NEGLECTED INFECTIOUS DISEASES

Key research questions and role of EDCTP2

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Medical Director

DNDi
Drugs for Neglected Diseases *initiative*

Neglected Tropical/Infectious Diseases

17 NTDs listed in WHO

- Buruli ulcer
- Dengue
- Dracunculiasis
- Endemic treponematoses (yaws/bejel)
- Human African trypanosomiasis
- Leishmaniasis (visceral and cutaneous)
- Leprosy
- Lymphatic filariasis
- Onchocerciasis
- Rabies
- Schistosomiasis
- STH
- Trachoma
- Cysticercosis
- Echinococcosis
- Fascioliasis
- *(Chagas)*

+

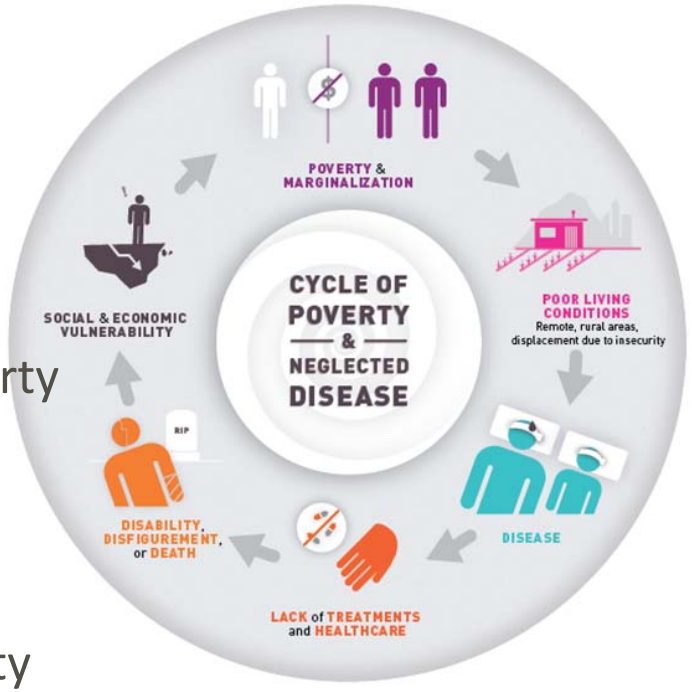
18th added May 2016

- Mycetoma

Disease burden … & the vicious cycle

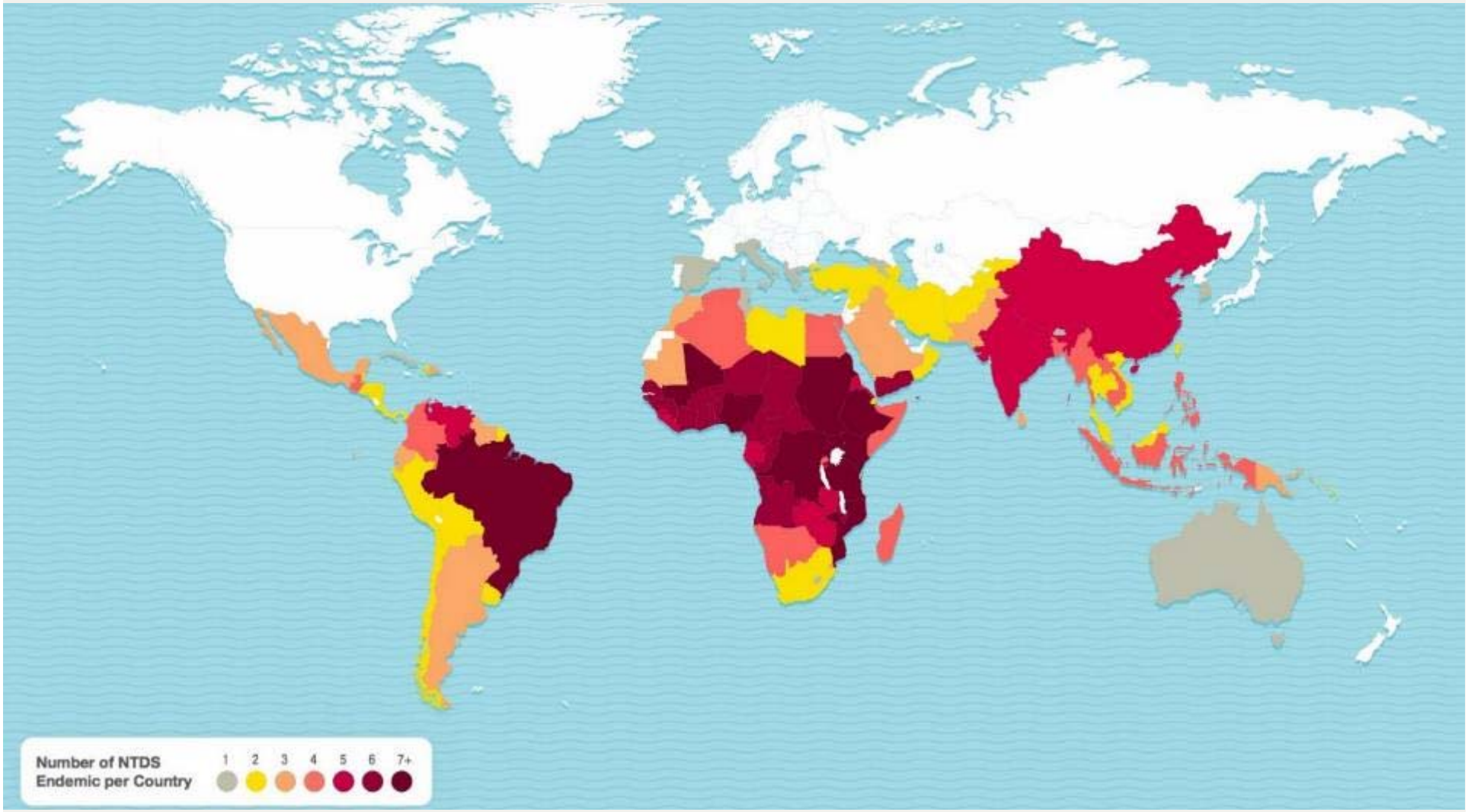
>1 billion affected incl. 500 million children

	Global Burden of Diseases (2010)	'Chronic pandemic' The Lancet (2016)
Deaths/year	150,000	350,000
DALYs	27 million	48 million



- Disease is both cause and consequence of poverty
- Poorest of the poor
- Living in remote areas
- Socioeconomic burden on family and community
- Marginalized & voiceless patients

Africa concentrates over 90% of NTD burden



Source: Uniting to Combat NTDs, 2012

Ranking of NTDs in SSA by prevalence and distribution

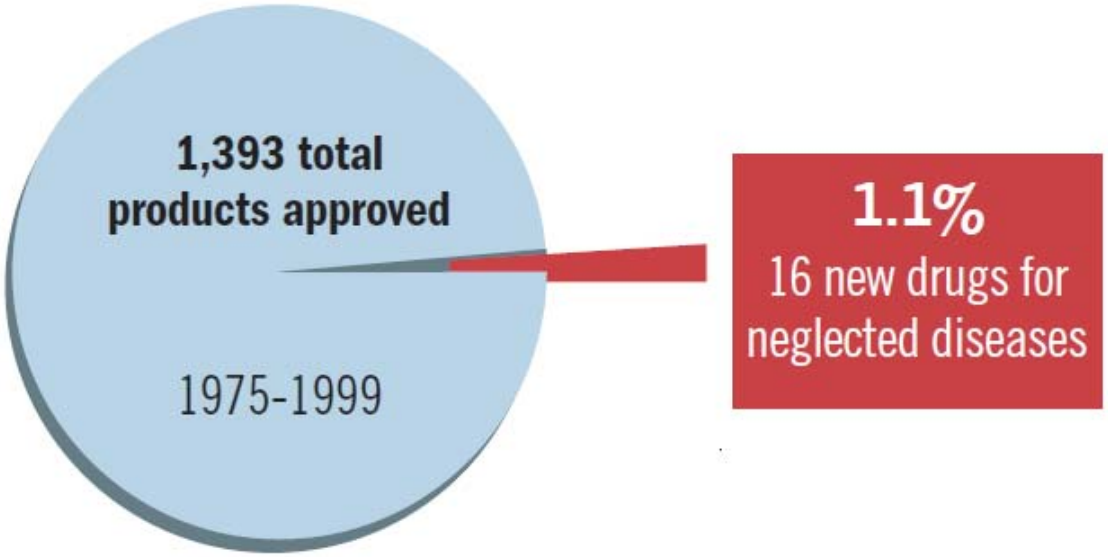
Disease	Estimated Population Infected in SSA	Estimated % of SSA Population Infected	Estimated % Global Disease Burden in SSA	Reference
Hookworm	198 million	29%[a]	34%[b]	[3,24]
Schistosomiasis	192 million	25%	93%	[21]
Ascariasis	173 million	25%a	21%[2b]	[3,24]
Trichuriasis	162 million	24%[a]	27%[b]	[3,24]
Lymphatic filariasis	46–51 million	6%–9%	37%–44%[c]	[25–28]
Onchocerciasis	37 million	5%	>99%	[15,29]
Active trachoma	30 million	3%	48%	[30]
Loiasis	≤13 million	1%–2%	100%	[31,32]
Yellow fever	180,000	0.02%	90%	[33,34]
Human African trypanosomiasis	50,000–70,000 (17,000 new cases annually)	<0.01%	100%	[39,40]
Leprosy	30,055 (registered prevalence); 21,037 new cases in 2007	<0.01%	14%	[35]
Leishmaniasis (visceral)	19,000–24,000 new cases annually in Sudan and Ethiopia	<0.01	ND	[41–44]
Dracunculiasis	9,585	<0.01%	100%	[36]
Buruli ulcer	>4,000	<0.01%	57%	[37,38]

[a]Based on reported 2003 population of 683,330,334 [24]. For all other estimated population prevalence, we use the 2005 value of 764,328,000 published by the United Nations, http://esa.un.org/unpp/, and querying sub-Saharan Africa and 2005, accessed July 29, 2009.
[b]Calculated from global burden data from [48].
[c]The lower value is from [3,26,27]; the higher value from [25].
doi:10.1371/journal.pntd.0000412.t002

Hotez PJ, Kamath A (2009) Neglected Tropical Diseases in Sub-Saharan Africa: Review of Their Prevalence, Distribution, and Disease Burden. PLoS Negl Trop Dis 3(8): e412. doi:10.1371/journal.pntd.0000412

PLOS | NEGLECTED TROPICAL DISEASES

A Decade Ago, Neglected Disease R&D at a Standstill: The 'Fatal Imbalance'

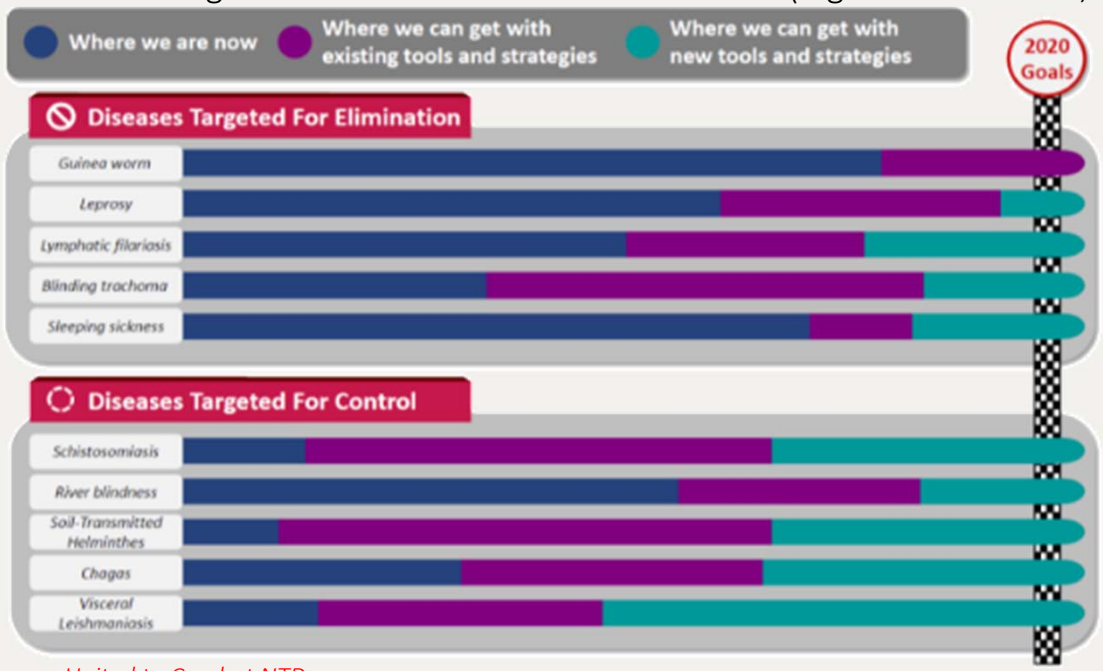


Source: Fatal Imbalance: The Crisis in Research and Development for Neglected Diseases, MSF, 2001

- 1.1% of 1393 new products for NTDs + malaria & TB () despite their global disease burden of 12%
- Illustration of the '10/90 Gap'

Putting NTDs on the political agenda (1)

- 2005 creation of WHO Department of Control of Neglected Tropical Diseases
- 2011 WHO roadmap
- 2012 Endorsed at London Declaration including increased commitments for donations
- 2013 WHA Resolution 66.12, endorses Roadmap, strategies for NTDs with targets
  - eradication of dracunculiasis (2015) and yaws (2020)
  - global elimination of blinding trachoma, leprosy, HAT, and lymphatic filariasis by 2020;
  - regional elimination of selected diseases (e.g. onchocerciasis, schistosomiasis in several African



Source: United to Combat NTDs

London Declaration

- Pharmaceutical companies
- World Bank
- Donor countries (UK, USA, UAE)
- BMGF and other private donors
- Endemic country MoHs
- DND*i*

Putting NTDs on the political agenda (2)

- 2015 GFATM Board opens funding for co-morbidities
- 2015 G7 Heads of State recognise NTDs as a major challenge emphasising need to support research and interventions
- 2014 EDCTP adds NTDs in its new business plan
- 2015 Inclusion in SDGs

SDG 3.3: "By 2030, end the epidemics of AIDS, tuberculosis, malaria and **neglected tropical diseases** and combat hepatitis, water-borne diseases and other communicable diseases"

SDG 3.8: "Achieve universal health coverage, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all"

Coverage of NTD interventions are a tracer for universal health coverage

Increased Investment in NTDs

USAID

The Global Fund
To Fight AIDS, Tuberculosis and Malaria

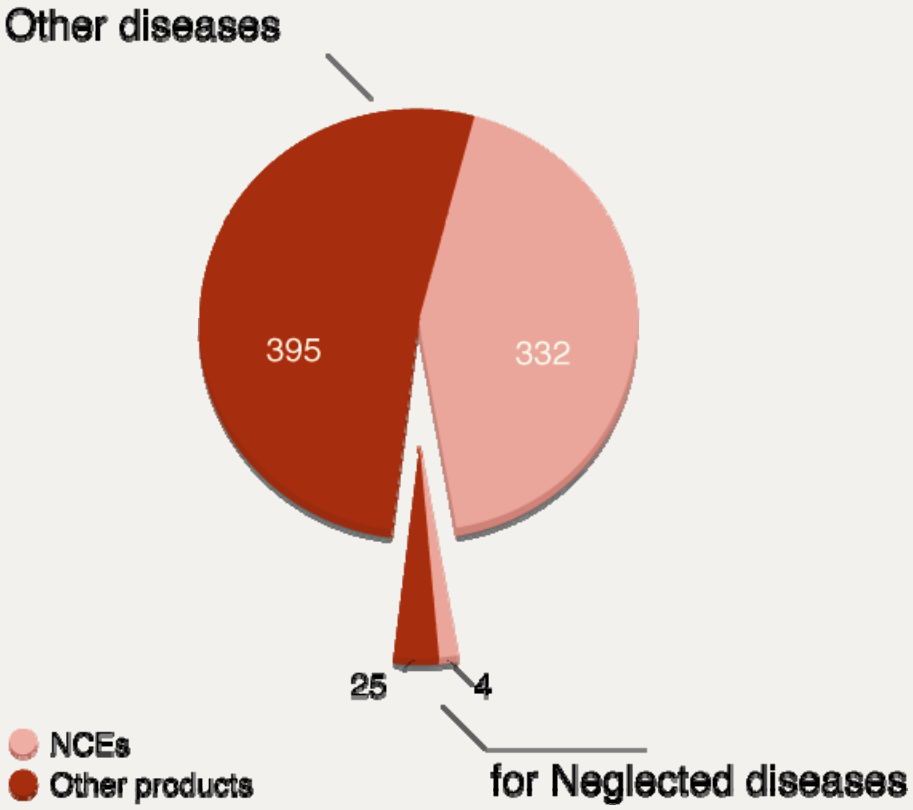
EDCTP

Federal Ministry
of Education
and Research

New partnerships

But Despite Progress, Fatal Imbalance Remains

756 products developed (excluding vaccines) (2000-2011)*



* Source: Pedrique B et al. The drug and vaccine landscape for neglected diseases (2000-11): a systematic assessment. *Lancet Global Health*, Online Publication, 24 Oct 2013.

- 3.8% of new products (reformulations, combinations) for neglected diseases
- 1.2% of NCEs for neglected diseases
- 1.4% clinical trials (of nearly 150,000 trials) focus on neglected diseases
- Only 1% of global health investment for neglected diseases*

*Source: Mapping of available health research and development data: what's there, what's missing, and what role is there for a global observatory? Rottingen et al. *Lancet*, May 2013

Reality In The Field:
Treatment Limitations for Neglected Diseases

- **Ineffective (resistance)**
- **Toxic**
- **Expensive**
- **Painful when administered**
- **Difficult to use**
- **Not registered in endemic regions**
- **Restricted by patents**

We Need Safe, Effective, Affordable and Easy-to-Use Drugs

Identification of key gaps (awaiting R&D Observatory)

A proxy assessment for gaps

- 0 = no critical R&D gaps: existence of either:
  - interventions to prevent infection or
  - at least 2 field adapted treatments
- 1 = critical R&D gaps but some ongoing clinical research
- 2 = critical R&D gaps but no ongoing clinical research

Source: Pedrique B et al. The drug and vaccine landscape for neglected diseases (2000-11): a systematic assessment. *Lancet Global Health*, Online Publication, **24 Oct 2013.**

Critical gaps but ongoing research (WHO-NTDs-AFRICA)	Critical gaps and NO ongoing research (ALL)
STHs	Food borne trematodes
Schistosomiasis	(Buruli ulcer)
LF	Leprosy
Onchocerciasis	Leptospirosis
Taeniasis-cysticercosis	Bartonellosis
Leishmaniasis	Bovine tuberculosis
Dengue Fever	Relapsing fever
Rabies	Mycetoma
	Paracoccidiomycosis
	Podoconiosis
	Loiasis
	Tungiasis
	Myasis

Research needs: Some examples

Research needs

1. Regional response to treatment and specific medical needs
2. Co-morbidities
3. Diagnostic and treatment research approach
4. Responding to pediatric needs
5. Pregnant and breast feeding mothers
6. Conducting and running CTs effectively
7. Transitioning from clinical research to implementation
8. New category of NTDs
9. The development of resistance

1 Regional response to treatment and specific medical needs

a) regional response to treatment

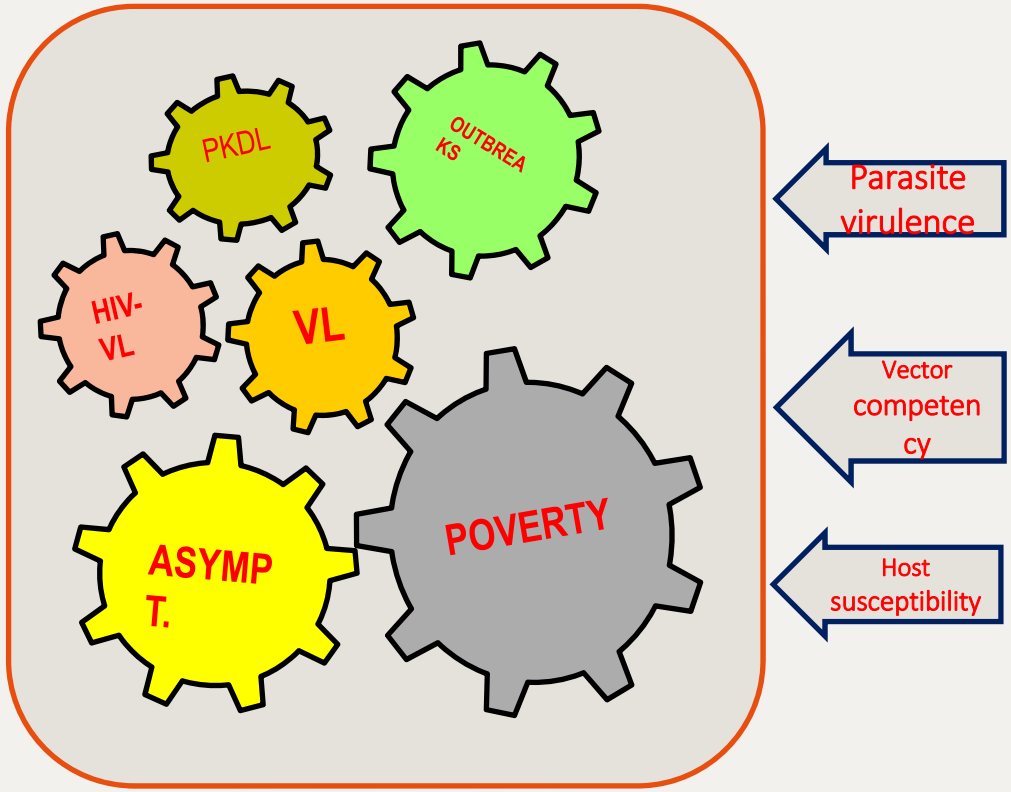
Drugs	SSG	Ampho B Liposomal	Ampho B deoxycholate	MIL	PM sulphate	SSG+PM	LAB+SSG	LAB+MIL	PM+MIL
Clinical efficacy									
Asia	35-95% (depending on areas)	> 97% all regions	> 97%; single dose: > 96%	94-97% (India)	94% (India)	Not documented	> 97%	> 97%	> 97%
Africa	93%	33 - >97% (depending on areas)	Not fully established	72%	84%	91%	87%	79%	Not documented
Resistance	As high as 60% (India)	Not documented	Not documented	20% (Nepal)	Lab isolates (easily)	Lab isolates (easily)	Lab isolates	Lab isolates	Lab isolates (easily)

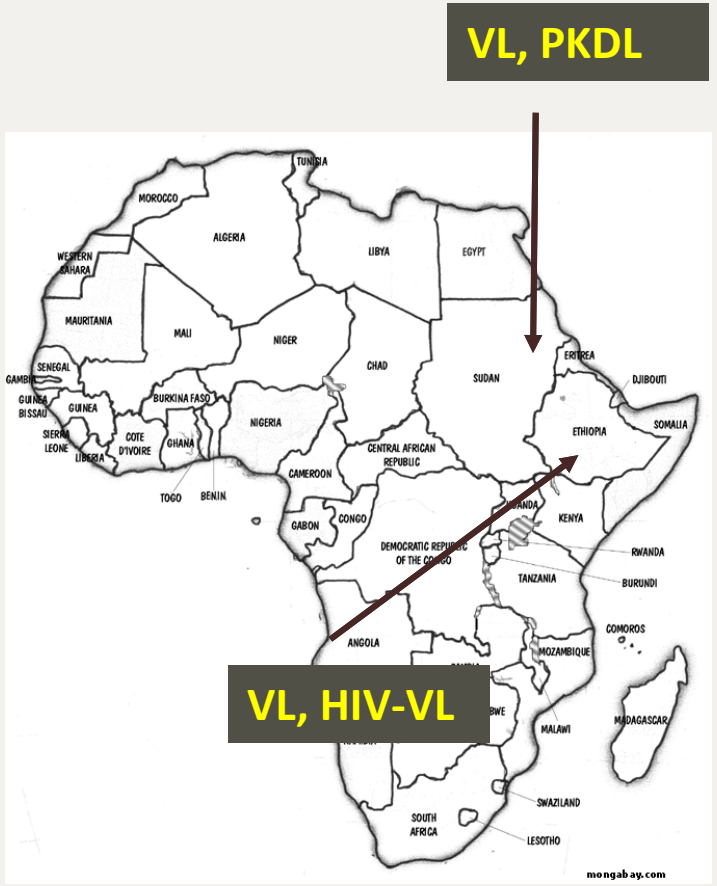
Efficacy and resistance of different medicines by geographical areas (modified from van Griensven, 2010)

The treatment of African VL is far from optimal

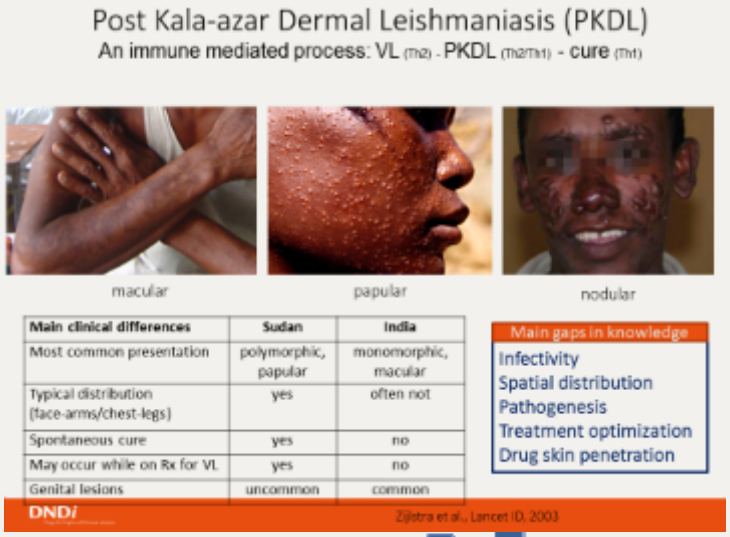
1 Regional response to treatment and specific medical needs

b) disease complexity and regional distribution





1 PKDL: reservoir of disease



	Global incidence	Post-Rx estimates
INDIA (Bihar)	5:10,000	5-10%
BANG (Fulbaria/Trishal)	6-16:10,000	9,5%
Sudan	NA	50-60%

1 Regional response to treatment and specific medical needs

b) disease complexity and regional distribution

tb rhodesiense vs gambiense

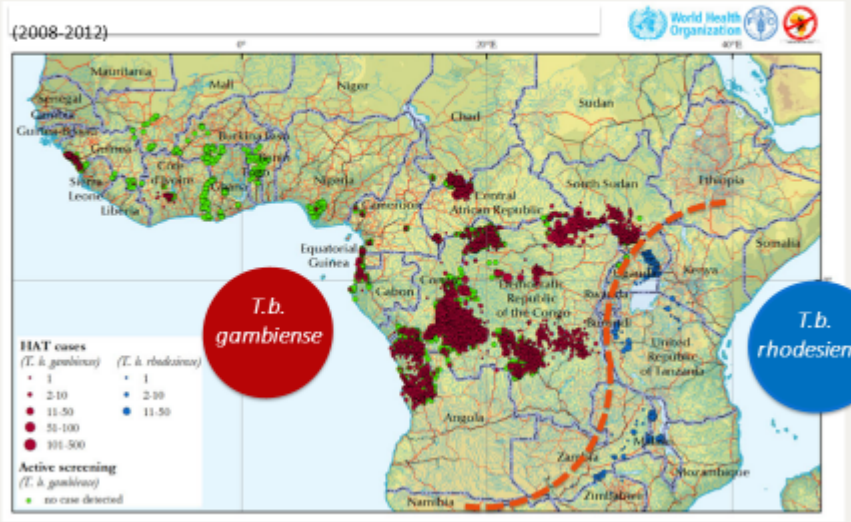
One disease: two strains

- *T.b. gambiense* is endemic in 24 countries of west and central Africa
- Less than 3,000 cases reported in 2015
- Transmission cycle:

- *T.b. rhodesiense* is endemic in 13 countries of eastern and southern Africa
- 117 cases reported in 2014
- Transmission cycle:

Source: Adapted from WHO

Geographic distribution of HAT cases



DNDi Sleeping sickness: Developing treatments for use at home

2 Co-morbidities are frequent

- Schistosomiasis & mycetoma

  van Hellemond JJ, Vonk AG, de Vogel C, Koelewijn R, Vaessen N, et al. (2013) Association of eumycetoma and schistosomiasis. PLOS Negl Trop Dis 7: e2241

- HIV-VL: need for treatment and prophylaxis

  WHO. Control of the Leishmaniasis: Report of the WHO expert committee on the Control of Leishmaniasis, Geneva, 22-26 March 2010. *WHO*, 2010.

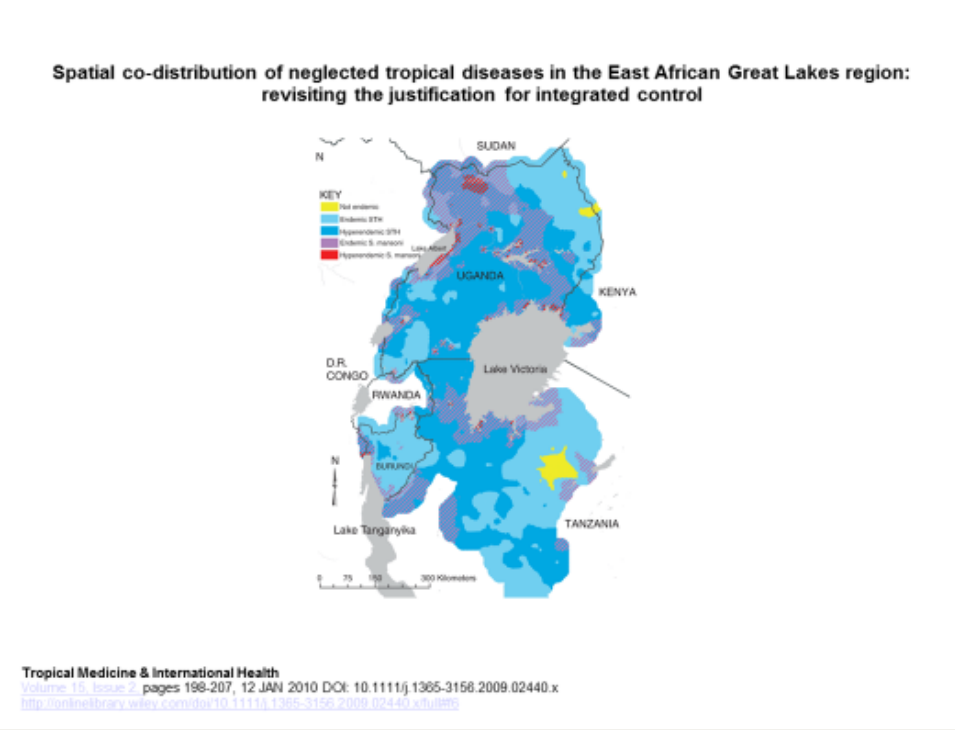
- Onchocerciasis and nodding syndrome / epilepsy

  Winkler AS, Friedrich K, König R, et al. The head nodding syndrome - Clinical classification and possible causes. *Epilepsia*. 2008;49(12):2008-2015. doi:10.1111/j.1528-1167.2008.01671.x.

  Kaiser C, Pion SDS, Boussinesq M. Case-control Studies on the Relationship between Onchocerciasis and Epilepsy: Systematic Review and Meta-analysis. *PLoS Negl Trop Dis*. 2013;7(3). doi:10.1371/journal.pntd.0002147.

- Helminths-HIV …

  Borkow G, Teicher C, Bentwich Z (2007) Helminth–HIV Coinfection: Should We Deworm? PLoS Negl Trop Dis 1(3): e160. doi:10.1371/journal.pntd.0000160



Research needs

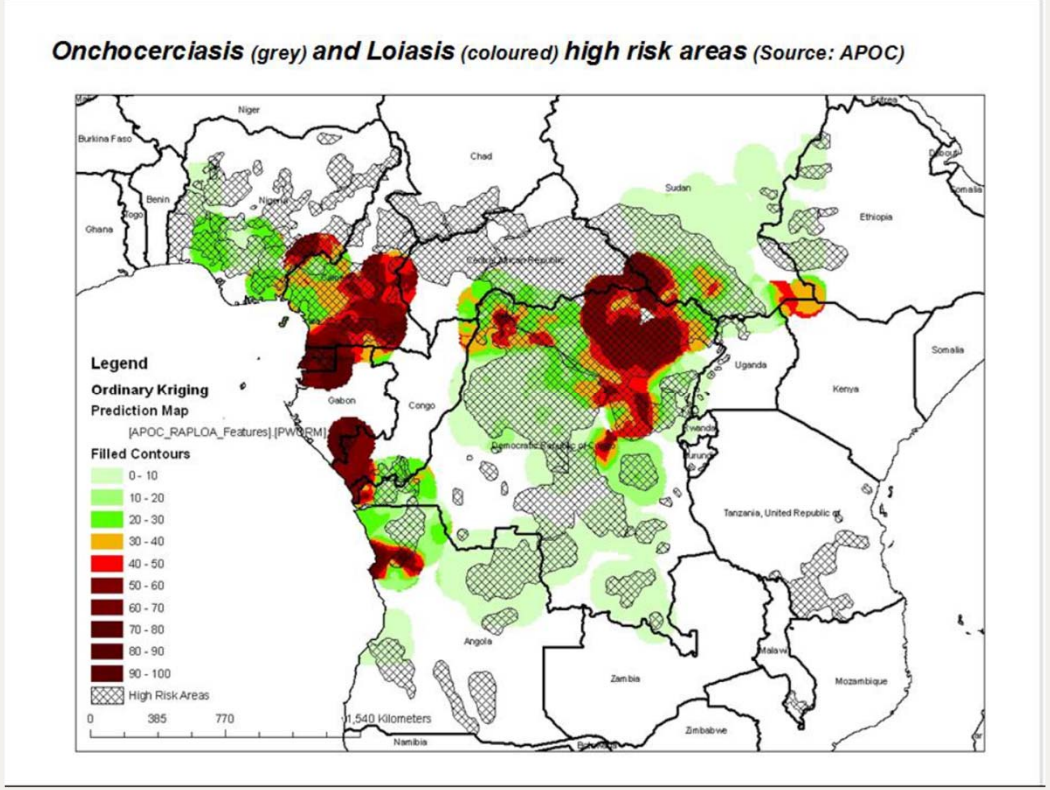
Understanding morbidity impact

Assessing combined treatment needs

Testing field use

2 Co-morbidities

- Onchocerciasis and Loa-loa



LF and onchocerciasis co-endemic in 18% of endemic districts in Africa (28%).

Loiasis coendemic with onchocerciasis or LF.in 18%

In areas of *Loa loa* coinfection, **SAEs (encephalopathy) with high load of microfilariae (that can be fatal) limits MDA**

3 Diagnostic and treatment research approach: HAT

3 Diagnostic and treatment research approach: HAT

15 years ago:

Eflornithine

Melarsoprol

Since 2009:

NECT & first generation RDTs

2018 and beyond:

Oral treatment & second generation RDTs

3 Diagnostic and treatment research approach: HAT

1. Passive case detection | 2. Post elimination monitoring | 3. Early test of cure

Objectives DiTECT-HAT project

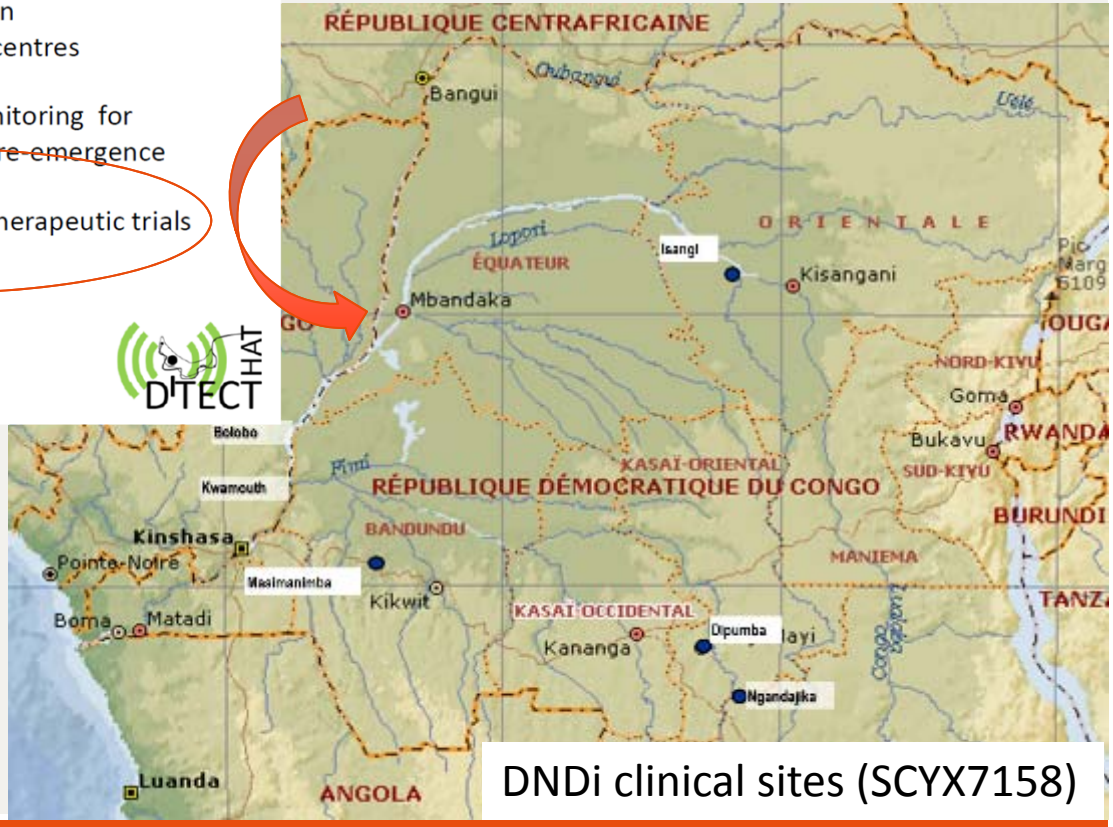
EDCTP
European & Developing Countries Clinical Trials Partnership

- To evaluate accuracy and feasibility of new, ready to implement diagnostic tools, and to propose algorithms for HAT diagnosis in 3 contexts :

1. Passive case detection in peripheral health centres
2. Post-elimination monitoring for detection of disease re-emergence
3. Early test of cure in therapeutic trials

DiTECT HAT

7



DNDi clinical sites (SCYX7158)

4 Responding to pediatric needs

Table 1. Responses to questions of target population for mass drug administrations (MDAs).

	Lymphatic Filariasis	Onchocerciasis	Trachoma	Schistosomiasis	Soil-transmitted Helminths	*P*-value†
Elimination possible from indirect effects of MDAs, N (%)	8/26 (30.8%)	2/22 (9.1%)	12/22 (54.6%)	28/85 (32.9%)	16/48 (33.3%)	0.03
Elimination possible by targeting…*						
Pre-school children	2/22 (9.1%)	2/17 (11.8%)	9/17 (52.9%)	11/65 (16.9%)	7/38 (18.4%)	0.006
School children	5/22 (22.7%)	3/17 (17.7%)	6/17 (35.3%)	30/65 (46.2%)	11/38 (29.0%)	0.10
Those with clinical signs	7/22 (31.8%)	3/17 (17.7%)	3/17 (17.7%)	11/65 (16.9%)	6/38 (15.8%)	0.59
Targeting not effective	10/22 (45.5%)	12/17 (70.6%)	3/17 (17.7%)	26/65 (40.0%)	19/38 (50.0%)	0.03
Other	4/22 (18.2%)	2/17 (11.8%)	5/17 (29.4%)	9/65 (13.9%)	5/38 (13.1%)	0.55

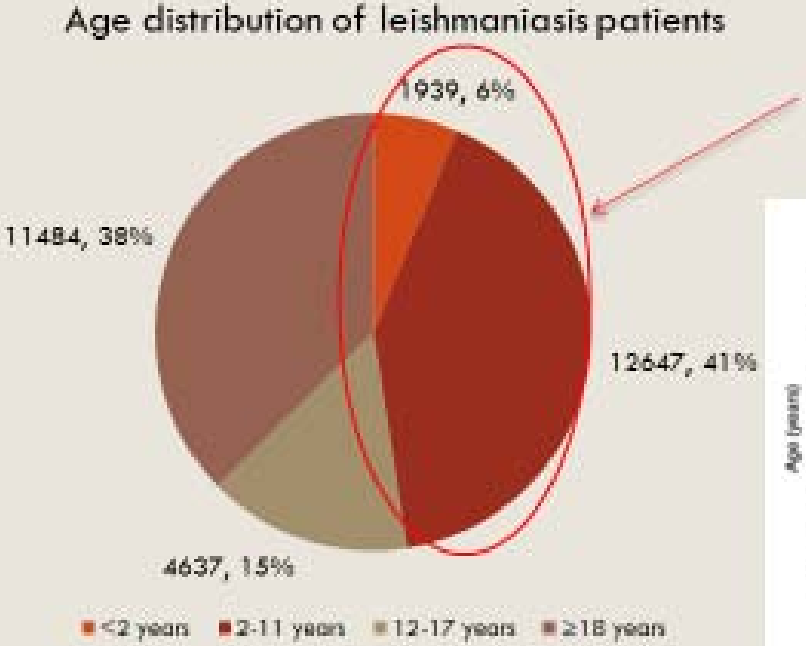
*Respondents were allowed to provide more than 1 response; therefore, percentages within an NTD do not sum to 100%.
†Chi square test.
doi:10.1371/journal.pntd.0002562.t001

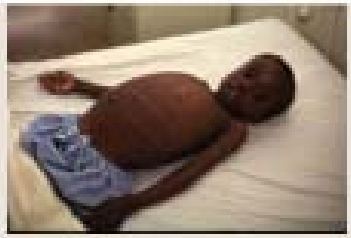
Source: Keenan JD, Hotez PJ, Amza A, Stoller NE, Gaynor BD, et al. (2013) Elimination and Eradication of Neglected Tropical Diseases with Mass Drug Administrations: A Survey of Experts. PLoS Negl Trop Dis 7(12): e2562. doi:10.1371/journal.pntd.0002562

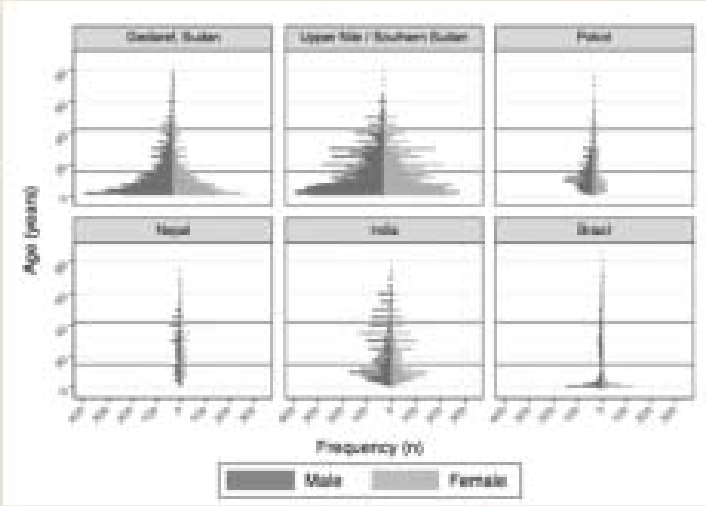
4 Responding to pediatric needs: the case of VL

Strong Epidemiological Data:

Visceral Leishmaniasis: 50% of cases are below the age of 12



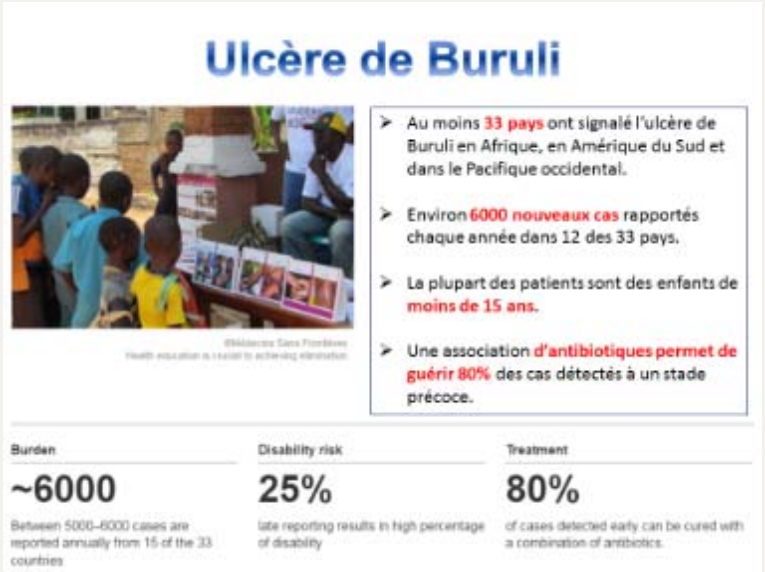




Source: *Who is a Typical Patient with Visceral Leishmaniasis? Characterizing the Demographic and Nutritional Profile of Patients in Brazil, East Africa, and South Asia* by Hamhay M.o, Olliaro P.L, Vaillant M, Chappuis F, Lima M.A, Ritmeijer K, Costa C.H, Costa D.L, Rijal S, Sundar S, Balasegaram M. Am. J. Trop. Med. Hyg. 84(4), 2011, pp. 543–550

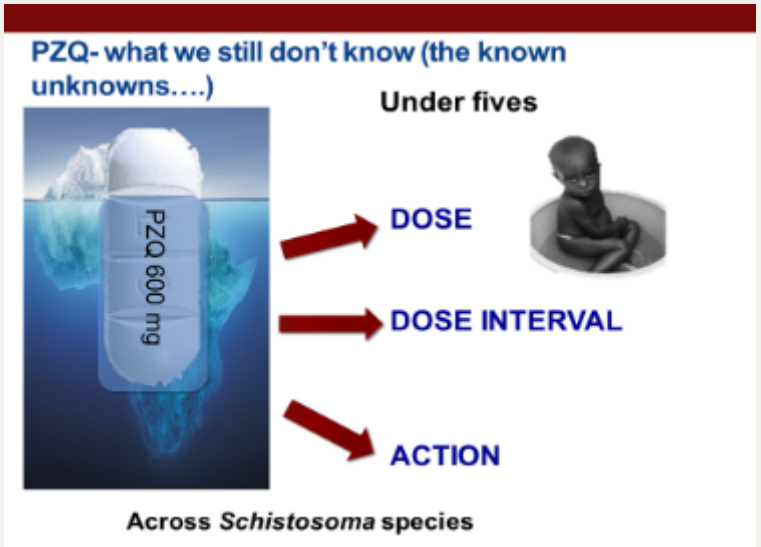
DNDi

4 Responding to pediatric needs



In **onchocerciasis** IVM is not registered < 5 years and doxycycline contra-indicated < 8 years

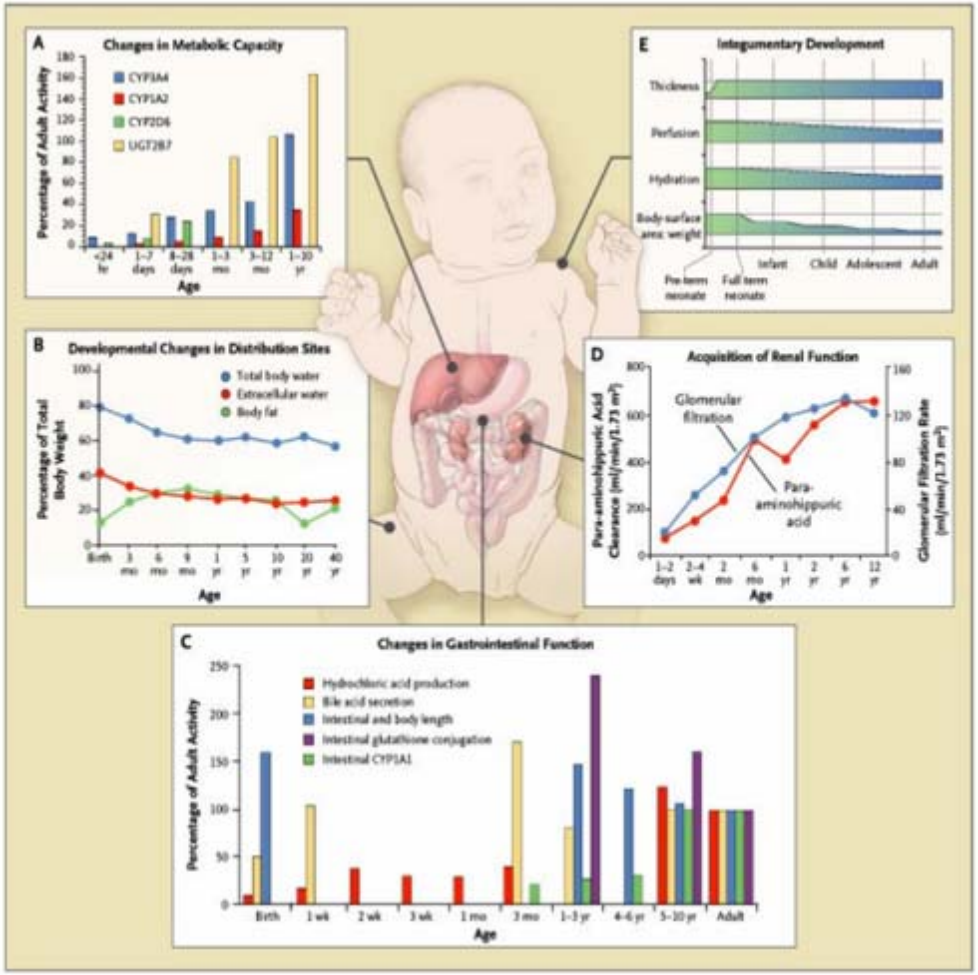
Schistosomiasis: children under five could also be vulnerable to schistosomiasis and in the absence preventive chemotherapy they could be at risk of severe morbidities



4 Responding to pediatric needs

Children and adults differ in:

- ✓ Absorption
- ✓ Distribution
- ✓ Renal function (excretion)
- ✓ Hepatic function (metabolism)
- ✓ Pharmacodynamics:
  - ✓therapeutic response
  - ✓adverse reactions
  - ✓mechanisms of disease

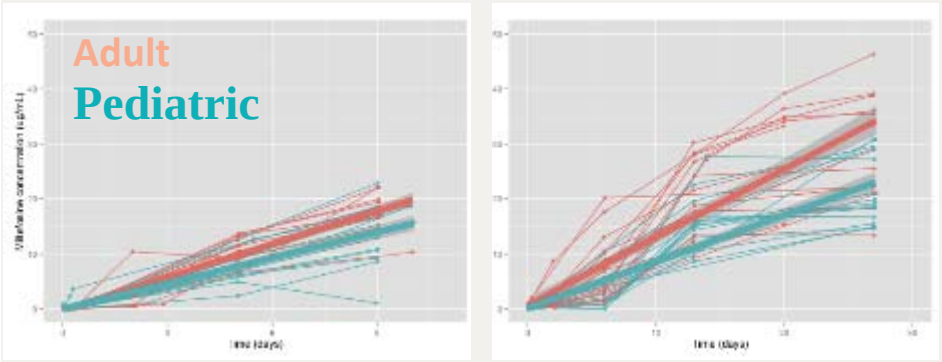


Kearns et al. NEJM 2003. 349:1157-1167

4 Responding to pediatric needs in VL

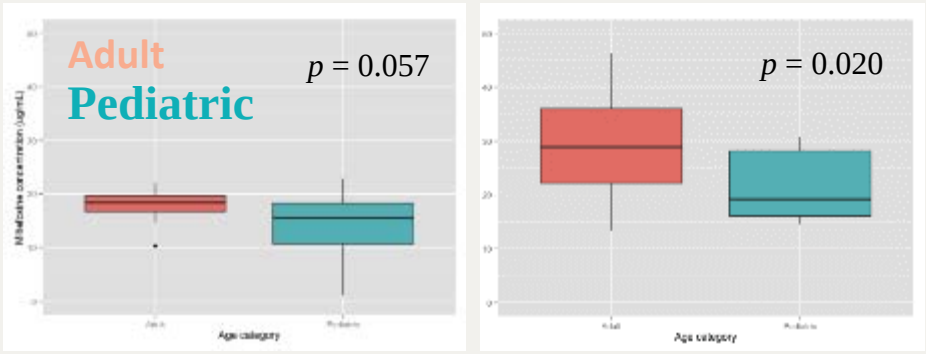
LEAP 0208 – Miltefosine PK and clinical outcome

Miltefosine concentration over time



Ambisome + Miltefosine | Miltefosine alone

Miltefosine concentration at end of treatment



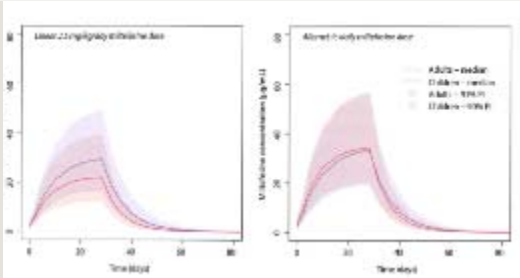
Ambisome + Miltefosine | Miltefosine alone

D210 Efficacy by age group

	AmBisome® + Miltefosine	Miltefosine monotherapy
Final number of patients		
7-12	27	22
13-60	22	29
Final number cured, n (%)		
7-12	20 (74.1%)	13 (59.1%)
13-60	20 (90%)	25 (86.2%)
Fisher's exact test p-value	*0.25*	*0.061*

Children had poorer clinical response as compared to adults, which can be explained by the underexposure to the drug.

Allometric dose to be assessed in children



Study was not powered for sub-group analysis.

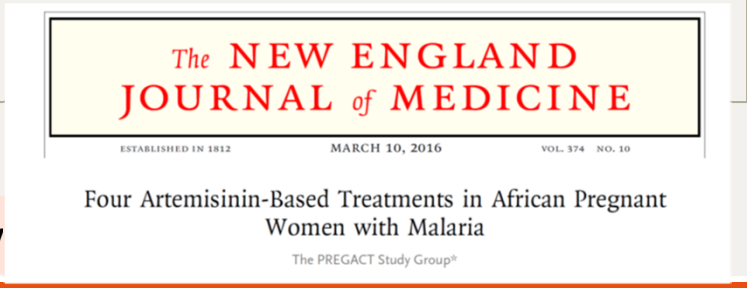
5 Pregnant and breast-feeding mothers

1. Females historically less included in CTs, and generally exclude pregnancy, but ….

   … Pregnant women get sick and sick women can become pregnant …

1. Drug PK is modified by pregnancy (higher acidity, lower GI motility, lower pulmonary exposure, slower renal clearance. Modified immune response….)
2. Pregnancy rates are high (from 3.95–63.9 pregnancies / 100 women-years in HIV)
3. Vertical transmission documented / suspected for some NTDs
4. Some of the current treatmens options are contra-indicated during pregnancy:
   1. Antimonials and miltefosine for VL, PKDL, HIV-VL
   2. Melarsoprol for tb rhodesiense HAT

<u>Research needs</u>: prospective efficacy


The NEW ENGLAND JOURNAL of MEDICINE

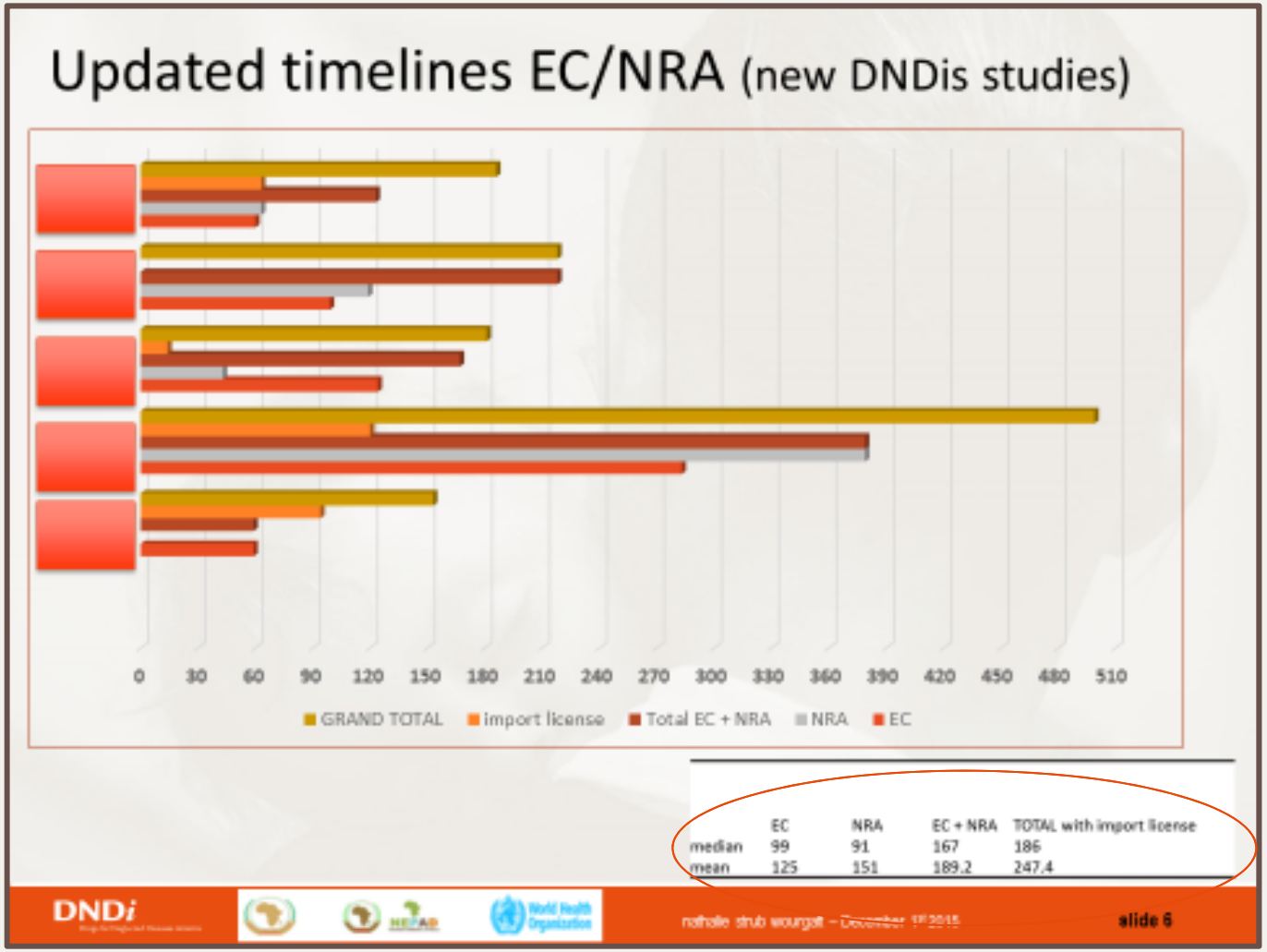
ESTABLISHED IN 1812 MARCH 10, 2016 VOL. 374 NO. 10

Four Artemisinin-Based Treatments in African Pregnant Women with Malaria

The PREGACT Study Group*

6 Conducting and running trials effectively

Approval timelines for clinical trials remains a challenge



From submission to import license:
Mean: 8 months
Median: 6 months

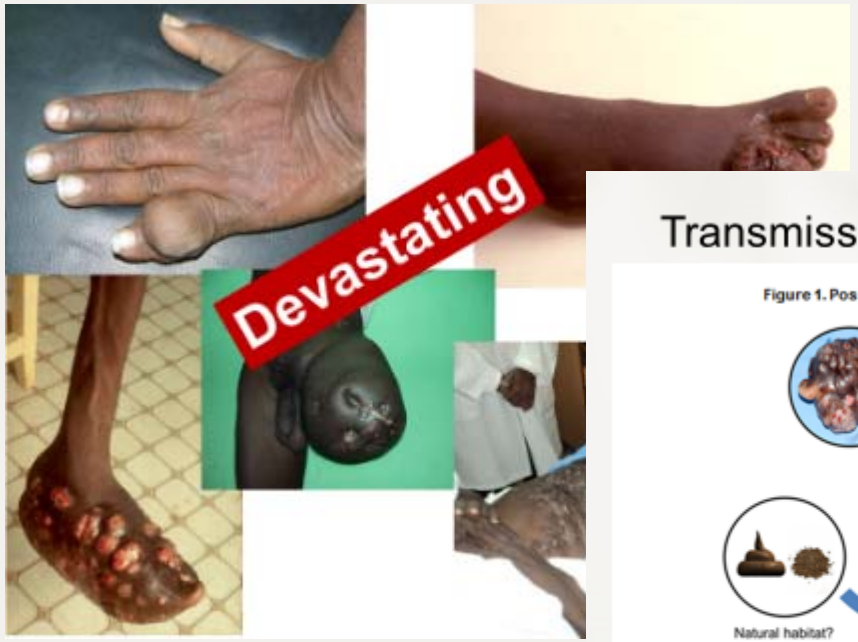
+

Lack of expertise/experience

Capacity strenghthening
AVAREF …
Joint reviews …

7 Transitioning from clinical research to implementation & impact

8 New category of NTDs: example of mycetoma



Transmission – knowledge gaps

Figure 1. Possible hypothesis for mycetoma infection route.

Host immune status?
Co-infections?

Natural habitat?

van de Sande WWJ, Maghoub ES, Fahal AH, G
Priorities. PLoS Negl Trop Dis 8(3): e2667. doi:1
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DNDi

Key characteristics of eu- and actino-mycetoma

	Eumycetoma	Actinomycetoma
Causative agent	Fungi	bacteria
Main endemic area	Africa	Middle- and South America
Treatment	Antifungal + surgery	antibiotics
Current regimen	Ketoconazole	amikacin (IV) + cotrim (PO)
	or itraconazole 12 Months + mass removal	
Rate	37% → 25.9%	> 90% (in Mexico)

FDA U.S. Food and Drug Administration — Drug Safety Communications

FDA Drug Safety Communication: FDA limits usage of Nizoral (ketoconazole) oral tablets due to potentially fatal liver injury and risk of drug interactions and adrenal gland problems

Very low efficacy of treatment in fungal form

8 New category of NTDs: example of mycetoma

Drug	Organism	N	Dos	Outcome	Country	Reference
Ketoconazole	M. mycetomatis	13	20 M	5 cured; 4 improved, 4 failed with surgery in some	Sudan	Mahgoub ES, 1984
	M. mycetomatis	50		improvement; esponse	Sudan	Hay RJ, 1992
	M. mycetomatis (4) Other (4)	8	400 mg OD 8-24 months	onths-2	India	Porte L, 2006
Itraconazole	M. mycetomatis	13	400 mg OD 3 months, then 200 mg 9 months	1 cured; 11 d after surgery; 1 recurrence	Sudan	Fahal AH
Terbinafine	M. mycetomatis (10) L. senegalensis (3) Other (3) Not known (7)	23	500 mg BD, 24-48 weeks	4 cured; 11 improved, 7 failed	Senegal	N'Diaye B , 2006
Voriconazole	S. apiospermium	1	400 mg OD, 18 months	Cured	Ivory Coast	Porte L, 2006
	S. apiospermium	1	Dose not specified, 6 months	Cured	India	Gulati , 2012
	M. grisea	1	Dose not specified, 6 months	Little change	India	Gulati , 2012
	M. mycetomatis	1	200 mg, 3 months, then 300 mg, 13 months	Cured	Mali	Lacroix C, 2005
	Madurella spp	1	200 mg, 12 months	Cured	Senegal	Loulergue P, 2006
	S. apiospermum	1	200 mg BD, unknown duration	Cured, after 3 years follow-up	Brazil	Oliveira F de M, 2013
Posaconazole	M. mycetomatis (2) M. grisea (3) S. apiospermum (1)	6	800 mg OD	Initially: 5 cured, 1 no improvement; 2 successfully retreated after interval of >10 months	Brazil	Negroni R, 2005
Liposomal amphotericin B	M. grisea (2) Fusarium (1)	3	Total dose 3.4, 2.8, 4.2 grams; max. daily dose 3 mg/kg	All showed temporary improvement but relapsed within 6 months	Not specified	Hay RJ, 005

Small Ns – need for RCTs

8 New category of NTDs: example of mycetoma

THE WHO STRATEGIC AND TECHNICAL ADVISORY GROUP FOR NEGLECTED TROPICAL DISEASES (WHO STAG)

RECOMMENDATIONS FOR THE ADOPTION OF ADDITIONAL DISEASES AS NEGLECTED TROPICAL DISEASES

28 MAY 2016 | GENEVA - The Sixty-ninth World Health Assembly closed today after approving new resolutions on ……. mycetoma; …….

3. Proposed criteria for classifying a condition as an NTD

Disease conditions that

1. disproportionately affect populations living in poverty; and cause important morbidity and mortality – including stigma and discrimination - in such populations, justifying a global response
2. primarily affect populations living in tropical and sub-tropical areas
3. are immediately amenable to broad control, elimination or eradication by applying one or more of the five public health strategies adopted by the Department for Control of NTDs, and/or
4. are relatively neglected by research – i.e., resource allocation is not commensurate with the magnitude of the problem - when it comes to developing new diagnostics, medicines and other control tools

8 New category of NTDs: Loa Loa ?

THE WHO STRATEGIC AND TECHNICAL ADVISORY GROUP FOR NEGLECTED TROPICAL DISEASES (WHO STAG)

RECOMMENDATIONS FOR THE ADOPTION OF ADDITIONAL D… NEGLECTED TROPICAL DISEASES

28… *NEVA* - The …ealth …y after …olutions on …na; …….

3. **Proposed criteria for classifyin…**

Disease conditions that

1. dispro… …overty; and cause … …d and discriminat…
3. … living in tropical … enable to broad… … more of the fi… …he Department fo… …trol of NTDs, and/o…
4. are relatively neglected by r… …cation is not commensurate with the magnitude of the pro… …es to developing new diagnostics, medicines and other control too…

Excess mortality associated with loiasis: a retrospective population-based cohort study

Cédric B Chesnais, Innocent Takougang, Marius Paguélé, Sébastien D Pion, Michel Boussinesq

Lancet Infect Dis 2016
Published Online
October 21, 2016
http://dx.doi.org/10.1016/S1473-3099(16)30405-4

9 Preparing for drug resistance? …

- Melarsoprol resistance reports in tb rhodesiense

  R. Brun et al. Treatment failures in HAT Tropical Medicine and International Health volume 6 no 11 pp 906±914 november 2001

- Ivermectin in onchocerciasis

  Prevalence and intensity of Onchocerca volvulus infection and effi cacy of ivermectin in endemic communities in Ghana: a two-phase epidemiological study Mike Y Osei- Atweneboana, Lancet 2007; 369: 2021–29)

Table 2. Responses to questions about drug resistance.

	Lymphatic Filariasis	Onchocerciasis	Trachoma	Schistosomiasis	Soil-transmitted Helminths	*P*-value*
Is drug resistance a problem…						
For the NTD?	14/27 (51.9%)	13/20 (65.0%)	4/22 (18.2%)	53/87 (60.9%)	28/46 (60.9%)	0.005
For another infection?	17/24 (70.8%)	11/17 (64.7%)	16/22 (72.7%)	58/82 (70.7%)	32/41 (78.1%)	0.87
Best strategy to minimize resistance						0.14
(1) Annual mass treatment	9/24 (37.5%)	6/16 (37.5%)	14/21 (66.7%)	29/78 (37.2%)	21/42 (50.0%)	
(2) Treatment scattered throughout year	3/24 (12.5%)	1/16 (6.3%)	1/21 (4.8%)	3/78 (3.9%)	5/42 (11.9%)	
No difference between (1) and (2)	12/24 (50.0%)	9/16 (56.3%)	6/21 (28.6%)	46/78 (59.0%)	16/42 (38.1%)	

*Chi square test.

doi:10.1371/journal.pntd.0002562.t002

Source: Keenan JD, Hotez PJ, Amza A, Stoller NE, Gaynor BD, et al. (2013) Elimination and Eradication of Neglected Tropical Diseases with Mass Drug Administrations: A Survey of Experts. PLoS Negl Trop Dis 7(12): e2562. doi:10.1371/journal.pntd.0002562

EDCTP critical role to support WHO road map for elimination

Despite many groups involved, R&D for NTDs is largely unfunded … EDCTP can play a critical role to contribute to WHO elimination goals by supporting:

- Capacities: Reinforce/strenghten scientific collaboration btw European and African networks (and existing Afrcian networks)
- Priorities for Innovation: Support R&D gaps through Disease specific approaches and transversal approaches
- Regulatory : Continuation of contribution to AVAREF / AMRH initiatives
- Clinical Implementation / effectiveness / PV trials
- Funding: increase the available funding given the low success rate and huge demand & leveraging programs funding with other mechanisms/donors
- African leadership : Increase African participation (priorities, funding)
- Process : improve transparency, decrease time between calls and review
- *Selection criteria : more focus on scientific excellence and originality, whilst disregarding product development impact (PDPs opinion)*


Thank you
EDCTP 2
!!!

THANK YOU

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