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NEGLECTED TROPICAL DISEASES AND THEIR CO-MORBIDITIES HOW THEY AFFECT HEALTHCARE SYSTEMS

IMPULSE STATEMENT

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20 Neglected Tropical Diseases (NTDs) in the WHO portfolio

Parasitic Infections

- Soil-transmitted helminth infections
- Lymphatic filariasis
- Onchocerciasis
- Schistosomiasis
- Dracunculiasis (guinea-worm disease)
- Cysticercosis
- Echinococcosis
- Foodborne trematode infections
- Scabies and other ectoparasites

Others

- Snakebite envenoming

Bacterial/fungal Infections

- Leprosy
- Trachoma
- Buruli ulcer
- Endemic treponematoses
- Mycetoma, chromoblastomycosis and other deep mycoses

Protozoan Infections

- Leishmaniasis
- Human African trypanosomiasis
- Chagas disease

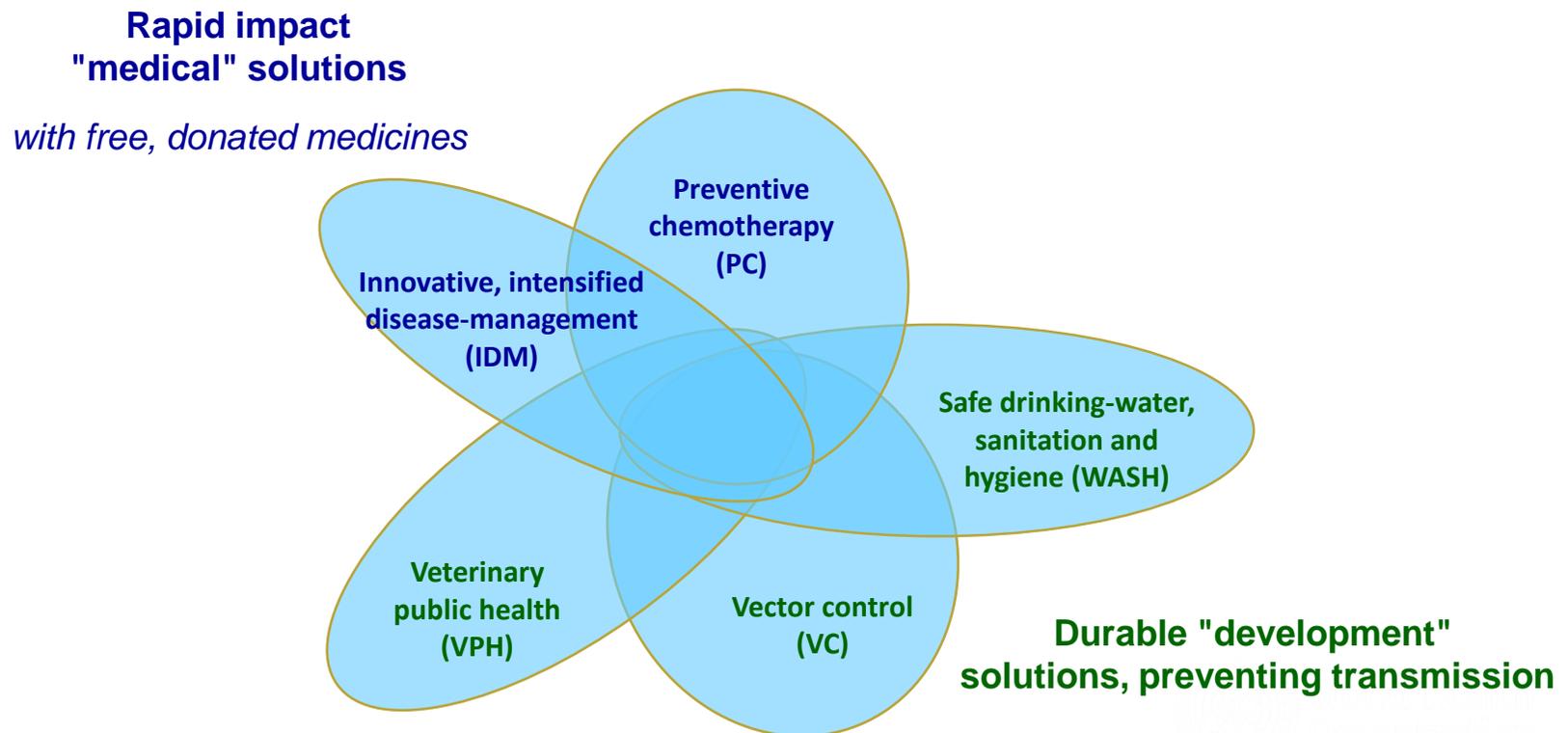
Viral Infections

- Dengue
- Rabies



Underlying determinants of NTDs and corresponding interventions

- ✓ Diseases that mainly affect populations living in **poverty**
- ✓ **Medical conditions** that find their origin in living with **inadequate sanitation**, in close contact with **domestic animals and livestock**, and infectious **vectors**



NTD co-morbidities

Chronic Condition	NTDs as Etiologies	Approximate Number of Cases of Each Infection	Major Geographic Distribution
Cardiovascular disease			
Cardiomyopathy	Chagas disease	8–9 million	Latin America
Endomyocardial fibrosis	Loiasis (and other helminthiasis)	13 million	Sub-Saharan Africa
Cancer			
Bladder cancer; squamous cell carcinoma	Urinary schistosomiasis (S. haematobium infection)	119 million	Africa
Bile duct carcinoma	Opisthorchiasis and clonorchiasis	6–44 million	Southeast Asia and China
Gastrointestinal and liver disease			
	Trichuriasis	604 million.	Developing countries
Inflammatory bowel disease			
Megacolon and megaesophagus	Chagas disease	8-9 million	Latin America
Intestinal and liver fibrosis	Schistosomiasis (S. mansoni infection and S.japonicum infection)	68 million	Africa, Brazil, and East Asia
Liver cyst	-Amebiasis	ND	India, Latin America
	-Echinococcosis	ND	Developing countries
Chronic renal disease			
Hydronephrosis and renal failure	Urinary schistosomiasis	119 million	Africa
Blood dyscrasias			
Anemia	-Hookworm infection	576 million	Developing countries
	- Schistosomiasis	207 million	Developing countries
Pancytopenia	Leishmaniasis	12 million	India, Africa, Brazil
Chronic respiratory conditions			
Hemoptysis	Paragonimiasis	21 million	East Asia
Asthma	- Ascariasis	807 million	Developing countries
	- Toxocariasis	ND	Worldwide

NTDs are not an isolated group of diseases,

their late & disabling consequences often become visible in other medical & health areas

Health Condition	Neglected Tropical Disease
Reproductive Health	
Infertility	Urogenital schistosomiasis, hookworm
Severe anaemia of pregnancy/lactation and high maternal morbidity and mortality	Hookworm (major), schistosomiasis (minor)
Anaemia associated with menstruation and amenorrhea	Hookworm
Congenital infection	Chagas disease, leishmaniasis, strongyloidiasis, hookworm
Low birthweight and/or premature birth from placental inflammation and maternal anaemia	Hookworm and other soil-transmitted helminth infections, schistosomiasis
Exacerbation of disease during pregnancy	Leprosy, schistosomiasis
Sexually Transmitted Infections	
HIV/AIDS	Urogenital schistosomiasis
Trichomoniasis	Trichomoniasis
Social Exclusion and Stigma	
Limb, breast, skin, and genital deformities	Lymphatic filariasis, Buruli ulcer, <i>Onchocerca</i> skin disease, leprosy, leishmaniasis
Facial disfigurement	Leishmaniasis, leprosy

NTD co-morbidities

➤ Present a challenge for health systems ...

- ✓ Health staff unlikely to recognise the underlying NTDs - problems specific to poor communities - NTDs largely absent from general medical & public health education/training
- ✓ UHC benefit package determined in capitals - for a nation – often leaving focal, poverty related health issues behind

➤ ... but also offers an opportunity to achieve for the poorest

- ✓ By **tailoring** the health care offer **to the needs of poor communities**
- ✓ By preventing appearance of disabling consequences of NTDs - **large scale preventive treatment**, including **collateral benefits**, *beyond the end of the formal health system*
- ✓ By directing **development** to where it is most needed and will yield most benefits (development = **primary prevention of NTDs**)

● How can it work?

2 examples (out of many)

➤ Reproductive Health - Female Genital Schistosomiasis (FGS)

- ✓ FGS has serious repercussions on female reproductive health, including increased risk of HIV transmission (up to 3-fold)
- ✓ Prevention of FGS is straightforward: large scale preventive treatment with praziquantel during school age - inclusion in school health programmes
- ✓ Inclusion of FGS diagnosis and case management in female reproductive health and HIV prevention programmes (*MCH, HIV screening, family planning, adolescent girls' education, ...*)
- ✓ + WASH as primary prevention

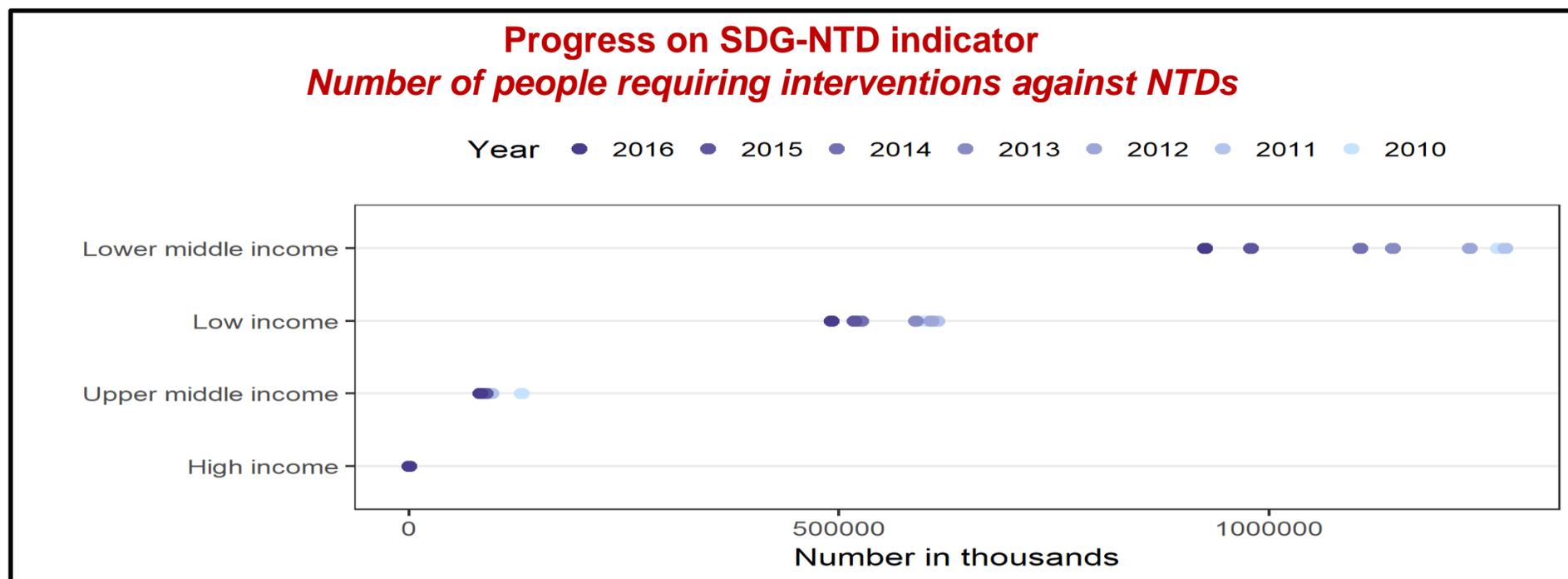
➤ Mental Health – late onset epilepsy

- ✓ Late onset epilepsy is typically high in poor communities – 2 potentially preventive causes: neurocysticercosis & onchocerciasis associated epilepsy (OAE or 'nodding' syndrome)
- ✓ High occurrence of late onset epilepsy should trigger search for potential underlying NTDs and large scale preventive treatment of human taeniasis and/or onchocerciasis, together with symptomatic anti-epileptic treatment
- ✓ + WASH & VPH measures and/or focal Vector Control as primary prevention

SDG indicators for NTDs

Target 3.8: achieve UHC - 100% of the population with access to affordable diagnosis, treatment and care for NTDs, leading to 100% of the population at risk protected against out-of-pocket payments due to NTDs by 2030

Target 3.3: 80% coverage of the population requiring preventive treatment against NTDs, leading to a **90% reduction in the number of people requiring it by 2030**, leading to **elimination or near-elimination of most NTDs by 2030**



Thank You

