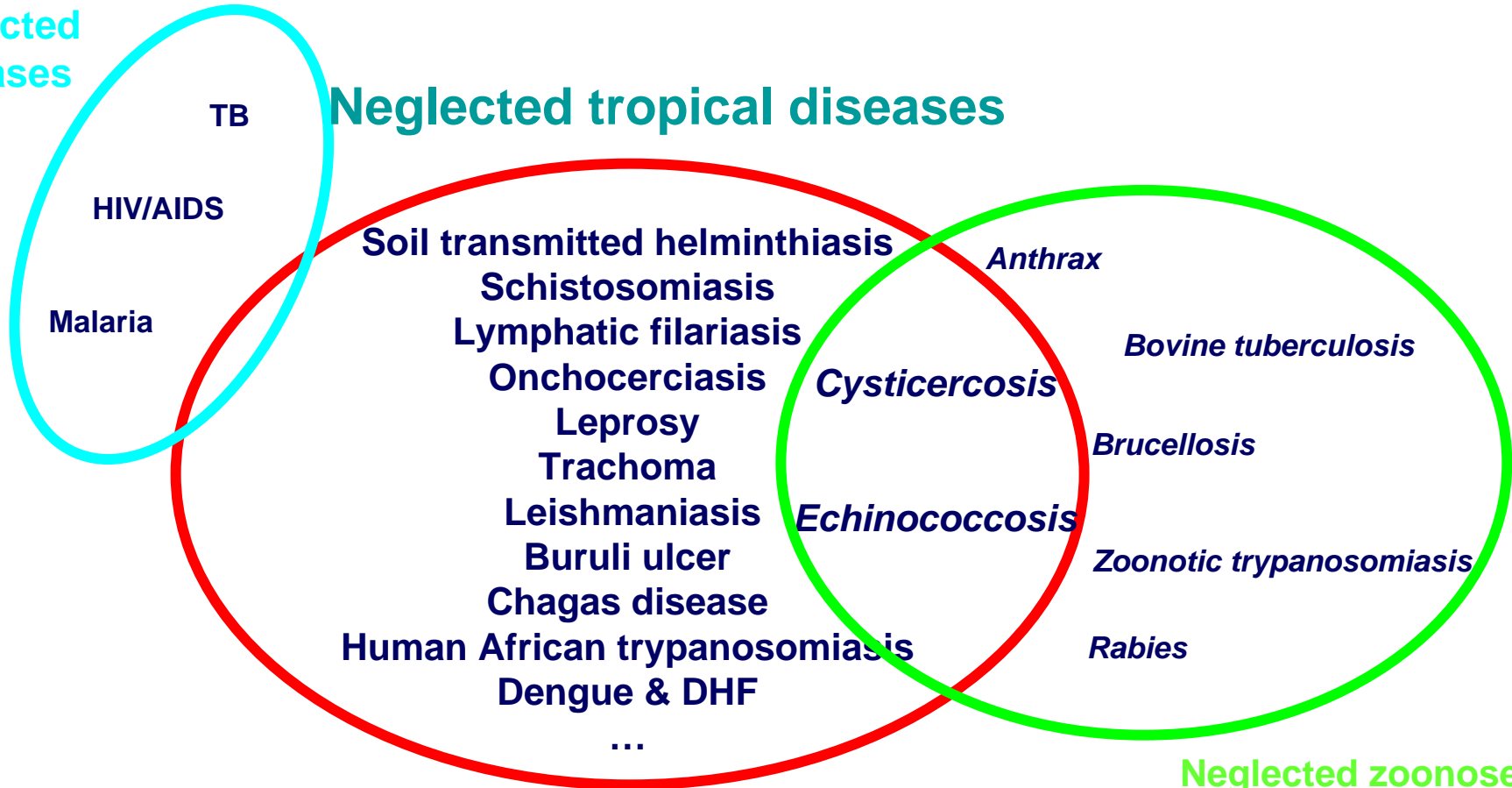
Structure of the presentation

- Global current coverage
- NTDs in the context of the Presidential Initiative
- Goals and role of WHO
- Technical aspects of PCT
- Key requirements for successful implementation

Global current coverage

NTDs in poor populations

Previously neglected diseases



Neglected zoonoses

... or poor populations and (all) their (undermining) diseases ?

Impact on poverty
making interventions cost-effective

Neglected Tropical Diseases

■ Protozoan Infections

- Leishmaniasis (VL, CL and MCL)
- Human African trypanosomiasis (sleeping sickness)
- Chagas disease

■ Helminth Infections

- Soil-transmitted helminth infections
 - Ascariasis-Trichuriasis-Hookworm infections
- Lymphatic filariasis (elephantiasis)
- Onchocerciasis (river blindness)
- Schistosomiasis
- Dracunculiasis (guinea-worm disease)
- Cysticercosis and other zoonotic helminthiasis

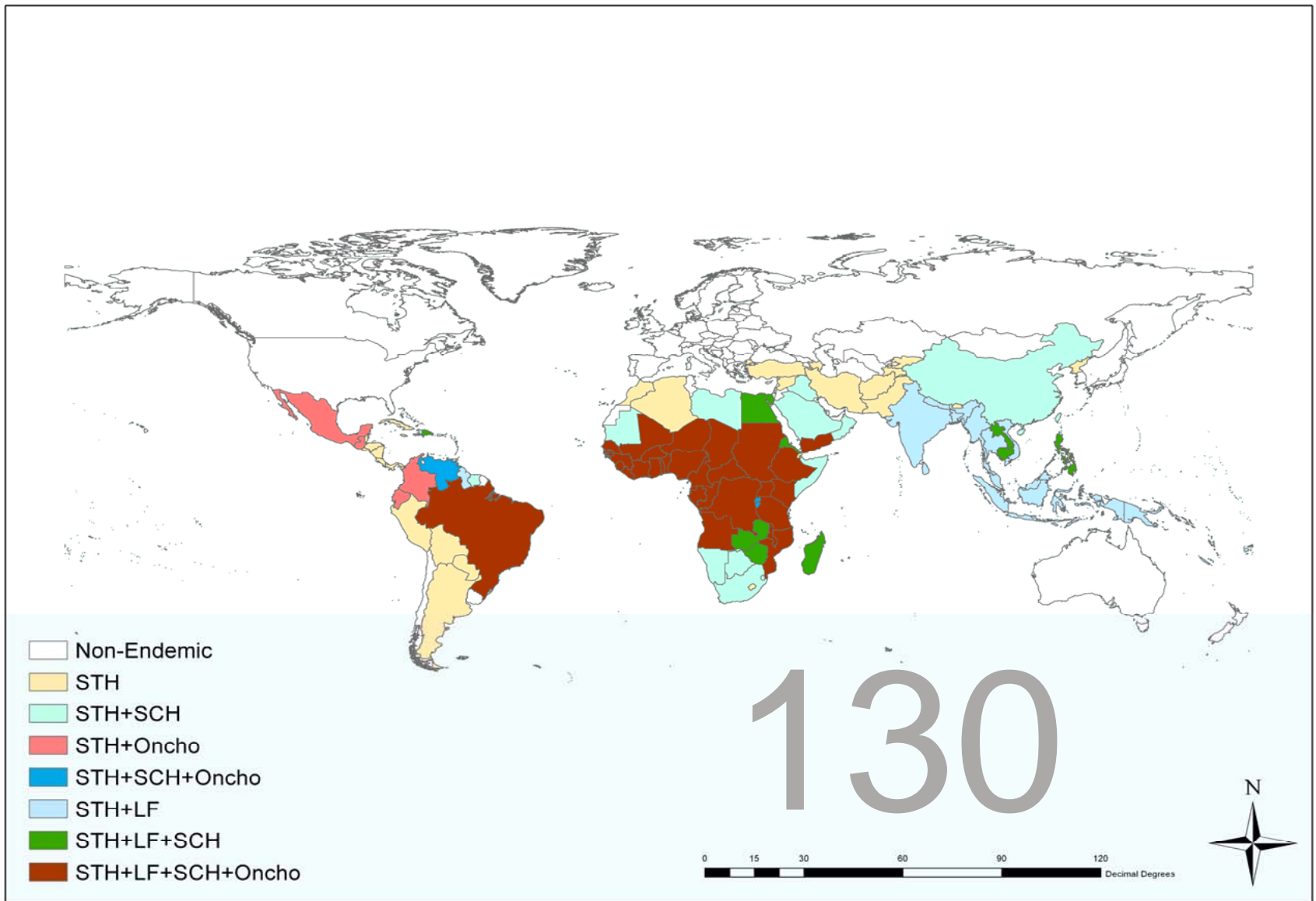
■ Viral Infections

- Dengue & dengue haemorrhagic fever

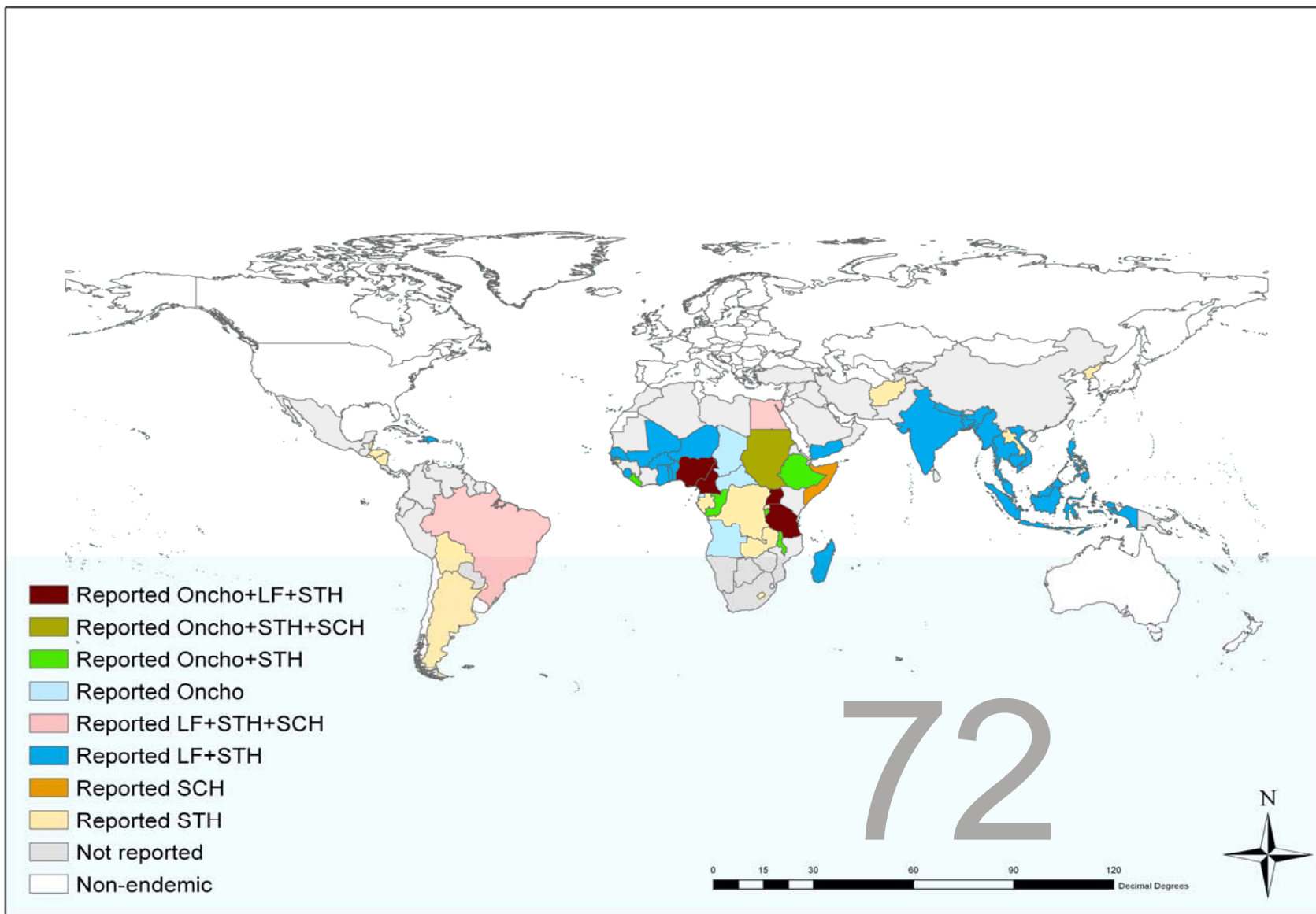
■ Bacterial Infections

- Leprosy
- Trachoma
- Buruli ulcer

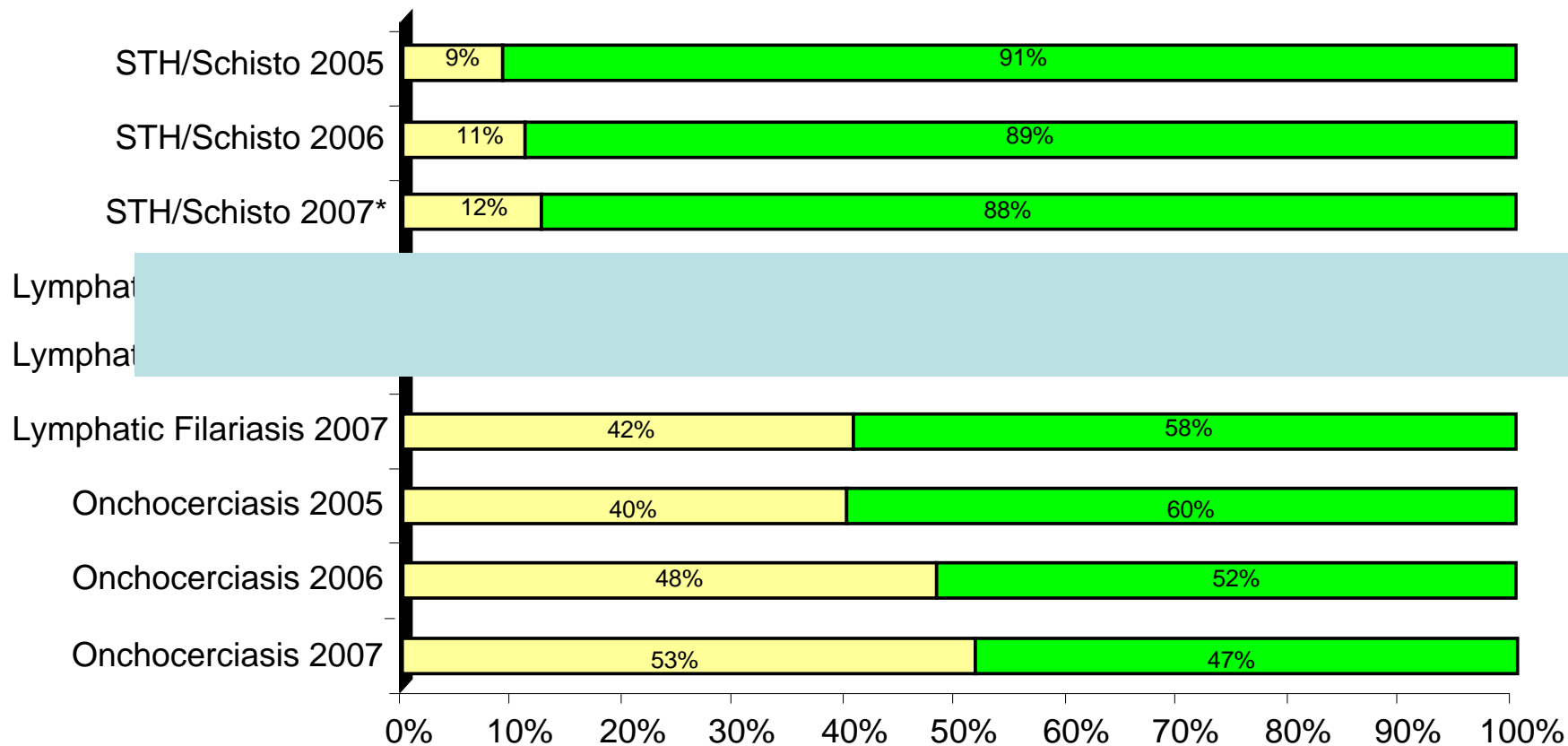
Endemic countries requiring PCT interventions (LF, STH, SCH, Oncho)



Reporting status, 2007 (data collection in progress)



Where are we globally today with the implementation of preventive anthelmintic chemotherapy ?



* data collection in progress

31 top endemic countries ranked and grouped by disease burden and grouped by income categories

	Low Income 25 countries	Lower-Middle Income 5 countries	Upper-Middle Income 1 country
1 group 12 countries	India Nigeria Ethiopia Bangladesh Democratic Republic of Congo Sudan United Republic of Tanzania Viet Nam Kenya Uganda	China Indonesia	
2 group 7 countries	Ghana Myanmar Madagascar Mozambique	Cameroon Philippines Angola	
3 group 12 countries	Burkina Faso Mali Niger Côte d'Ivoire Pakistan Malawi Chad Zimbabwe Senegal Guinea Zambia		Brazil

LDC marked in **bold & red** – 18 countries

NTDs in the context of the Presidential Initiative

- **National ownership**
- **Securing access to essential NTD medicines.**
- **External financial assistance.**
- **Working with partners.**

Fighting Neglected Tropical Diseases Around The World

President Bush Announces New Global Initiative To Combat Neglected Tropical Diseases

Today, President Bush has challenged the world to reduce dramatically and eventually control and eliminate the burden of neglected tropical diseases (NTDs) as a major threat to health and economic growth in the developing world. This Initiative will make a total of \$350 million available over five years to provide integrated treatment of more than 300 million people in Africa, Asia, and Latin America and target seven major NTDs: lymphatic filariasis (elephantiasis); schistosomiasis (snail fever); trachoma (eye infection); onchocerciasis (river blindness); and three soil-transmitted helminthes (STHs – hookworm, roundworm, whipworm).

This investment increases the United States' commitment to NTDs from \$15 million in 2008 to a total of \$350 million over five years (FY 2009 – FY 2013) and will expand the targeted number of countries from 10 in 2008 to approximately 30 by 2013. The new Initiative will target communities with integrated treatment annually for three to five years in order to reduce the prevalence of these diseases within these communities.

Large scale interventions

- Lymphatic filariasis
- Leprosy
- Onchocerciasis
- Schistosomiasis
- Helminthiasis
- Trachoma
- Yaws



Rapid Impact Interventions
Improving access

Case management and development of new tools

- Human African trypanosomiasis
- Chagas diseases
- Buruli ulcer
- Leishmaniasis
- Dengue



Focused interventions
Improving innovation

We know it works!

- Economic rates of return - 15-30%
- Multiple impacts
- Sustainable, community based delivery, school based treatment
- Pro-poor, MDG relevant
- Donated drugs - high quality 70% reach target population

Unrecognised large scale successes

- **Filariasis** (China) - 350 million now free of threat of disease. Transmission arrested
- **Onchocerciasis** (river blindness) no longer a public health problem in 10 countries
- **Chagas disease** - domestic transmission eliminated in 5 countries of South America and transfusion transmission eliminated
- **Schistosomiasis** controlled in China and Egypt

Unrecognised large scale

successes continued

- Active **trachoma** prevalence in Morocco in under 10's reduced by 90%
- **Soil transmitted helminths** – Burkina Faso and Cambodia reached WHA target of 75% children under regular treatment by 2010
- **Leprosy** eliminated as a public health problem through MDT-prevalence reduced by 90%; only 3 countries out of 122 remain endemic
- **Guinea Worm Eradication Programme** reduced cases from circa 900,000 in 1990 to 10,000 in 2007

Health benefits

Onchocerciasis

- Reduced blindness
- Reduced onchocercal skin diseases

Lymphatic Filariasis

- Reduced transmission
- Reduced fevers
- Increased productivity

Intestinal Helminths

- De-worming
- Alleviation of anaemia
- Improved nutritional status and micronutrient uptake
- Improved cognition, school attendance, weight gain and physical output

Ectoparasites

- Reduced skin diseases

System benefits

Increased participation by communities in health care

Entry point for interventions:

- Bednet distribution
- Measles vaccination
- Vitamin A
- Praziquantel for schistosomiasis
- Trachoma via Zithromax

Social mobilisation

Links to other sectors

- Education
- Environment

Capacity Development

Research Strengthening

Drug Distribution, Logistics

Strengthening of Monitoring and Evaluation Systems

Surveillance and reporting

A Large Array of Partners....



World Health Organization



International Federation of Red Cross and Red Crescent Societies

THE CARTER CENTER
Waging Peace. Fighting Disease. Building Hope.



The Task Force for Child Survival and Development

UN Agencies



ADVOCACY

GNNTDC
GLOBAL NETWORK FOR NEGLECTED TROPICAL DISEASE CONTROL



The Earth Institute
AT COLUMBIA UNIVERSITY

Mobilizing the Sciences and Public Policy to Build a Prosperous and Sustainable Future



RTI INTERNATIONAL



SCI
Schistosomiasis Control Initiative



LIVERPOOL SCHOOL OF TROPICAL MEDICINE



IMA World Health



RESEARCH



Other Partnerships:



GET 2020



The World Bank
IBRD & IDA: Working for a World Free of Poverty

DONORS



Canadian International Development Agency

Agence canadienne de développement international



Japan International Cooperation Agency

Pharmaceutical Donation Programmes



Mectizan for as long as needed for onchocerciasis and filariasis in Africa



Mebendazole for intestinal worms



Azithromycin for trachoma 120 million doses

Medpharm

THROUGH WHO :



Bayer

Nifurtimox for Chagas and HAT to 2012

THROUGH WHO :



MDT and clofazimine for leprosy; triclabendazole for fascioliasis



Albendazole for lymphatic filariasis at least to 2020



Eflornithine and melarsoprol support for sleeping sickness treatment

Merck KGaA

Merck KgaA

Praziquantel for schistosomiasis to 2017

Goals and Role of WHO

Goals

1

Broader coverage of current interventions

Near Term

2

Availability of high quality tools for NTDs at national and sub-national levels

Mid Term

3

Greater political commitment at national and international levels and more resources mobilized to control NTDs

Long Term

4

NTD control programmes established as an integral part of national health plans in all endemic countries

Role of WHO

- Increase awareness of the broad impact of tropical diseases at global and national levels on poverty, economies, human rights and development
- Advocate for considering the collective disease burden of NTDs.
- Advocate for including NTDs interventions within national and district health plans.
- Promote a global plan to combat NTDs
- Develop technical guidelines to assist countries in implementation and M&E
- Improve access to medicines for NTDs
- Harmonize implementation with all partners involved

Technical aspects of Preventive chemotherapy

Control with current tools

Diagnostic procedures are not sensitive, cannot be used at field level and are expensive

Treatment is costly, difficult to administer, can have serious side-effects and can become resistant

Need for specialized services

Integration is not possible

Sustained control/elimination is difficult

What do we need?

Simple, efficient and inexpensive diagnostic tools

Oral, inexpensive drugs that do not have side-effects

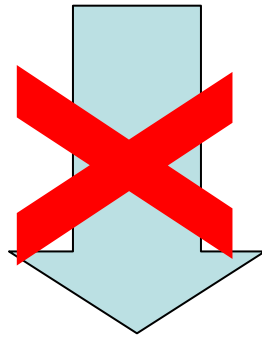
Integration within existing health structures is possible

Sustained control/elimination is feasible

Onchocerciasis, LF, schistosomiasis, STH...

Management with existing tools

No individual **diagnosis** required
Safe, single dose, free or cheap
drugs



Specialized services

Integrated management by local
health capacities



Preventive chemotherapy

Existing field-applicable tools

Simple, cheap **community diagnosis**

Large scale treatment of groups or communities in need



Regular "preventive" treatment

**Coordinated use of a few drugs
will have an impact on many diseases**

Sustained control / elimination

"Rapid impact" interventions

Anthelmintic treatment

- **STH**
 - school-age children
 - pre-school children
 - women/pregnant women
- **Schistosomiasis**
 - school-age children
 - high risk groups/communities
- **Onchocerciasis**
 - communities
- **Lymphatic filariasis**
 - communities-districts

Other large scale interventions

- **ITNs:** various target groups, including pre-school children and pregnant women
- **Vit A distribution:** pre-school children
- **Vaccination campaigns:** pre-school children
- **Micronutrients:** pregnant women, school-age children
- **Trachoma (SAFE):** districts-communities-families
- ...

"Rapid impact" interventions

Anthelmintic treatment

- STH
 - school-age children
 - pre.-school children
 - Women/pregnant women
- Schistosomiasis
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- ...

Packaging around risk groups and access channels


Pre-school children: vaccinations, vit.A, bednets, deworming (ALB/MBD)

School-age children: AIDS prevention, school feeding, micronutrients, deworming (PZQ, ALB/MBD), health education ...

Women / pregnant women: Micronutrients (Fe), deworming (ALB/MBD, PZQ), vaccinations, ...

Districts, communities, sub-communities, families ...: IVM-ALB or DEC-ALB, PZQ, Azithromycin, ...

Preventive chemotherapy

 <p>Preventive chemotherapy in human helminthiasis</p> <p>Coordinated use of anthelmintic drugs in control interventions: <i>a manual for health professionals and programme managers</i></p>	<p>albendazole ivermectin or + or + praziquantel mebendazole* DEC</p> <p>Onchocerciasis, lymphatic filariasis, schistosomiasis hookworm disease, ascariasis, trichuriasis</p> <p>Taeniasis, strongyloidiasis, enterobiasis, food-borne trematodiasis, scabies, lice...</p> <p>azithromycin Trachoma</p>
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* or levamisole or pyrantel

Preventive chemotherapy



Preventive chemotherapy in human helminthiasis

Coordinated use of anthelmintic drugs
in control interventions:
*a manual for health professionals and
programme managers*

Current best practice in the coordinated use of anthelmintic drugs:

- How drugs can be used in combination
- To whom can the package be given
- Use in pregnancy and in very young children
- Approved drug dosages
- Practical annexes: standardized forms, dose poles, disease-specific information ...
- Implementation charts: each combination of diseases (24) has a recommended strategy (9)

Algorithm 1 – Coordinated implementation of preventive chemotherapy interventions

Legend

Mass drug administration

MDA1^a IVM+ALB

MDA2^a DEC+ALB

MDA3 IVM

Targeted treatment

T1 ALB+PZQ or MBD+PZQ

T2 PZQ

T3 ALB or MBD

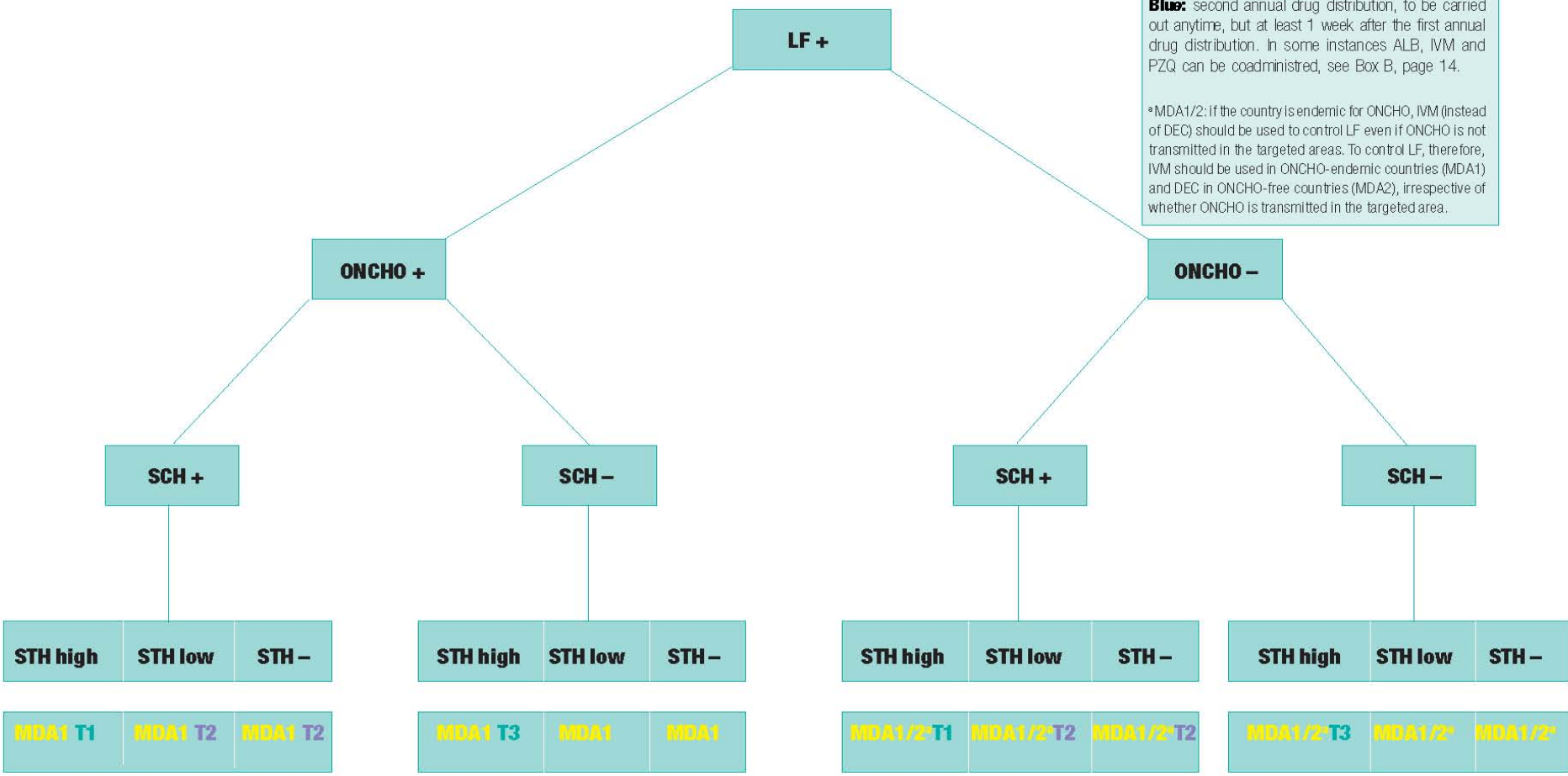
Colour coding

Yellow: first annual drug distribution

Green: second annual drug distribution, to be carried out 6 months after the first annual drug distribution

Blue: second annual drug distribution, to be carried out anytime, but at least 1 week after the first annual drug distribution. In some instances ALB, IVM and PZQ can be coadministered, see Box B, page 14.

^aMDA1/2: if the country is endemic for ONCHO, IVM (instead of DEC) should be used to control LF even if ONCHO is not transmitted in the targeted areas. To control LF, therefore, IVM should be used in ONCHO-endemic countries (MDA1) and DEC in ONCHO-free countries (MDA2), irrespective of whether ONCHO is transmitted in the targeted area.



Algorithm 2 – Coordinated implementation of preventive chemotherapy interventions

Legend

Mass drug administration

MDA1^a IVM+ALB

MDA2^a DEC+ALB

MDA3 IVM

Targeted treatment

T1 ALB+PZQ or MBD+PZQ

T2 PZQ

T3 ALB or MBD

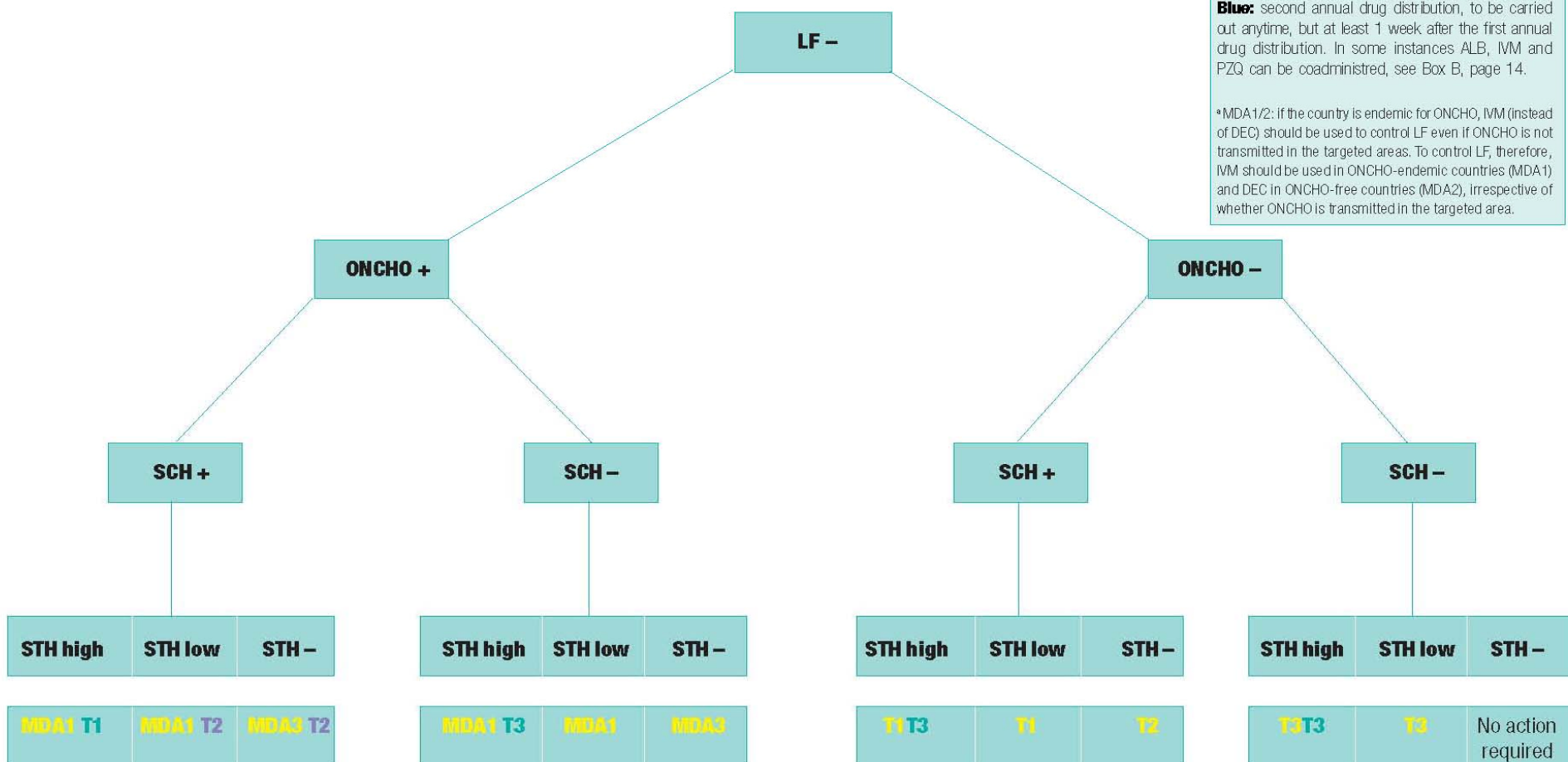
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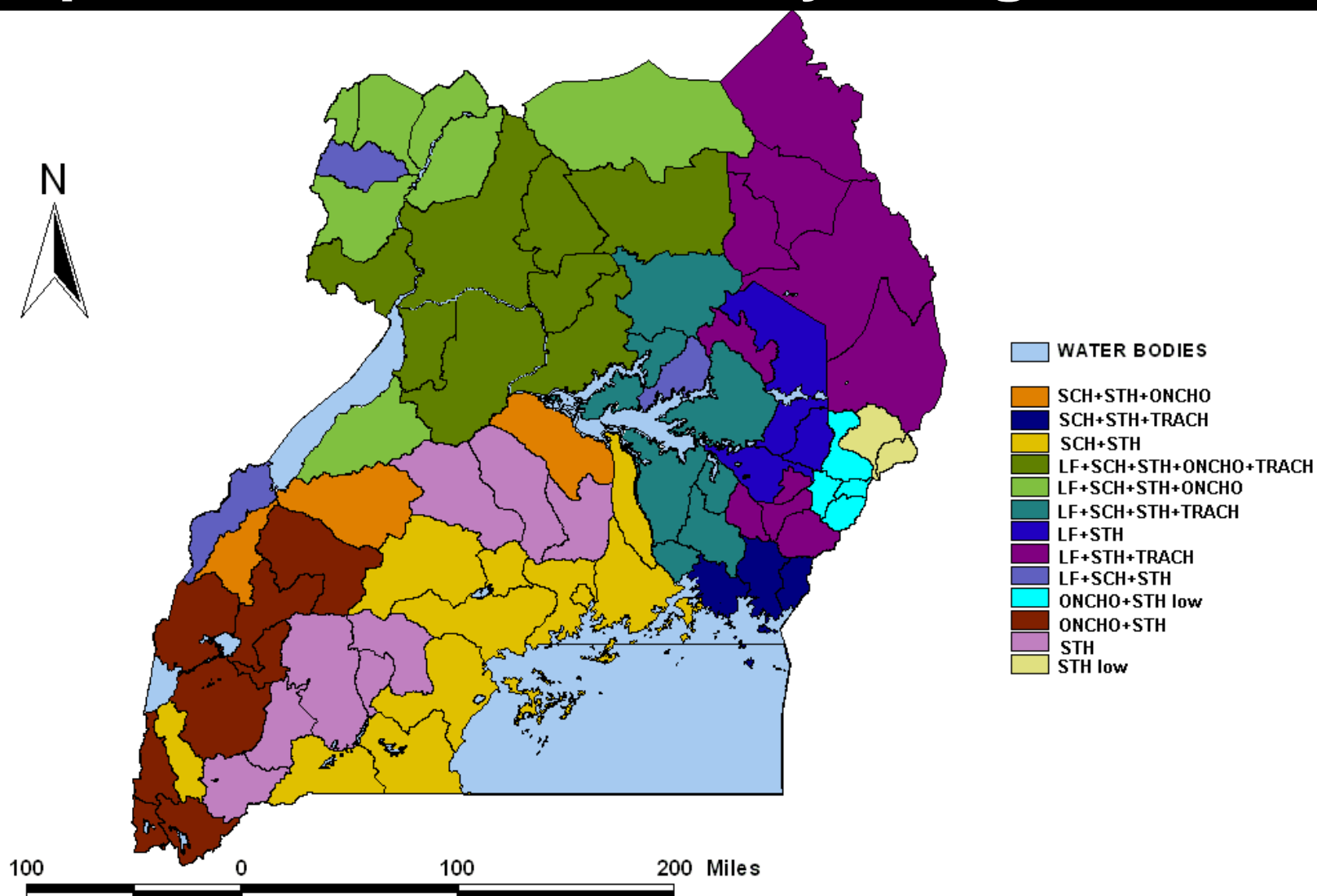
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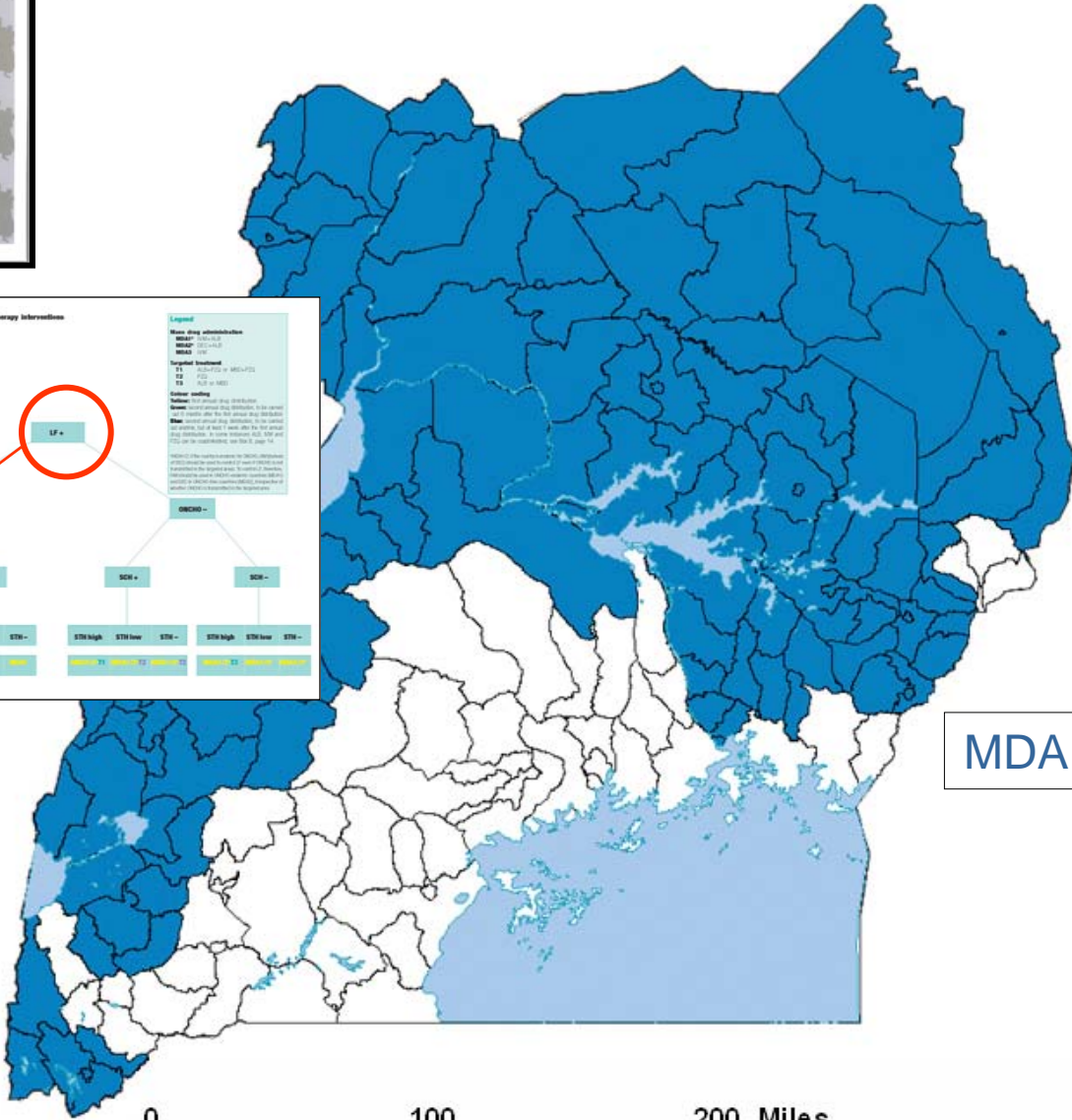
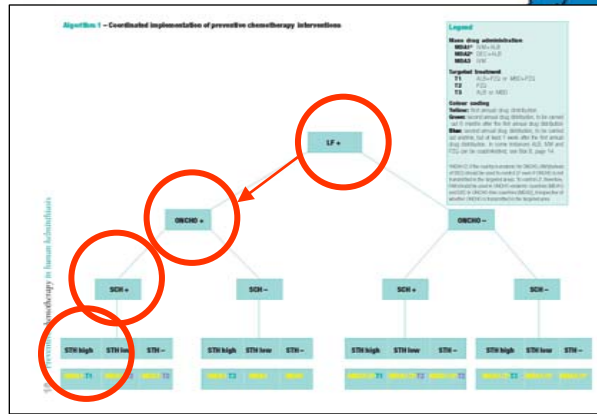
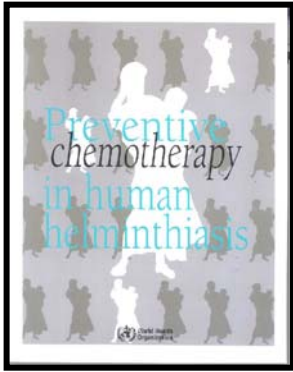
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Example: disease endemicity in Uganda



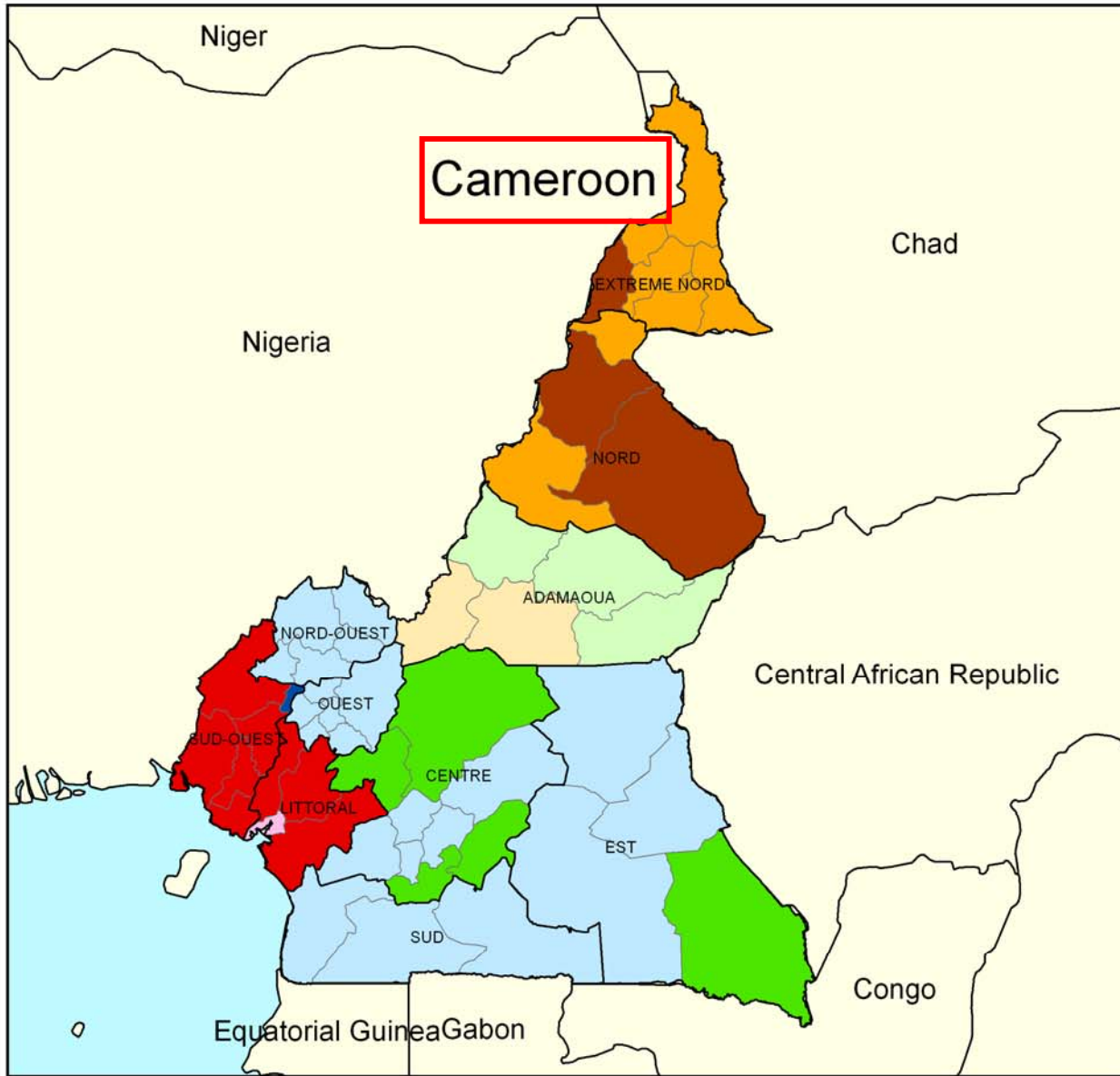
Preventive chemotherapy algorithm in Uganda (1)



WATER BODIES
 MDA1
 ↓

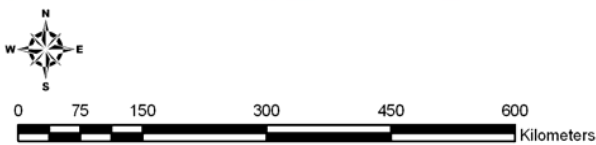
MDA1 = IVM + ALB

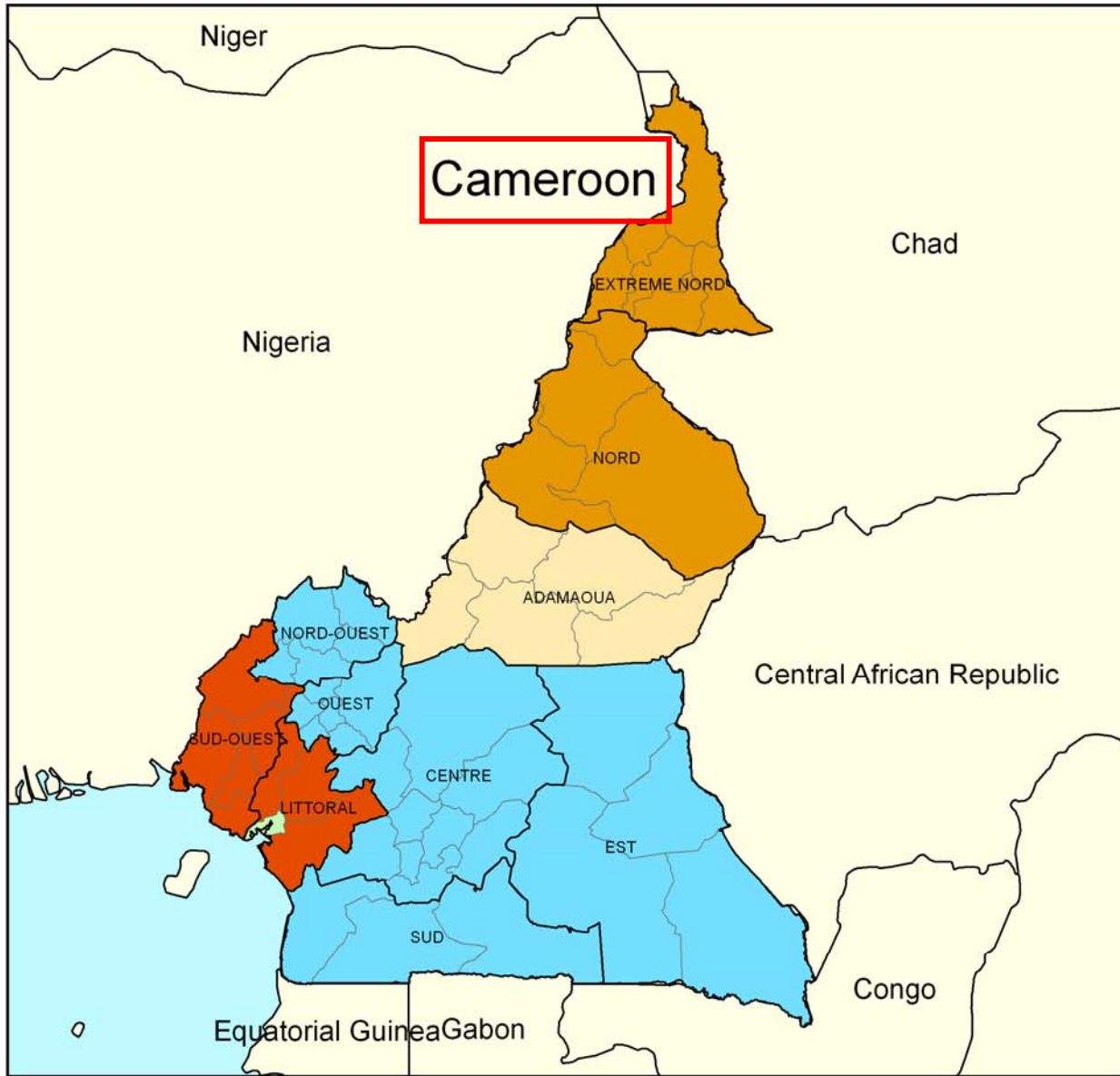
100 0 100 200 Miles



Disease distribution

- LF + STH + SCH
- LF + STH + SCH + Oncho
- LF + STH + SCH high
- LF + STH + SCH high + Oncho
- LF + STH high + SCH high + Oncho
- LF + STH high + SCH low
- LF + STH high + SCH low + Oncho
- STH high + SCH high
- STH high + SCH high + Oncho

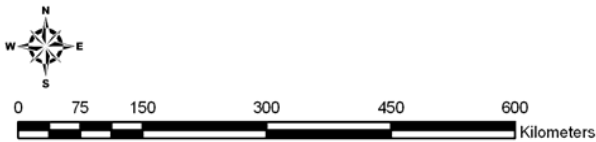




PCT strategy

- MDA1 + T1
- MDA1 + T2
- MDA1 + T2 once in two years
- MDA1 + T3
- T1 + T3

Cameroon



Key requirements for successful implementation

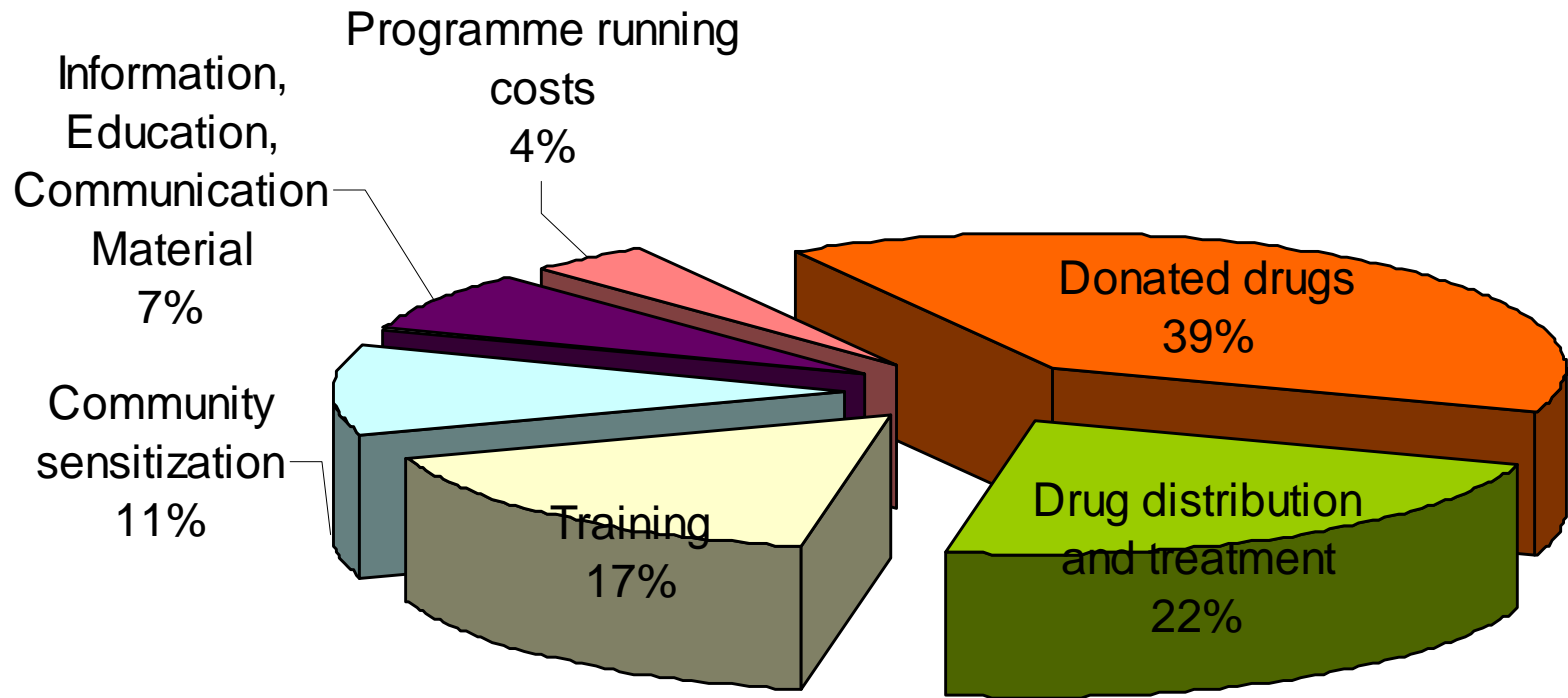
Key challenges in countries

- Short term & unpredictable international aid when health sector needs long term recurrent cost support
- Very complex – many international organisations involved at global and country levels
- Not always aligned with government priorities, including health systems
- International aid rarely includes control of NTDs, despite the possibility of having rapid impact on health and socioeconomic development

Need for a collaborative and coordination platform

- Governmental leadership and ownership
 - Facilitate engagement of multiple stakeholders at country level
- Multiple diseases, initiatives and supporting efforts, private sector engagement – require coordination
- Lean, transparent and effective coalition needed
- Avoid duplication of efforts
- Advocacy based on quantitative knowledge

Economic costs of anthelmintic treatment by major cost item in Uganda



Average % 2003-5 of six districts in Uganda (Busia, Mayuge, Hoima, Masindi, Moyo, Nebbi)

Source: Cost and cost-effectiveness of nationwide school-based helminth control in Uganda; intra-country variation and effects of scaling-up, Nov 2007, Health Policy and Planning Advance Access

Key needs (cont)

- Support countries and national health systems
 - Pursuing integrated preventive chemotherapy
 - Supporting other NTDs (eradication, elimination, control)
- Manage new funding
 - New NTD FUND or coordinating multiple funding channels to countries?
 - Country support vs. NGO support, UN and technical agencies
- Coordinate drug procurement and distribution
- Coordinate technical support
- Enhance monitoring and evaluation
- Increase advocacy and communication



Photo by Francesca Sestini,
Mwaka Dispensary, Fumbo
District, Zambezi, August 2008

Thank you



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