

Health, climate change and environmental impact of immunisation

BOARD BRIEFING
13 June 2017, Geneva



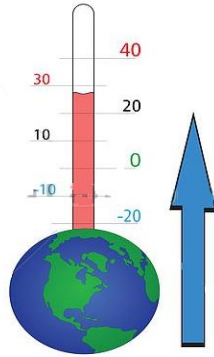
1

Climate change and immunisation – taking stock

Deepali Patel, Gavi Secretariat

Climate change will have widespread consequences for the planet

Rising average temperatures (e.g., heat waves and cold spells)



Increased seasonal variability (e.g., droughts)

Rising sea levels (e.g., coastal and inland flooding)



Climate shocks (e.g., extreme weather events)

Between **2030** and **2050**, climate change
is expected to cause
250,000 additional deaths
per year
due to malaria, malnutrition, diarrhoea
and heat stress

Climate change will directly alter disease patterns and threaten health systems

Spread and outbreak of vaccine preventable diseases

- 1 Vector-borne diseases
- 2 Water-borne and diarrhoeal diseases
- 3 Respiratory diseases



Shocks to health & immunisation systems

- Weakened capacity to respond to endemic disease
- Disruption to health system

The spread and transmission of **vector-borne diseases** will increase

1

Anopheles mosquito



Malaria

60,000 additional deaths/year by 2030



Japanese Encephalitis

Shifting rainfall patterns
→ change in vector habitat



Culex mosquito

Dengue

By 2080, 1/3 more people at risk than without climate change

Aedes albopictus mosquito



Yellow Fever

Changing land use patterns will drive population risk



Aedes aegypti mosquito

Climate change will increase diarrhoeal disease deaths

1.8 billion people use a drinking-water source that is contaminated with faecal matter

Systems level effects:

- Underlying weak WaSH systems, poor hygiene and sanitation practices
- Flooding and storms overwhelm WaSH system → water contamination
 - Population displacement & urbanisation increase crowding

Cholera

- Warming sea temperatures → increased cholera bacteria levels

Rotavirus

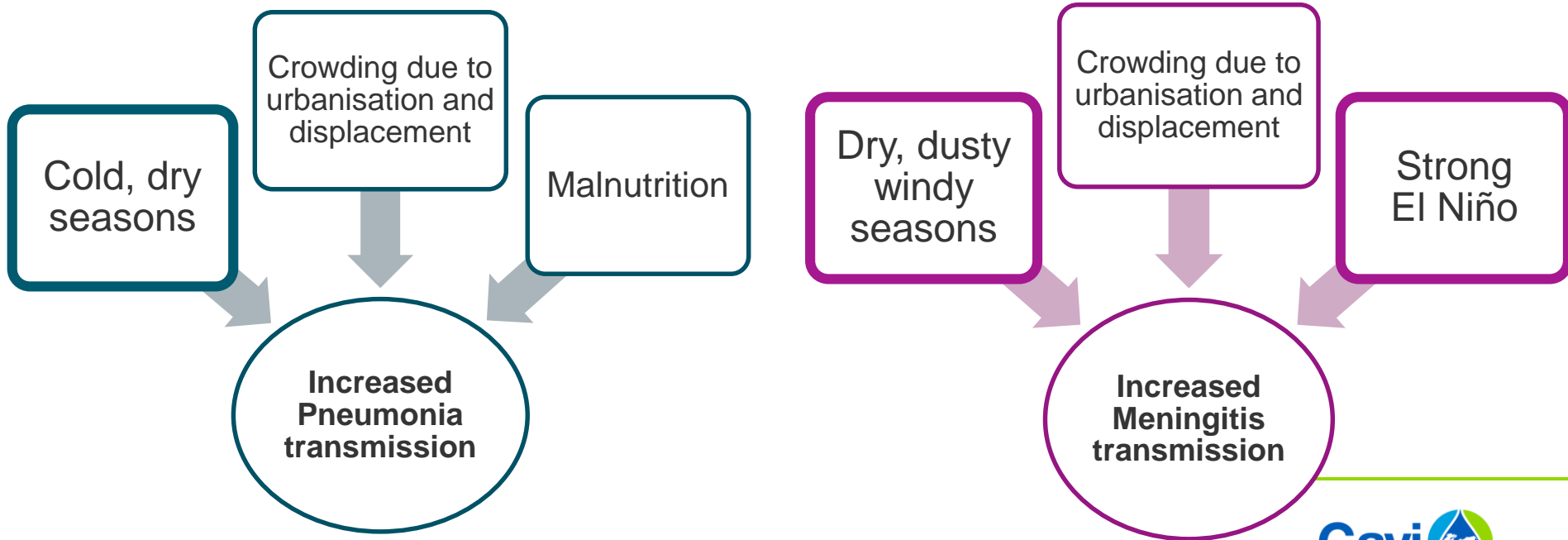
- Unpredictable peak transmission periods
- Increased malnutrition impact vaccine efficacy

Typhoid Fever

- Incidence increases with rising rainfall, temperature, and river levels

Climate change will exacerbate respiratory and airborne disease transmission

92% of people living in cities do not breathe clean air, causing respiratory problems



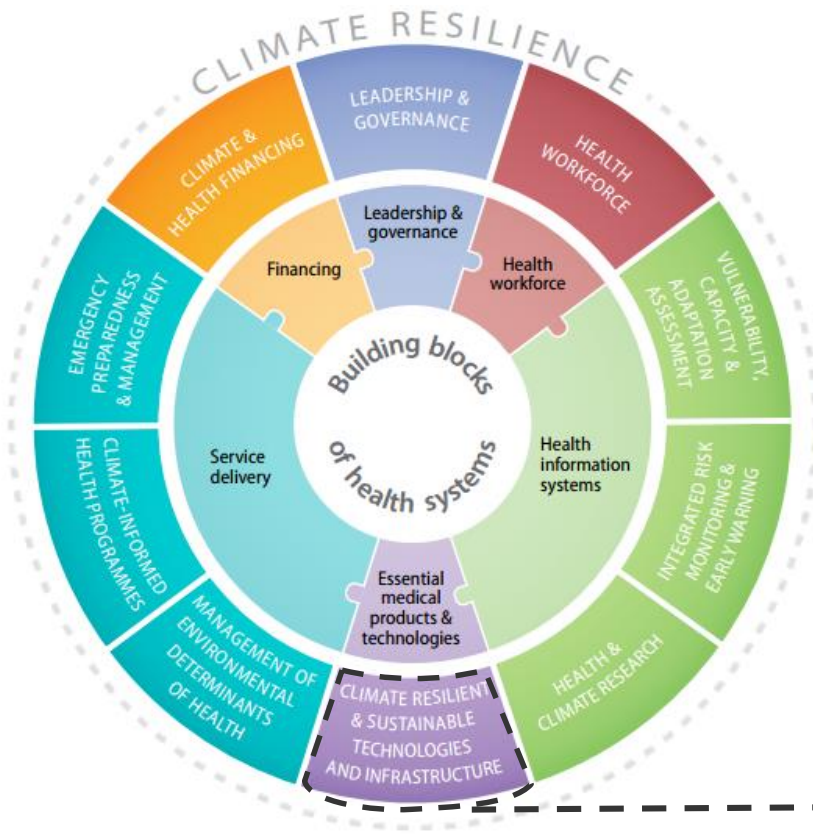
Resilient health systems can withstand climate shocks and safeguard health

WHO identified 10 core components to increase health system resiliency to climate change


- Builds on the core functions of health systems
- Includes key adaptation measures

Component 6: Climate resilient and sustainable technologies and infrastructure

- Identifies vaccines as key essential preventive product




How can the immunisation community engage in the climate change agenda?




Incorporate immunisation in national climate plans



Increase coverage and prepare for emerging threats



Produce, store, deliver and use vaccines sustainably



Build resilient health systems

Health, climate change and environmental impact of immunisation

Thank you!

