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The fundamentals: neglected “peoples/populations” tropical diseases

- Neglect makes the vectors and intermediary hosts thrive (mosquitoes, black flies, snails etc.)
- Neglect makes the population more exposed and more susceptible to disease
- Neglect makes the population less likely to access available treatment or intervention
- Neglect results in the absence of dungs, diagnostics and interventions

Neglected by whom? Their governments, the private sector, and the world
On 12 April 2017, Noma Mexico was opened in Tulum, Quintana Roo, Mexico. The price for the tasting menu and beverage pairing was $600 USD per person, plus 16 percent local tax, and a nine percent service charge. **Assuming no additional charges, that put a meal for two at $1,500!**
This is also Noma!

Polymicrobial infection of the mouth also known as *cancrum oris, fusospirochetal gangrene, necrotizing ulcerative stomatitis.*

**Aetiology (classic NTD features):**
- poor oral and general hygiene
- malnutrition (particularly A-and B-vitamins) leading to immunodeficiency
- unsafe drinking water
- proximity to unkempt livestock
Bacterial infections
• Leprosy
• Buruli ulcer
• Noma
• Trachoma
• Cholera
• Yaws

Viral infections
• Yellow fever
• Dengue fever
• Japanese Encephalitis
• Rabies

Soil-transmitted helminthiases
• Ascariasis (roundworm)
• Trichuriasis (whipworm)
• Hookworm
• Strongyloidiasis

Worm (helminth) parasites
• Lymphatic Filariasis (elephantiasis)
• Schistosomiasis
• Onchocerciasis (river blindness)
• Dracunculiasis (guinea worm)
• Echinococcosis
• Taeniasis/Cysticercosis

Trypanosomal parasites
• Leishmaniasis
• African sleeping sickness (African trypanosomiasis)
• Chagas disease (American trypanosomiasis)

Some Neglected Infectious Diseases
Disfiguring and Debilitating
More serious example of Neglect: Research Disparities for NTD

- Of all research being done on the Big 3 & NTDs in the region, the percentage of research that’s dedicated to NTDs:
  - US/ Europe: 11.4%
  - Africa/ South Asia/ South America: 13.4%
  - Rest of the world: 12.4%

- This suggests that:
  - Africa is disproportionate for both big 3 and NTD research
  - In Africa and everywhere, NTD research is disproportionately small i.e. neglected
A proxy for poverty and disadvantage

Affect populations with low visibility and little political voice

Do not travel widely

Cause stigma and discrimination, especially of girls and women

Have an important impact on morbidity and mortality

Are relatively neglected by research

Can be controlled, prevented and possibly eliminated using effective and feasible solutions

Ethical duty
January 30, 2012

- The road map for implementation against NTDs
- The London Declaration
- Commitment of $785m
UNITING TO COMBAT NEGLECTED TROPICAL DISEASES
Ending the Neglect & Reaching 2020 Goals

Endorsers:
Abbott
AstraZeneca
Bayer
Becton Dickinson
Bill & Melinda Gates Foundation
Bristol-Myers Squibb
CIFF
DFID
DNDi
Eisai
Gilead

LONDON DECLARATION ON NEGLECTED TROPICAL DISEASES

ACCELERATING WORK TO OVERCOME THE GLOBAL IMPACT OF NEGLECTED TROPICAL DISEASES
A ROADMAP FOR IMPLEMENTATION

1. Eradicate Guinea worm
2. Eliminate 5 NTDs
3. Control 5 NTDs
Vertical NTD programs eroding Health Systems?

- Higher likelihood of being exposed to risk factors
- Limited access to adequate cures

Poverty

Disease control interventions

Poverty-reduction strategies » aiming at improving the social and economic status

Morbidity

Limitation of working capacities

Any disease control intervention indirectly contributes to reducing poverty
WHO list of NTDs

1. Dracunculiasis
2. Lymphatic Filariasis
3. Onchocerciasis
4. Schistosomiasis
5. Soil-Transmitted Helminths
6. Taeniasis/Cysticercosis
7. Human echinococcosis
8. Blinding trachoma
9. Fascioliasis
10. Yaws
11. Dengue
12. Rabies
13. Leishmaniasis
14. Human African Trypanosomiasis
15. Leprosy
16. Buruli ulcer
17. Chagas diseases
18. Snake bite/Podoconiosis
19. Mycetoma
20. Scabies
# Priority NTDs in the WHO African Region

<table>
<thead>
<tr>
<th>Disease</th>
<th>Intervention approaches</th>
<th>Tool Availability</th>
<th>Goal</th>
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<td>Schistosomiasis</td>
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<td>Blinding trachoma</td>
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<td>Guinea worm disease</td>
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<tr>
<td>Leprosy</td>
<td>Innovative &amp; Intensified Disease Management (IDM)</td>
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<tr>
<td>Human African Trypanosomiasis (HAT)*</td>
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Mycetoma: a new addition to the “hit list”

Neglected tropical diseases

Sixty-ninth World Health Assembly adopts resolution on mycetoma

30 May 2016 | Geneva — The 69th World Health Assembly has adopted a resolution on mycetoma.

This chronic, progressively destructive inflammatory disease of the skin usually affects the lower limbs.

Better diagnostic and treatment methods are needed to facilitate the implementation of control and surveillance measures in affected countries.

Read the full article
Mycetoma

Definition: **chronic infection of subcutaneous tissues**

- **Actinomyctetoma** *(bacteria)*
- **Eumycetoma** *(fungi)*

Similar presentation

**Clinical triad**
- swelling
- sinuses
- grains
Snake bite makes it! The first non-communicable NTD is on the WHO list

- WHO added snake bite to the list of NTDs in 2009
- Later removed without explanation (internal WHO)
- STAG reversed decision following efforts by several UN Member States led Costa Rica—with the Netherlands (the only western Government)
- Major funders so far not warm because it is non-infectious and “cannot be eradicated”.
Now in the limelight...

- Kills more than 125,000 people each year
- Leaves more than 400,000 victims with severe disability
- Kills more people than any other WHO-categorised NTD
- Oddball on a list of debilitating diseases that affect over a billion people every year
- Cannot be eradicated, we cannot be vaccinated against it, and no universal antivenom in immediate sight
Why is it important to get on the list

Neglected tropical diseases

G7 to focus on tackling neglected tropical diseases and antimicrobial resistance

18 May 2015 | Geneva — The G7 group of countries wants all countries to have a strong health system to confront neglected tropical diseases and antimicrobial resistance.

In her address to the Sixty-eighth World Health Assembly in Geneva, Switzerland, the German Chancellor Angela Merkel announced that Germany, which holds the rotating Presidency of the G7, will make available €200 million to support developing countries including €70 million to those affected by the Ebola virus disease in West Africa.

Read more
Ensure healthy lives and promote well-being for all at all ages

TARGETS

3.1
By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.

3.2
By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.

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.
It can get messy!
WHO plans for neglected diseases are wrong

Research and development into diseases affecting the world’s poorest people will not benefit from the agency’s policy, warns Mary Moran.

19 February 2014

After more than a decade of trying to find a way to fund research on diseases that affect the developing world, the World Health Organization (WHO) made a decisive move last month when it announced its first pilot projects. As Nature reported (see Nature 505, 142; 2014), the WHO hopes
WHO: Steering plans for neglected diseases

Bernard Pécoul & Manica Balasegaram

Affiliations | Corresponding author

Nature 507, 431 (27 March 2014) | doi:10.1038/507431d
Published online 26 March 2014

Mary Moran criticizes plans by the World Health Organization (WHO) for tackling neglected diseases in the developing world (Nature 506, 267; 2014). Her arguments are misleading and
How to get on the list?
THANK YOU!

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