Climate change and Health in the Americas

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Environmental determinants of health

WHO (2016): 12.6 million deaths per year (23% of the total) attributed to unhealthy environments. Many of those situations are exacerbated by climate change.

Top 10 Causes of Death from the Environment:

1. Stroke: 2.5 million
2. Ischaemic Heart Disease: 2.3 million
3. Unintentional Injuries: 1.7 million
8. Respiratory Infections: 1.6 million
9. Intentional Injuries: 1.2 million
10. Diarrhoeal Diseases: 0.7 million

How the Environment Impacts Our Health:

- Air Pollution
- Inadequate Water, Sanitation, and Hygiene
- Built Environments
- Chemicals and Biological Agents
- Radiation
- Noise
- Agricultural Practices
- Community Noise
- Occupational Risks

World Health Organization

#EnvironmentalHealth
Extreme weather events

Region affected by 62 tropical storms and hurricanes (2004-2012); projections show that in 2050 those extreme events will be 2.5 times more frequent and intense

Cases of cholera, leptospirosis, food and water contamination

Floods, landslides

Peru – April 2017
>665,000 people affected, 79 deaths

>145,000 houses affected (>18,000 destroyed), 1.245km roads and 159 bridges destroyed

Colombia (> 300 deaths in 2017)
Other countries affected: Ecuador, Brazil, Venezuela, Bolivia
Central America: Guatemala, Honduras
**Vector-borne diseases**

- Shift in vector distributions (Aedes spp., ticks...)
- Recent outbreaks of Zika, Chikungunya and Yellow fever in South America

**Global distribution of Aedes mosquitoes**
Aedes aegypti and Aedes albopictus can spread the Zika virus if infected with it.

- **Aedes aegypti mosquito**
  - Probability of occurrence:
    - Highest
    - Lowest

- **Aedes albopictus mosquito**
  - Probability of occurrence:
    - Highest
    - Lowest

Maps show the reported cases of Lyme disease in 2001 and 2014 for the areas of the country where Lyme disease is most common (the Northeast and Upper Midwest). Both the distribution and the numbers of cases have increased (see Ch. 5: Vector-Borne Diseases). (Figure source: adapted from CDC 2015)
Effects of Climate Change on Health

Direct impacts
- Increased frequency and intensity of heat waves
- Increased number and intensity of disasters such as storms, hurricanes, tornadoes and floods
- Increased incidence and/or magnitude of extreme high sea level

Indirect impacts through natural systems
- Increased risks of food- and water-borne diseases
- Increased risks of vector-borne diseases
- Increased risks of airways diseases and allergens

Indirect impacts through socioeconomic systems
- Increased risk of under-nutrition resulting from diminished food production and water insecurity
- Reduction of work capacity and labor productivity, and extra risks to vulnerable populations
- Consequences for mental health due to forced displacements
Context – PAHO/WHO Perspective

- WHO new DG vision and priorities: Climate and Environmental impacts on health
- PAHO: Action on climate change is recognized in PAHO Strategy 2014 – 2019
- Strategy and Plan of Action on Climate Change (2012-2017)
Context – PAHO/WHO Perspective

Second WHO Global Conference on Health and Climate
- Climate and Clean Air Coalition on Short-Lived Climate Pollutants
- Global Framework for Climate Services

UN Habitat III – Quito, Ecuador oct/2016
- Health as the “pulse” of the New Urban Agenda

UNFCCC COP22 – Marrakech, nov/2016
- Global Coalition on Health, Environment and Climate (WHO + UNEP + WMO)
- Ministers Declaration

http://www.who.int/globalchange/mediacentre/events/sign-form/en/
Including climate indicators in health surveillance systems (WHO-UNFCCC)

• Finished: Brazil, Colombia, Mexico, Peru, USA
• Finalizing: Canada, Panama
• Ongoing: Caribbean countries, overview of the Americas

Overview
Key findings
Opportunities for action

Current climate hazards
Mean annual temperature
#days with Heat waves
#days with floods
#days with drought

Current and future health impacts from climate change
Vector-borne diseases
Heat related mortality

Current exposures to air pollution and health impacts

Opportunities for health gains through climate change mitigation and adaptation

Status of national policy response

http://www.who.int/globalchange/resources/countries/en/
Ongoing projects in the Caribbean to tackle climate change and health:

- Cooperation between Caribbean Institute for Meteorology and Hydrology and PAHO
- Dominica and Grenada finalized their Assessment on the Vulnerability and Adaptation to climate change
- A Pilot Program for Climate Resilience (PPCR) started being executed in 2015 by the Caribbean Regional Public Health Agency (CARPHA).
PAHO/WHO and the NAP process

• PAHO supported representatives of Ministries of Health to participate in UNFCCC and UNEP-UNDP Regatta NAP trainings

• PAHO is organizing workshops for health representatives and NAP coordinators for the development of the HNAPS (Health NAP chapters)
  • Caribbean: October 30-31, 2017 – St Lucia
  • Central America: February 2018 – venue TBD
  • South America: March 2018 – venue TBD

• WHO “Health Day” during COP23, Nov2017
Reducing health systems climate footprint to lead by example

US study → health sector contribute to 10% of the GHG emissions (Eckelman & Sherman 2016)

- Measuring health sector’s GHG emissions at country level
- Greening health systems
- Reducing health system’s emissions through sustainable procurement
Reducing health systems climate footprint to lead by example

77% of health facilities in the Americas are in located in vulnerable zones for extreme events

The PAHO/WHO “SMART Hospitals” initiative is developed with support of UK Aid funds and implemented following PAHO’s toolkit and ministries of health.

A health facility is “SMART” when they are safe, climate resilient and “Green”

2020: At least 50 health facilities in Belize, Dominica, Grenada, Guyana, Jamaica, Saint Vincent and the Grenadines and Saint Lucia will be “smarted”.

Georgetown Hospital in Saint Vincent and the Grenadines after being “smarted”.

Georgetown Hospital in Saint Vincent and the Grenadines after being “smarted”.
Awareness about climate change impacts on health

- More than 4,300 people enrolled, from 34 countries worldwide (status in July 2017)
- Course being updated, and an English version is being developed

https://mooc.campusvirtualsp.org/enrol/index.php?id=6
**Breathe Life Campaign 2030**

- Air contamination is responsible for 1 in 9 deaths, and responsible for 7 million **preventable** deaths a year
- Only 12% of the cities have air quality levels following WHO’s guidelines
- Reducing ‘short-lived climate pollutants’ – SLCPs (e.g. ozone, black carbon, methane) improves local air quality immediately and promotes benefits for the climate, globally
- How? Through intersectoral cooperation: *e.g.* sustainable transportation systems, stimulating healthy lifestyles, increasing green urban spaces
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Thank you