

# SESSION 4: SUSTAINABILITY – CLIMATE CHANGE AND PUBLIC HEALTH

Moderated by Dr. Sofia Viegas

IANPHI

# ANNUAL MEETING

FEBRUARY 7-8, 2024 | KIGALI, RWANDA

HOSTED BY



Prof. Aamer Ikram, IANPHI  
EB Strategic Advisor

# INTRODUCTORY SPEECH

IANPHI

# ANNUAL MEETING

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HOSTED BY



Dr. Sébastien Denys,  
Director of the Environmental and  
Occupational Health Division,  
Santé publique France, and  
Chair of the IANPHI Thematic  
Committee on Climate Change  
and Public Health

# PRESENTATION OF THE IANPHI CLIMATE CHANGE AND PUBLIC HEALTH COMMITTEE AND ITS WORK

## The Climate Change and Health Committee .... A Recent Story

From an informal working group to a IANPHI thematic committee

- Climate change included in the IANPHI strategy and action plan 2021-2025
- WG on climate change and public in 2021 - transformed into an IANPHI standing committee in 2022
- Chair Dr Sébastien Denys, Santé publique France and vice-chair Dr Maria Da Luz de Mima Menonça, Instituto Nacional de Saude Publica, Cabo Verde

## THE STRATEGY AT A GLANCE

### OUR MISSION

COLLECTIVELY BUILD PUBLIC HEALTH CAPACITY AND CAPABILITIES BY CONNECTING, DEVELOPING AND STRENGTHENING NATIONAL PUBLIC HEALTH INSTITUTES WORLDWIDE

### OUR VISION

A GLOBAL COMMUNITY OF INTER-DEPENDENT AND TRUSTED NPHIS AS SCIENTIFIC ADVISORS WORKING TOGETHER TO PROTECT AND IMPROVE THE PUBLIC'S HEALTH AND BUILD A MORE EQUITABLE WORLD

### OUR STRATEGIC PRIORITIES



STRENGTHEN THE PROFESSIONAL RELATIONSHIPS WITHIN IANPHI'S UNIQUE GLOBAL FORUM



HARNESS THE COLLECTIVE EXPERTISE OF MEMBERS TO DEVELOP PUBLIC HEALTH CAPACITY GLOBALLY



ENGAGE, SUPPORT AND GROW IANPHI'S DIVERSE AND UNIFIED MEMBERSHIP BASE



ADVOCATE GLOBALLY AND AT COUNTRY LEVEL FOR NPHIS AS KEY PUBLIC HEALTH ACTORS



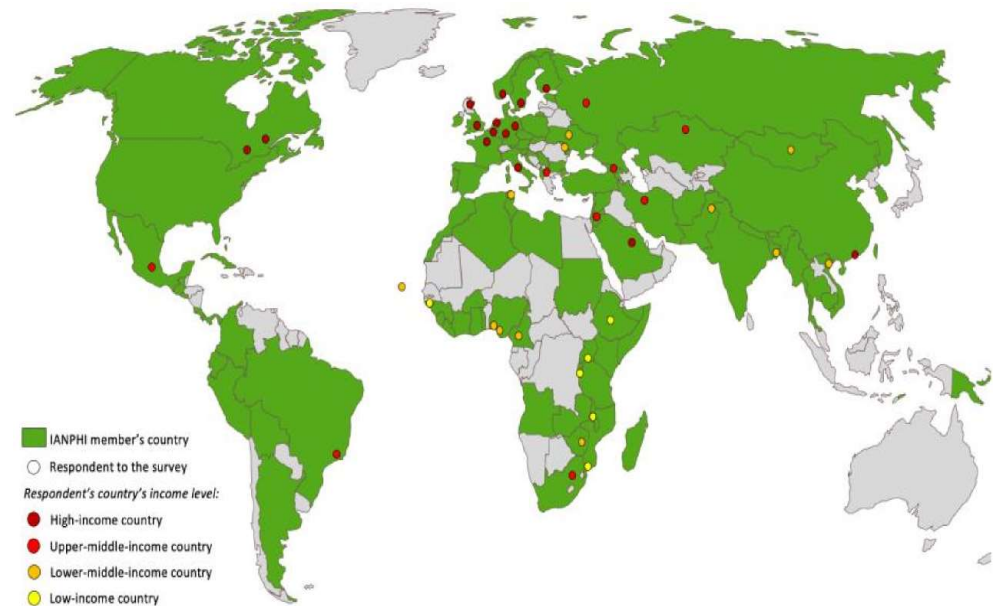
BUILD AN AGILE ASSOCIATION THAT SUPPORTS MEMBERS THROUGH CHANGE

### OUR VALUES

AN INCLUSIVE AND INDEPENDENT PROFESSIONAL ASSOCIATION WHICH PROMOTES AN EVIDENCE-BASED APPROACH TO PUBLIC HEALTH AND SCIENTIFIC EXCELLENCE

## A Recent Story that started with a survey

- April-June 2021 : answers from 43 NPHIs
- NPHIs are already engaged in climate change and health activities
- Yet, very few are considered as key climate actors and have the necessary resources
- NPHIs have an important role to play to promote cross-sectoral approaches on climate, biodiversity and health, and to develop international collaborations



Climate change is one of the greatest public health opportunity

- Limiting the increase in global average temperature to **1.5°C** and **protecting biodiversity** are essential to the health and well-being of current and future generations
- **Climate action is a public health intervention**
- Recovery from the COVID-19 pandemic offers an **unparalleled opportunity**
- Health in all climate policies and climate in all health policies!
- Climate and health benefit from actions on: food systems and diets, limiting air pollution, access to clean water, sanitation and hygiene, transport, protection of natural ecosystems...

# The Untapped Potential of National Public Health Institutes as Key Climate Actors



## THE LANCET Public Health

Volume 7, Issue 3, March 2022, Page e209



Correspondence

### Public health institutes and the fight against climate change

Mathilde Pascal <sup>a</sup> ✉, Revati Phalkey <sup>b</sup>, Louise Rigal <sup>d</sup>, Amandine Zoonenkyndt <sup>e</sup>, Arnaud Mathieu <sup>a</sup>,  
Emma L Gillingham <sup>b</sup>, Sébastien Denys <sup>a</sup>, Isabel Oliver <sup>c</sup>, Geneviève Chêne <sup>e</sup>, Duncan Selbie <sup>f</sup>

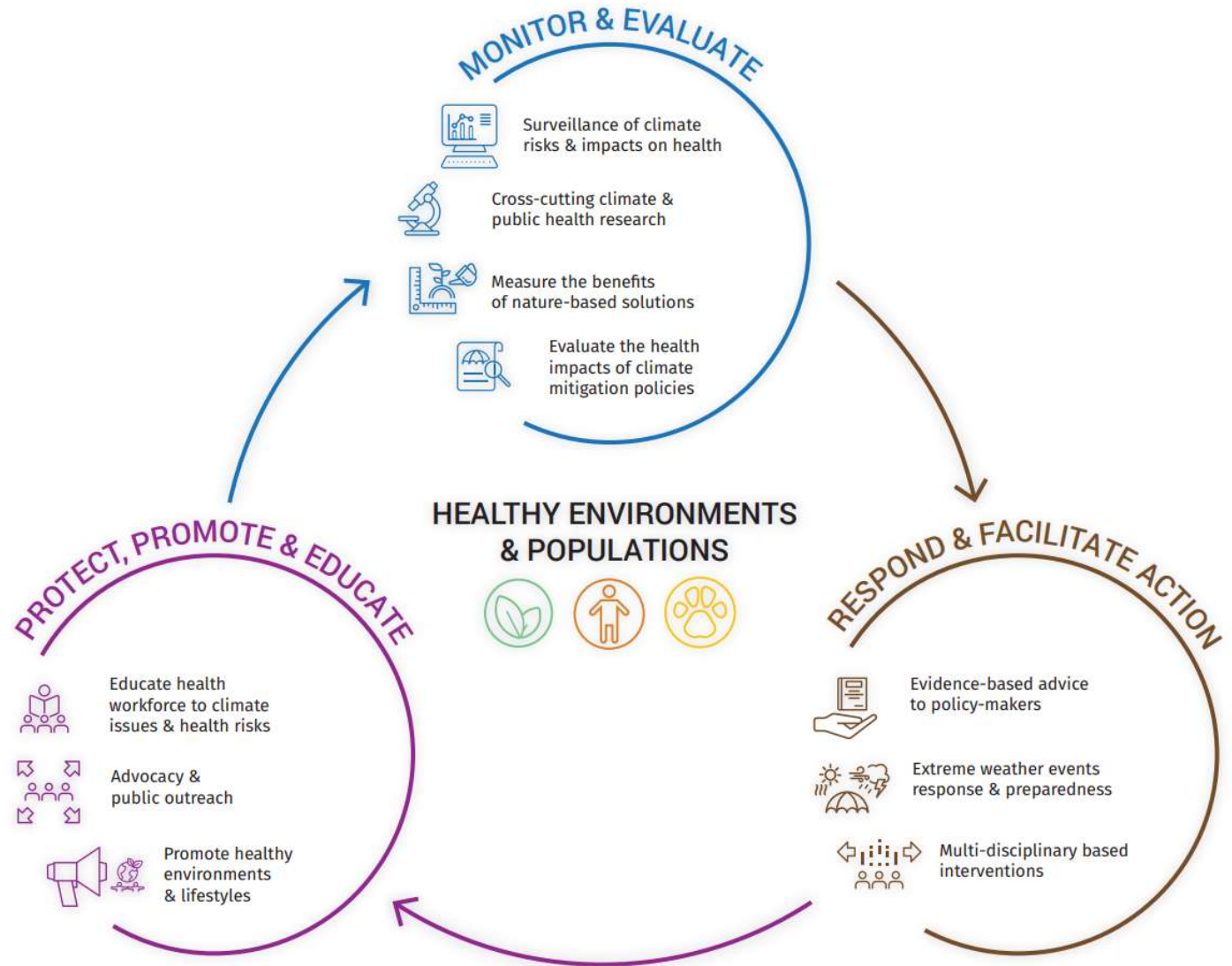
Show more 

## IANPHI's commitments to improve climate change and public health interventions

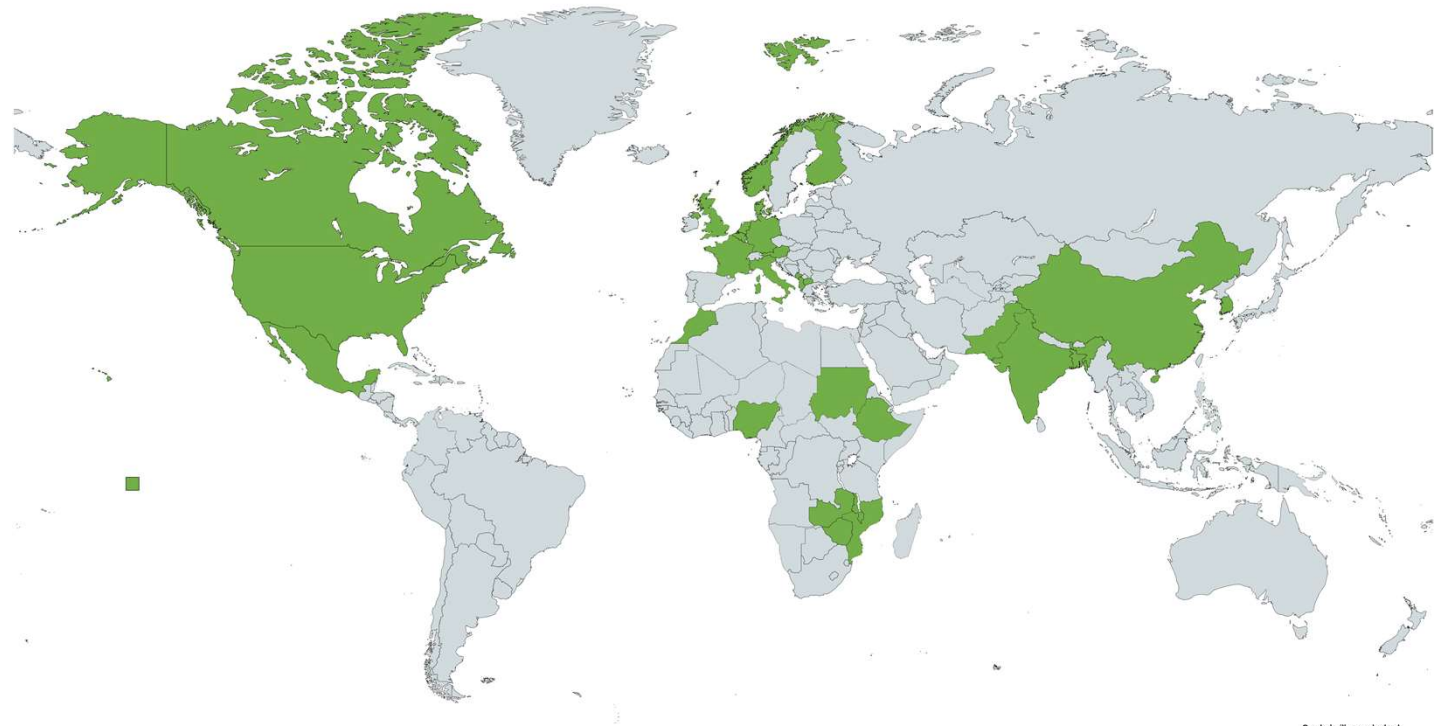
- Limiting the increase in global average temperature to **1.5°C** and **protecting biodiversity** are essential to the health and well-being of current and future generations
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- Health in all climate policies and climate in all health policies!
- Climate and health benefit from actions on: food systems and diets, limiting air pollution, access to clean water, sanitation and hygiene, transport, protection of natural ecosystems...



# How National Public Health Institutes contribute to climate adaptation and mitigation ?



Countries  
represented in  
the committee



# Dissemination (1/2)



World Health Organization **COP27 HEALTH PAVILION**  
Climate Action for Health, Health Action for Climate

From Evidence to Policy and Action: regional perspectives on responses to climate change impacts on health

Thursday, November 10, 14:00 - 15:15 EET

Logos for CPHP (Centre for Primary Health Care) and the COP27 Health Pavilion are visible at the bottom.

**IANPHI**  
832 followers  
6mo · 🌐

In a joint statement, the G7 Health Ministers expressed their support for the IANPHI Roadmap for Action on Health and #Climate Change and for the key role of national public health institutes in #ClimateAction

👉 Our story and link to the IANPHI Roadmap: <https://fal.cn/3oSQ2>



# Dissemination (2/2)



WEBINAR: DEVELOPING INDICATORS TO DRIVE RELEVANT ACTION ON CLIMATE CHANGE AND HEALTH

November 14, 2022 at 9am EST | 3pm CET

PANELISTS



Dr. Marina Romanello  
Executive Director  
The Lancet Countdown



Dr. Aleksandra Kazmierczak  
Expert, Environment, Human Health & Well-Being  
European Climate and Health Observatory



Dr. Giovanni Leonardi  
Head of Environmental Epidemiology  
UK Health Security Agency



Dr. Shubhayu Saha  
Senior Advisor  
Office of Climate Change and Health Equity  
U.S. Department of Health  
and Human Services



Dr. Mathilde Pascal  
Epidemiologist and Project Manager  
for Air, Climate and Health  
Santé publique France



Dr. Aakash Shrivastava  
Additional Director and Head  
Centre for Environmental Health, Occupational  
Health, Climate Change and Health  
National Centre for Disease Control, India

MODERATED BY



Dr. Svenja Matusall  
Research Associate  
Robert Koch Institute  
Germany

Eupha Berlin 2022

Eupha Dublin 2023

A committee  
interacting with the  
ecosystem



European  
Climate and Health  
Observatory



World Health  
Organization

Europe



WORLD  
METEOROLOGICAL  
ORGANIZATION

Weather Climate Water



The Association of Schools of Public Health  
in the European Region

Coming soon in  
2024...

- Paper on extreme climate events and NPHIs
- Webinar to be organized
  
- Collaboration with EEA and potentially WMO Europe and WMO - Assessing surveillance capacities and methods used to estimate excess mortality and morbidity during heatwaves

## Challenges in the upcoming months

- Keep the committee active and broaden its composition
- Broaden to other regions the external partners commitments
- Funding to organize in-person meetings

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# ANNUAL MEETING

FEBRUARY 7-8, 2024 | KIGALI, RWANDA

HOSTED BY



Sonja Myhre, PhD, MsPH,  
Senior advisor  
Norwegian Institute of  
Public Health

# THE ENBEL PROJECT

## COMMUNICATING CLIMATE CHANGE AND HEALTH



## Presentation objectives



ENBEL – a unique approach



Materials, methods, and milestones



Three key takeaways

## WHAT IS ENBEL?

- EU Horizon 2020-funded project
- Consortium of 17 partners, 14 countries
- Nexus of climate change and health
- Transdisciplinary approach
- Research focus in the Arctic, Europe, East and Southern Africa, South and East Asia, and North, South and Central America



ENBEL  
*Connecting*  
HEALTH &  
CLIMATE  
CHANGE





### Climate HAZARDS

- ★ Air pollution including from wildfires 1 8 9
- Cascading effects 4
- Coumpound events 4 8 9
- Drought 4
- ★ Environmental heat 1 2 3 4 5 6 7 8 9
- Human-nature interactions 3 4 5
- ★ Occupational heat 7 10 12
- Storm/heavy precipitation/flooding 2 3 4

### VULNERABILITY factors

- Age 6 8 7 9
- Community organisations 1 5 12
- Ethnicity 8
- Medical conditions 4 8
- Resilience 1 12
- Sex / Gender 6 8 9
- Socio-economic position 6 8 9 11 12

### Health RISKS

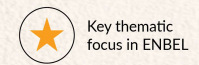
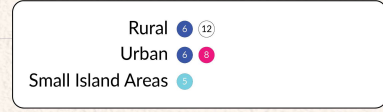
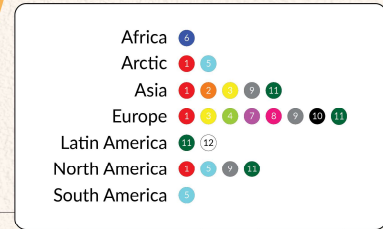
- Cardiovascular and respiratory death and disease 1 7 8 9
- Kidney disease 12
- Maternal, neonatal and child health 2 6 7
- Mental health 10
- ★ Infectious and vector-borne diseases 1 2 5
- Nutrition/food systems 4 5
- Workers health 7 8 10 12

### EXPOSURE determinants

- Geographical location
- Setting

### OUR PROJECTS

- |             |              |                |
|-------------|--------------|----------------|
| 1 ACROBEAR  | 4 CCCEHN     | 9 HEATCOST     |
| 2 AWARD-APR | 6 CHAMNHA    | 10 HEAT-SHIELD |
| 3 BUILDERS  | 7 CLIMAPP    | 11 PARSEC      |
| 4 CASCADES  | 8 EXHAUSTION | 12 PREP        |





ENBEL  
*Connecting*  
HEALTH &  
CLIMATE  
CHANGE

## Networking

Networking and coordination among researchers and stakeholders within the climate and health nexus.

[Read more](#)



## Syntheses

Produce research syntheses on key policy-relevant questions and identify how consortia projects can fill knowledge gaps on climate change and health linkages.

[Read more](#)

## Policy engagement

Target and engage with relevant EU, and national decision-makers and provide input into relevant EU policymaking processes.

[Read more](#)



## Communication & Dissemination

Dissemination and communication of research knowledge and policy recommendations.

[Read more](#)



## Focal perspective

### Health impacts (8):

(heart and lung disease, heat, and air pollution, deaths from heat stress, diarrheal disease, vector-borne disease, schistosomiasis, chronic kidney disease, pregnancy and newborns)

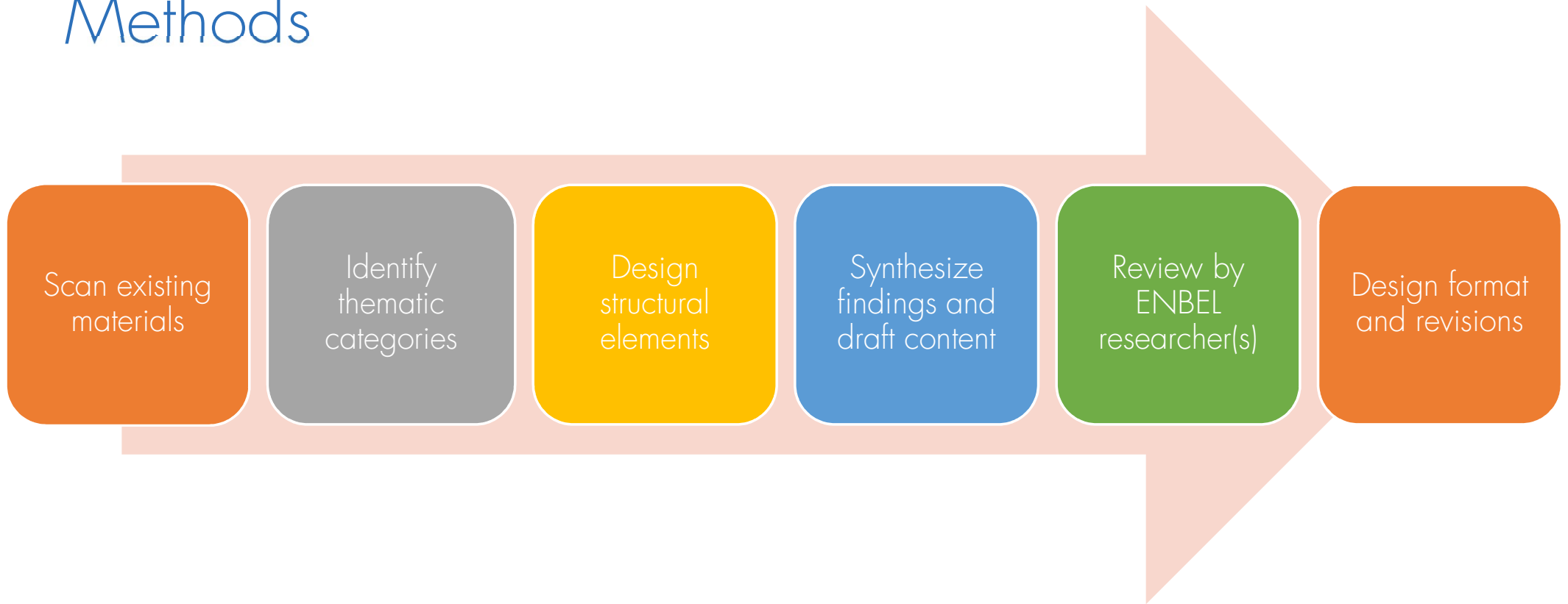
### Indirect impacts (4):

(Livelihoods, occupations, life exposure)

### Public health tools (2):

(Mobile health tools, early warning systems)

# Methods



## Key elements

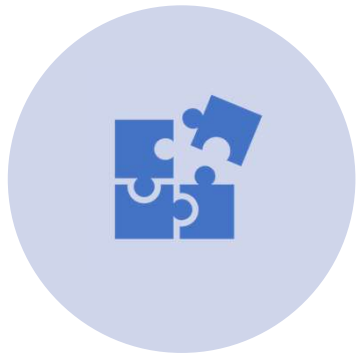
- Simple, clear titles
- Icon bar
- Visual images
- Problem statement
- Research project/group
- Key findings

## Key elements

- Research implications
- Who's most at risk?
- Conclusion
- More information
- Select publications



# Impact



SNAPSHOT OVERVIEW



ACCESS TO RESEARCH  
FINDINGS



VISUAL DISPLAY OF  
INFORMATION

## Key Takeaway #1:

### Impact on vulnerable groups

- Children and newborns
- Pregnant women
- Elderly populations
- Indigenous communities
- Pre-existing conditions
- Outdoor manual workers

## Key Takeaway #2:

### Cascading consequences

#### Livelihoods

- Farming, fishing, ecotourism
- Other occupations
- Food security, diet and nutrition

#### Infrastructure:

- roads
- electricity supplies
- water quality
- access to medical facilities

## Key Takeaway #3:

The power of aggregation

Research highlight series leverages projects  
for broader impact/influence

## Milestones

- Distribution at local, regional, global levels
- Engagement with diverse stakeholders
- Positive feedback by ENBEL researchers

# UNDRR Prevention website

UNDRR

PreventionWeb Home Understanding disaster risk Knowledge Base Community Sendai Framework

Home > Documents and publications

## Extreme climate events, health, and youth

26 January 2024 Source: Enhancing Belmont Research Action to support EU policy making on climate change and health (ENBEL) [Upload your content](#)



Extreme climate events will continue to increase in terms of frequency, intensity, duration, and geographic reach around the world in the coming decades under current climate policy pledges. Thus, heat waves, droughts, crop failures, floods, cyclones, and wildfires are expected to increase worldwide. Young generations will experience more severe events during their lifetime in comparison to their parents and grandparents. The wellbeing and safety of young generations calls for serious emission reductions to safeguard their future.

The findings presented in this factsheet are derived from research conducted by the "Cascading climate risks: towards adaptive and resilient European societies" (CASCADES) project funded by the EU Horizon 2020 programme. The CASCADES project focuses on quantifying the impact of extreme climate events and specifically studies how youth will experience more climate-related extreme events than older generations.

**Publication Year**  
2023

**Number of pages**  
4 p.

**Download**

Extreme climate eve...

[Download file](#)

(2.42 MB/PDF)

- Related links**
- [How youth can battle extreme heat in their communities](#)
  - [Suffocating in the heat](#)
  - [Protecting children from heat stress: A technical note](#)
  - [Summer 2023 was the hottest on record – yes, it's climate change, but don't call it "the new normal"](#)
  - [A game plan for heat stress: Policy recommendations for high school sports](#)
- Themes**
- Children and Youth
  - Climate Change

UNDRR

PreventionWeb Home Understanding disaster risk Knowledge Base Community Sendai Framework

Home > Documents and publications

## The impact of heat on pregnant women and newborns

26 January 2024 Source: Enhancing Belmont Research Action to support EU policy making on climate change and health (ENBEL) [Upload your content](#)



Extreme weather events, including exposure to high temperatures, affect the health and wellbeing of pregnant women and can cause adverse birth outcomes. In many countries, women already experience extreme temperatures, and many have limited options to avoid working and staying in the heat. Most countries will experience more frequent and intense heatwaves, drought, and food and water insecurity. Therefore, it is important that maternal and neonatal health services and guidance consider heat risks and that heat health action plans include evidence-based interventions targeted at pregnant women and infants.

The key findings presented in this factsheet are from research conducted by the Belmont Forum-funded CHAMNHA project: "Climate, heat, and maternal and neonatal health in Africa". This project includes partners from Burkina Faso, Kenya, South Africa, Sweden, Norway, United Kingdom, and the U.S. and studies the impact of heat on the health of pregnant and postpartum women and newborns in order to develop protective measures and improve maternal health services.

**Publication Year**  
2023

**Number of pages**  
4 p.

**Download**

The impact of heat o...

[Download file](#)

(1.63 MB/PDF)

- Related links**
- [Analysis of heat exposure during pregnancy and severe maternal morbidity](#)
  - [Climate change is an urgent threat to pregnant women and children](#)
  - [Working in extreme heat puts strain on foetus](#)
  - [Why mothers and babies will suffer more as Africa grows hotter](#)
  - ["Giving birth to another child is not in my plans anymore": New UNFPA report finds sexual and reproductive health omitted from most national climate plans](#)
- Hazards**
- Heat Wave

## Limitations



ENBEL research findings only



English language only



Other?

# More ENBEL resources ([enbel-knowledge.eu](http://enbel-knowledge.eu))

Policy briefs, videos, training courses, tools, articles, and reports

**ENBEL Knowledge Portal**

The ENBEL knowledge portal presents knowledge on health impacts of climate change gathered through ENBEL and our network of climate and health partner research projects. The portal was first made available in May 2022.

Currently, the portal features an online library of training courses and learning material on climate change and health, policy briefs from ENBEL, videos and educational videos on climate change and health topics, scientific papers based on ENBEL work and public reports/project deliverables.

Search...  
Showing 303 results of 303 items. [Reset All](#)

**Categories**

- Policy briefs
- Research factsheets
- Video
- Training course
- Learning material
- Journal article
- Tools

Filtering by: [Sort by](#)

**Tools**  
**ClimApp mobile application**  
Themes: Mobile or software tools, Heat, Vulnerable groups

**Tools**  
**hackAIR - real-time and reliable forecast data on air pollution, thermal comfort and probability of forest fires in your area**  
COLLECTIVE AWARENESS FOR AIR QUALITY



## Questions?

1. Can this series be useful in your settings?
2. Are there topics that should be included?
3. Do you have suggestions going forward?

Thank you!

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# ANNUAL MEETING

FEBRUARY 7-8, 2024 | KIGALI, RWANDA

HOSTED BY



**Kirsten Kelleher**

**Martin Mlinarić**

Hildegard Niemann

Angelina Taylor

Thomas Ziese

Office for Climate

Change and Health

Robert Koch Institute

February 7, 2024

# Status report on climate change and health for Germany, 2023

# Overview

- Main objectives
- Content
- Communication
- Next steps





## Status report – main objectives

- Objective: Provide current evidence for impact of climate change on health
- Target groups: experts in the field, public health service, decision-makers
- Three pillars: **Network – Content – Communication**



Project advisory board with experts from 12 institutions

Interdisciplinary scientific report written by ~100 authors from ~30 national institutions

Derive and communicate options for action



## Author affiliations



Federal ministries

Health → 2 agencies  
Environment → 3 agencies  
Agriculture → 3 agencies  
Transport → 2 agencies  
Interior → 1 agencies



Medical/scientific institutions

5 universities  
6 university hospitals  
8 other research institutes



Civil society / NGOs

3 organisations

**Network of national institutions**

Journal of Health Monitoring · 2023 8(S3)  
DOI 10.25646/11399  
Robert Koch Institute, Berlin

Gerhard Adrian<sup>1</sup> Martin Dietrich<sup>2</sup>, Birgit Esser<sup>3</sup>,  
Andreas Hensel<sup>4</sup>, Folkhard Isermeyer<sup>5</sup>,  
Dirk Messner<sup>6</sup>, Thomas C. Mettenleiter<sup>7</sup>,  
Inge Paulini<sup>8</sup>, Sabine Riewenherm<sup>9</sup>,  
Lars Schaade<sup>10</sup>, Ralph Tiesler<sup>11</sup>,  
Lothar H. Wieler<sup>12</sup>

<sup>1</sup> German Meteorological Service

<sup>2</sup> Federal Centre for Health Education

<sup>3</sup> German Federal Institute of Hydrology

<sup>4</sup> German Federal Institute for Risk Assessment

<sup>5</sup> Thünen Institute

<sup>6</sup> German Environment Agency

<sup>7</sup> Friedrich-Loeffler-Institut

<sup>8</sup> Federal Office for Radiation Protection

<sup>9</sup> Federal Agency for Nature Conservation

<sup>10</sup> Robert Koch Institute

<sup>11</sup> Federal Office of Civil Protection and  
Disaster Assistance

<sup>12</sup> Formerly Robert Koch Institute

Submitted: 24.02.2023

Accepted: 24.03.2023

Published: 01.06.2023

## Together we can counter the effects of climate change

Climate change is the greatest challenge facing humanity, threatening our livelihoods and our secure future. The impact of anthropogenic environmental change on human health and well-being is increasing. Public health systems worldwide need to address this significant and complex burden by strengthening both their capacity to act and their resilience.

As highlighted in the Roadmap of the International Association of National Public Health Institutes (IANPHI) and supported by the G7 health ministers in a communiqué, national public health institutes have a key role to play in climate change mitigation and adaptation [1, 2]. Nutrition and mobility are particularly relevant in this context, as health-promoting behaviour in these fields simultaneously aids climate protection, as does the transformation to sustainable and resilient (public) health systems. Within the framework of the German Strategy for Adaptation to Climate Change (DAS), health is an important topic when considering effective and sustainable measures for dealing with the climate crisis. Climate change affects many other fields that intersect with health, such as water management, construction or urban and regional development. Therefore, health-sensitive climate protection and climate adaptation require intersectoral cooperation and the continuous exchange between different actors in line with the ideas behind One Health and Health in All Policies [3, 4].

In this context, the German Status Report on Climate Change and Health is an important project that can help to address the health challenges of the climate crisis and

to strengthen the cooperation between different institutions and authorities. We, the leaders of public authorities in Germany working on public health issues, consider interdisciplinary and intersectoral cooperation to be a key prerequisite for best addressing the health challenges of climate change. This implies the need for innovative and cooperative collaboration between different sectors, not only at the municipal, state and federal level, but also in terms of exchange between these levels.


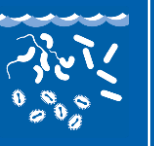
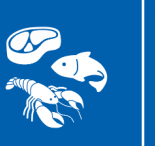



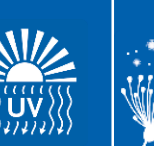



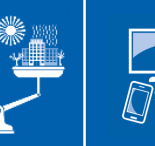


The German Status Report on Climate Change and Health 2023 is published in an article series in the Journal of Health Monitoring in three issues.

The first issue begins with an introductory article outlining the range of topics covered in the status report, and devotes four thematic articles to the influence of climate change on infectious diseases (vector- and rodent-borne diseases, waterborne infections and intoxications, foodborne infections and intoxications) and antimicrobial resistance.

In the second issue, six articles describe the influence of climate change on non-communicable diseases caused by heat and other extreme weather events such as floods, by increased UV radiation, by allergic diseases and by increased air pollution. The impact of climate change on mental health is also discussed.


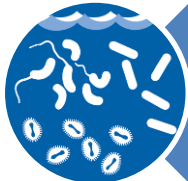


The findings from these first two issues are incorporated into the contributions of the final issue. They examine health equity with regard to the effects of climate change, highlight the importance of target group-specific climate

# Three-part series in the Journal of Health Monitoring

Part 1 – June 1, 2023					Part 2 – September 6, 2023						Part 3 – November 29, 2023		
Introduction	Vector-borne	Water-borne	Food-borne	AMR	Heat	Extreme weather	UV radiation	Allergens	Air pollutants	Mental health	Climate justice	Communication	Options for action
	Infectious diseases / AMR				Non-communicable diseases / Mental health								
													









## Key messages of the status report: Part 1

	Examples
 <p>Increasing temperatures, changing precipitation patterns, and human behaviour may influence the epidemiology of vector- and rodent-borne infectious diseases.</p>	Increase of tick-borne encephalitis risk areas in Germany: 129 risk areas (2007) to 175 (2022)
 <p>Climate change may lead to an increase in waterborne infections and intoxications.</p>	Non-cholera <i>Vibrio</i> (NCV) infections are more common in hot summers, which are becoming more frequent
 <p>An increase in foodborne infections and intoxications (e.g. via meat / seafood) is expected.</p>	Optimal temperature for <i>Salmonella</i> growth: 35 - 37 °C
 <p>Few studies available for Europe, but there are indications that the burden of diseases through antimicrobial resistance is increasing due to climate change.</p>	Surgical Site Infections after operations are more common in Germany in warm ( $\geq 20$ °C) than in cold months ( $< 5$ °C) months





## Key messages of the status report: Part 2

	Examples
 <p>In a worst-case scenario (RCP8.5), temperatures in Germany will rise by 3.0 – 4.2°C by the end of the century, compared to the reference period (1971 – 2000).</p>	<p>Significant numbers of heat-related deaths (18,800) were estimated for three consecutive years 2018 – 2020.</p>
 <p>An increase in extreme weather events is expected in Germany, with impacts on health ranging from injury and death to mental distress, amplified by cascading risks.</p>	<p>Until the end of the century, 3.7 million people annually may be affected by coastal floods in Europe.</p>
 <p>UV radiation can cause cancer. Individual exposure can change through climate change-related changes in atmospheric factors</p>	<p>Incidence in non-melanoma skin cancer has quadrupled in the last 30 years for men, quintupled for women in Germany.</p>
 <p>Climate change influences occurrence, frequency, and severity of allergic diseases.</p>	<p>Sensitisation to ragweed pollen is expected to increase to 25% in Germany by middle of the century.</p>
 <p>Climate change leads to increased air pollution. Health impact of air pollutants affect all organs of the human body.</p>	<p>Low air quality increases risk for cardiovascular disease, pulmonary, and respiratory diseases.</p>
 <p>There is international evidence indicating an increase in psychiatric disorders following extreme weather events.</p>	<p>Suicide risk may rise on days following high temperatures.</p>



## Key messages of the status report: Part 3



Environmental and climate issues cannot be considered in isolation from social justice issues.

### Examples

There are differences in exposure, biological sensitivity and adaptive capacity across different sociodemographic groups.



Perception of risk and type of media used correlate with Readiness to Act.

Health authority websites enjoy high level of trust but are not often used.



Recommendations and cost-effective strategies from preceding articles grouped into clusters and annotated into »options for action«



Journal of Health Monitoring
Climate change and public health in Germany – A synthesis of options for action from the status report on climate change and health
FOCUS

Journal of Health Monitoring · 2023 8(S6)  
DOI 10.25646/11774  
Robert Koch Institute, Berlin

Martin Mlinarić<sup>1</sup>, Susanne Moebus<sup>2</sup>,  
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Judith Schröder<sup>2</sup>, Julika Loss<sup>1</sup>,  
Ramona Moosburger<sup>1</sup>, Petra van Rühl<sup>6</sup>,  
Sophie Gepp<sup>7</sup>, Maïke Voss<sup>7</sup>, Wolfgang Straff<sup>8</sup>,  
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University Medicine Essen  
Institute for Urban Public Health

<sup>3</sup> University of Erfurt, Germany  
Institute for Planetary Health Behaviour

<sup>4</sup> Bernhard Nocht Institute for Tropical Medicine  
Health Communication  
Hamburg, Germany

<sup>5</sup> University of Augsburg, Germany  
Faculty of Medicine

<sup>6</sup> German Environment Agency  
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## Climate change and public health in Germany – A synthesis of options for action from the German status report on climate change and health 2023

**Abstract**

**Background:** This article represents the conclusion of the updated German status report on climate change and health, which was jointly written by authors from over 30 national institutions and organisations. The objectives are (a) to synthesise the options for action formulated in the report, (b) to combine them into clusters and guiding principles, (c) to address the success factors for implementation, and (d) to combine the options for action into target parameters.

**Methods:** The options for action from the individual contributions of the status report were systematically recorded and categorised (n=236). Topical clusters were then formed with reference to Essential Public Health Functions, and options for action were assigned to them.

**Results:** Eight topical clusters of options for action and ten guiding principles were identified. These can be summarised in four overarching meta-levels of action: (a) cross-sectorally coordinated structural and behavioural prevention, (b) monitoring, surveillance, and digitalisation (including early warning systems), (c) development of an ecologically sustainable and resilient public health system, and (d) information, communication, and participation. The main success factors for implementation are the design of governance, positive storytelling and risk communication, proactive management of conflicting goals, and a cross-sectoral co-benefit approach.

**Conclusions:** Based on the status report, systematically compiled target parameters and concrete options for action are available for public health.

This is part of a series of articles that constitute the German Status Report on Climate Change and Health 2023.

CLIMATE PROTECTION · CLIMATE CHANGE ADAPTATION · PUBLIC HEALTH · CROSS-SECTORALITY · CO-BENEFITS · COMMUNICATION

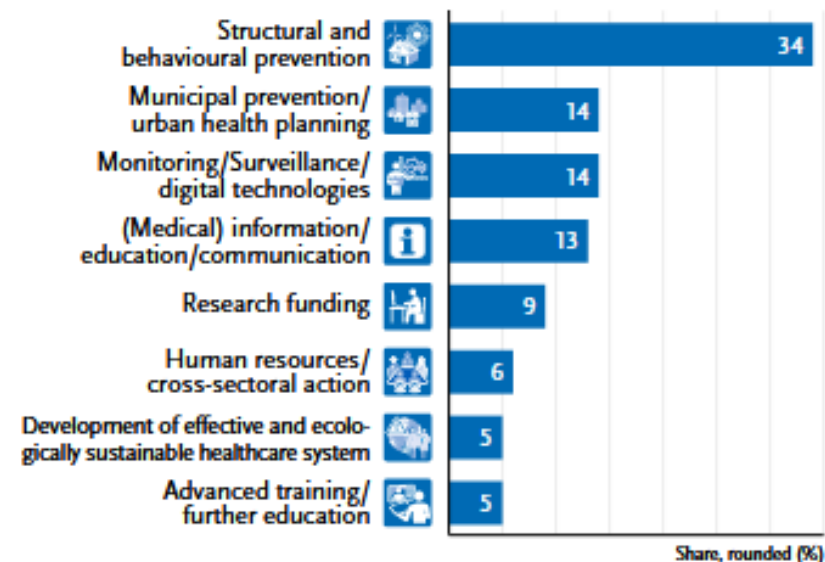
Journal of Health Monitoring 2023 8(S6)
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**Figure 2 (left)**  
**Topical clusters for n=62 options**  
**for action in the area of infectious diseases**  
**and antimicrobial resistance**  
 Source: Own representation



**Figure 3 (right)**  
**Topical clusters for n=174 options**  
**for action in the area of non-communicable**  
**diseases/mental health**  
 Source: Own representation

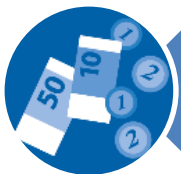




## Options for action – main take home messages



Governance: development of legal frameworks for coordinated structural and behavioural prevention in line with Health-in-All-Policies approach



Provision of human and financial resources for the implementation of cost-effective structural and behavioural prevention



Surveillance at the local, state, and federal levels: climate, environment, and health monitoring → focus on aspects of social equity



Evidence-based and target group-oriented education, information, and communication measures + participation of affected and involved groups

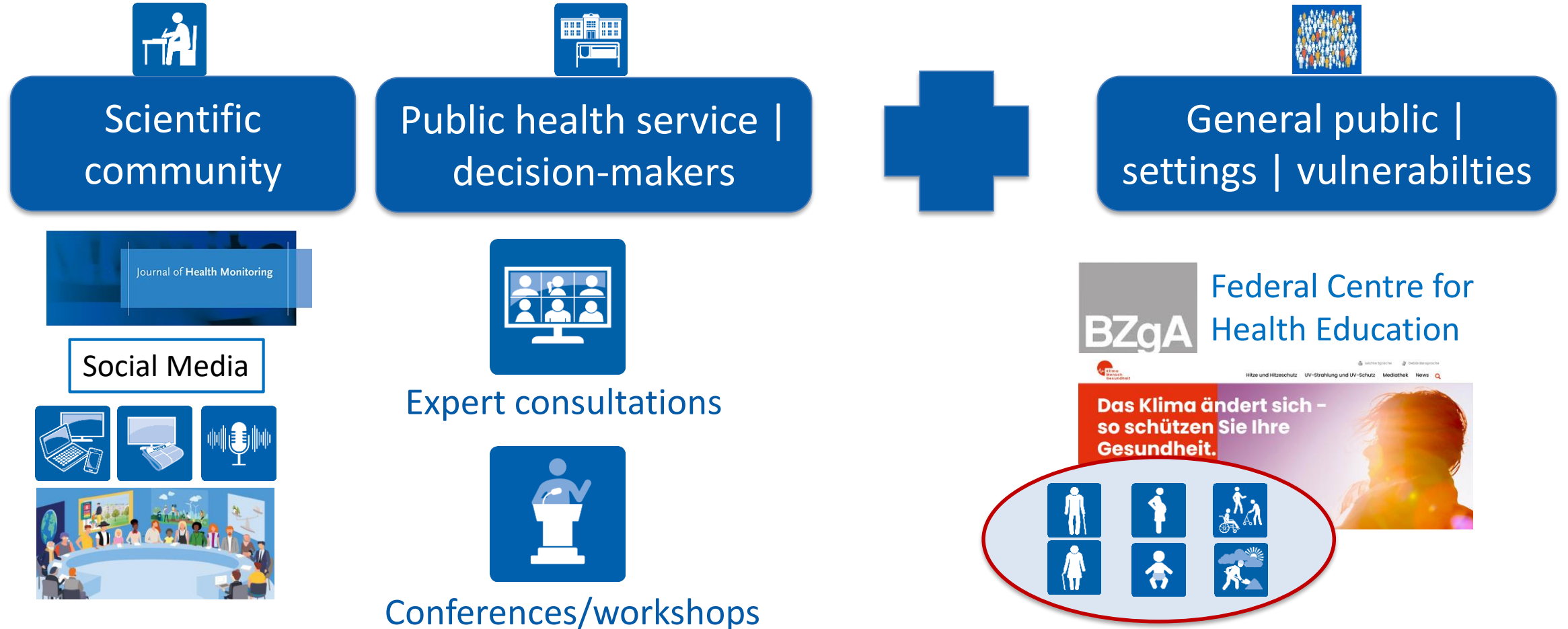


## Success factors for implementation

1. Design of Governance (policies)
2. Positive storytelling and risk communication
3. Proactively managing conflicting goals and resistance
4. Cross-sectoral co-benefit approach



# Target groups and means of communication







## Consultations with representatives from local authorities

- Three **online expert consultations** in collaboration with CPHP
  - Focus on **relevant topics** from the status report
  - **Good practices** from municipalities (focus »ÖGD« – health service sector)
  - Opportunity for **participation and refinement** of options for action
  - **Networking** and discussion amongst actors at the municipal level
- + an **online survey** to provide evaluation and feedback on the local needs





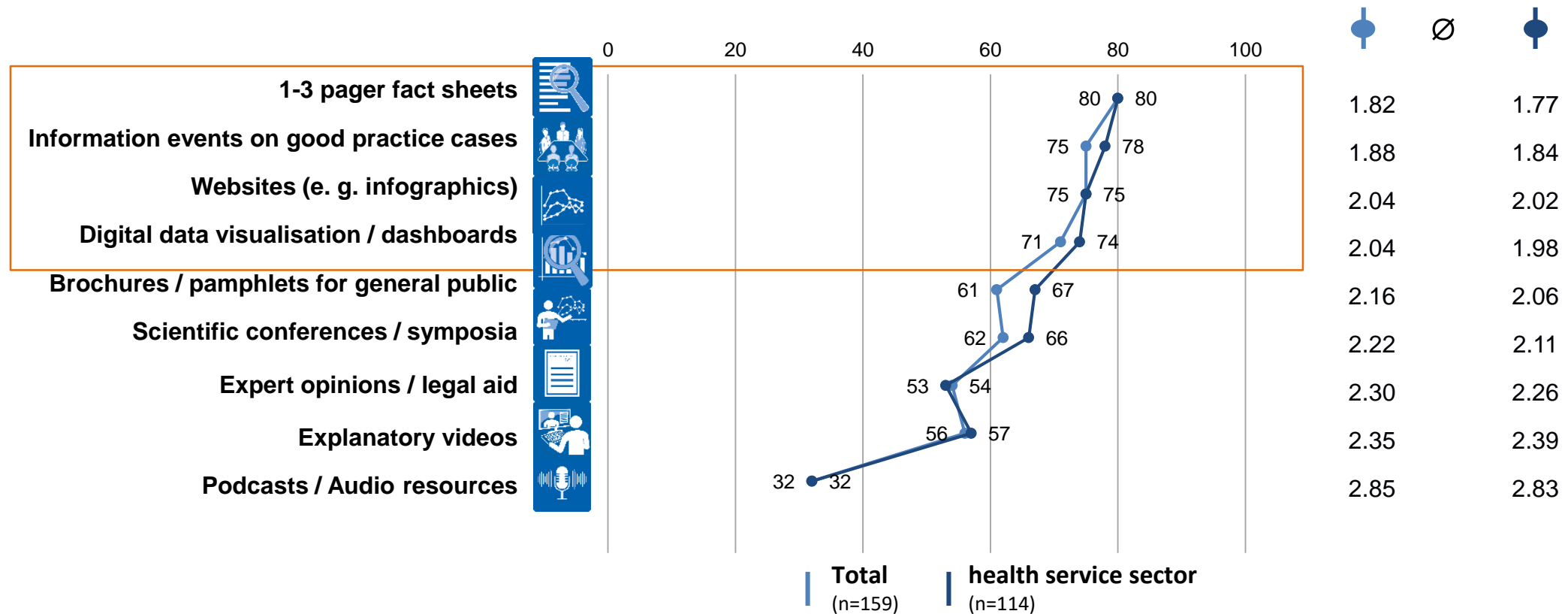


## How could your current and future activities be supported?





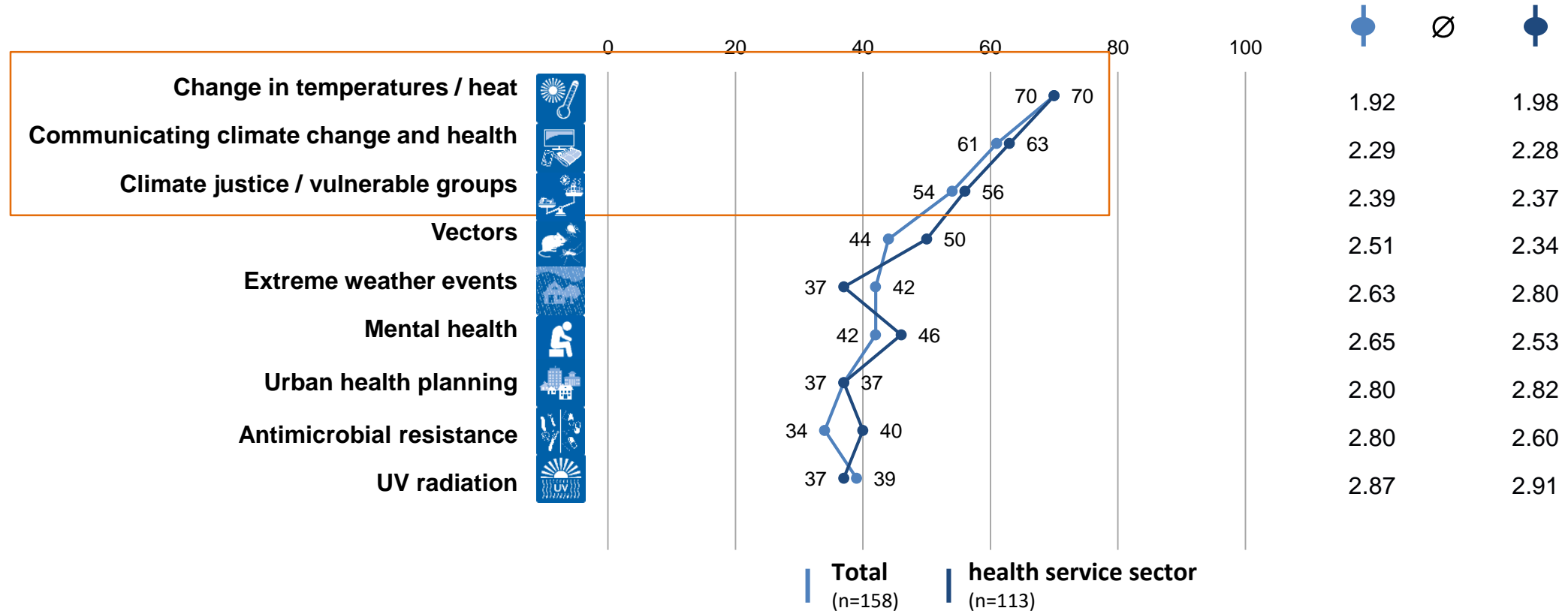
# Which resources would be useful for your work?



n=159, answers given as percentages, sorted by mean value, depicted as Top 2 Box (useful/very useful)



# Which aspects are currently significant for your work?



n=158, answers given as percentages, sorted by mean value, depicted as Top 2 Box (important/very important)



## What's next?

- Developing the **network** of authors and experts
- Developing and monitoring **indicators** regarding climate change, the environment and health
  - “RKI panel” → new health survey from 2024
- Looking at **other countries**: Who is publishing similar reports and **what can we learn from them?**
  - e.g. CDC, UKHSA, RIVM, ...

# Thank you for your attention

- Pls: Hildegard Niemann, Thomas Ziese
- Contact us at [climatehealth@rki.de](mailto:climatehealth@rki.de)
- **[www.rki.de/climatereport](http://www.rki.de/climatereport)**



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India

ORGANIZATION AND  
EXPERIENCES IN  
PLANNING AND  
IMPLEMENTING WORK  
RELATING TO CLIMATE  
CHANGE AND PUBLIC  
HEALTH IN INDIA AT THE  
NATIONAL CENTRE FOR  
DISEASE CONTROL (NCDC)



Organization & experiences in planning  
& implementing work relating to  
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National Centre for Disease Control

## Vision

- Prime Minister's Council on Climate Change (2008)
- Mission on Health (2014)
- National Expert Group on Climate Change & Health (2015)
- National Programme on Climate Change and Human Health, NCDC, MoHFW (2019)



# National Programme on Climate Change and Human Health

Goal: to reduce morbidity, mortality, injuries and health vulnerability to climate variability and extreme weather events

## Key objectives

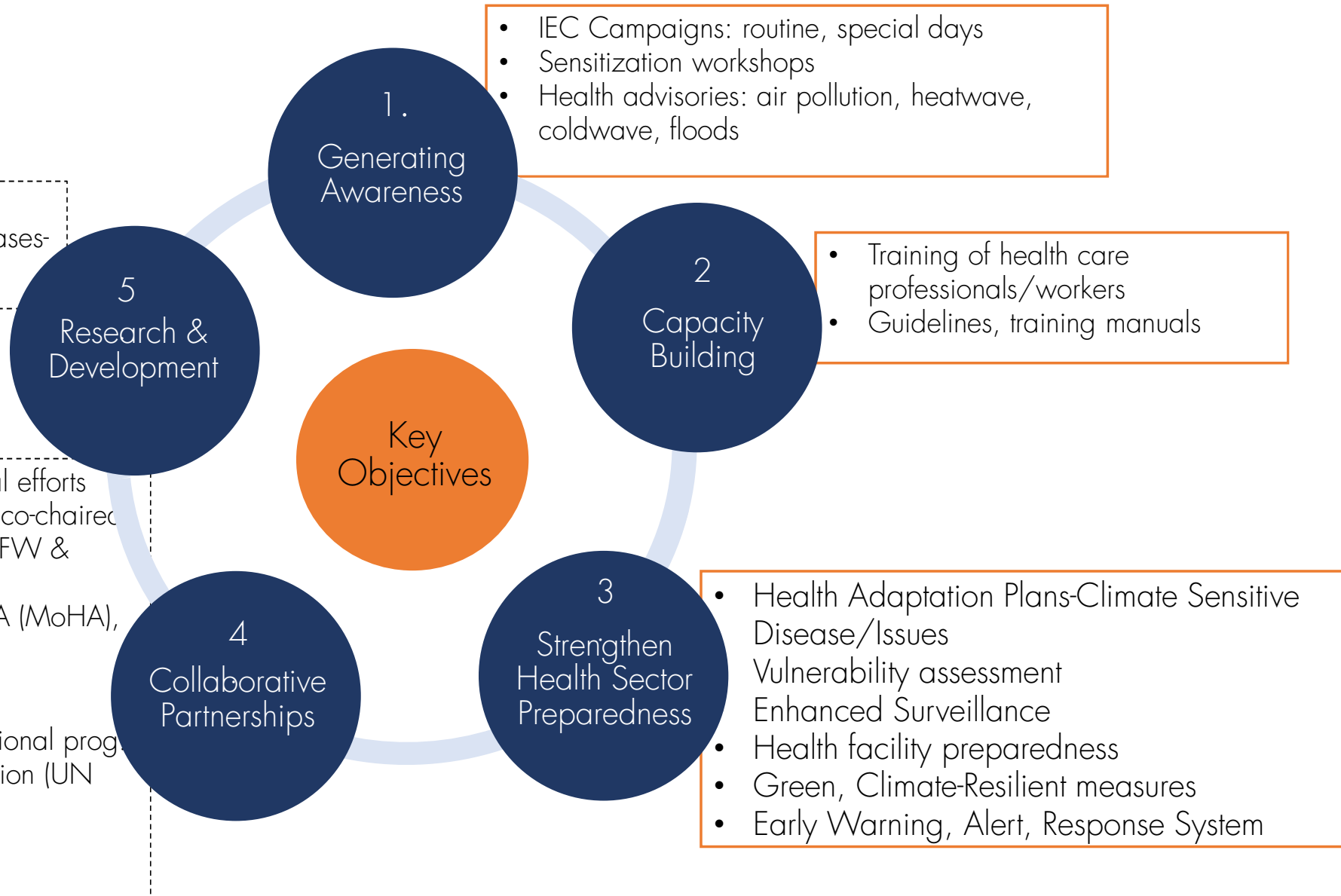
1. Promoting general awareness
2. Capacity building of health care workforce
3. Strengthen health sector preparedness
4. Collaborative partnership
5. Steering research & development



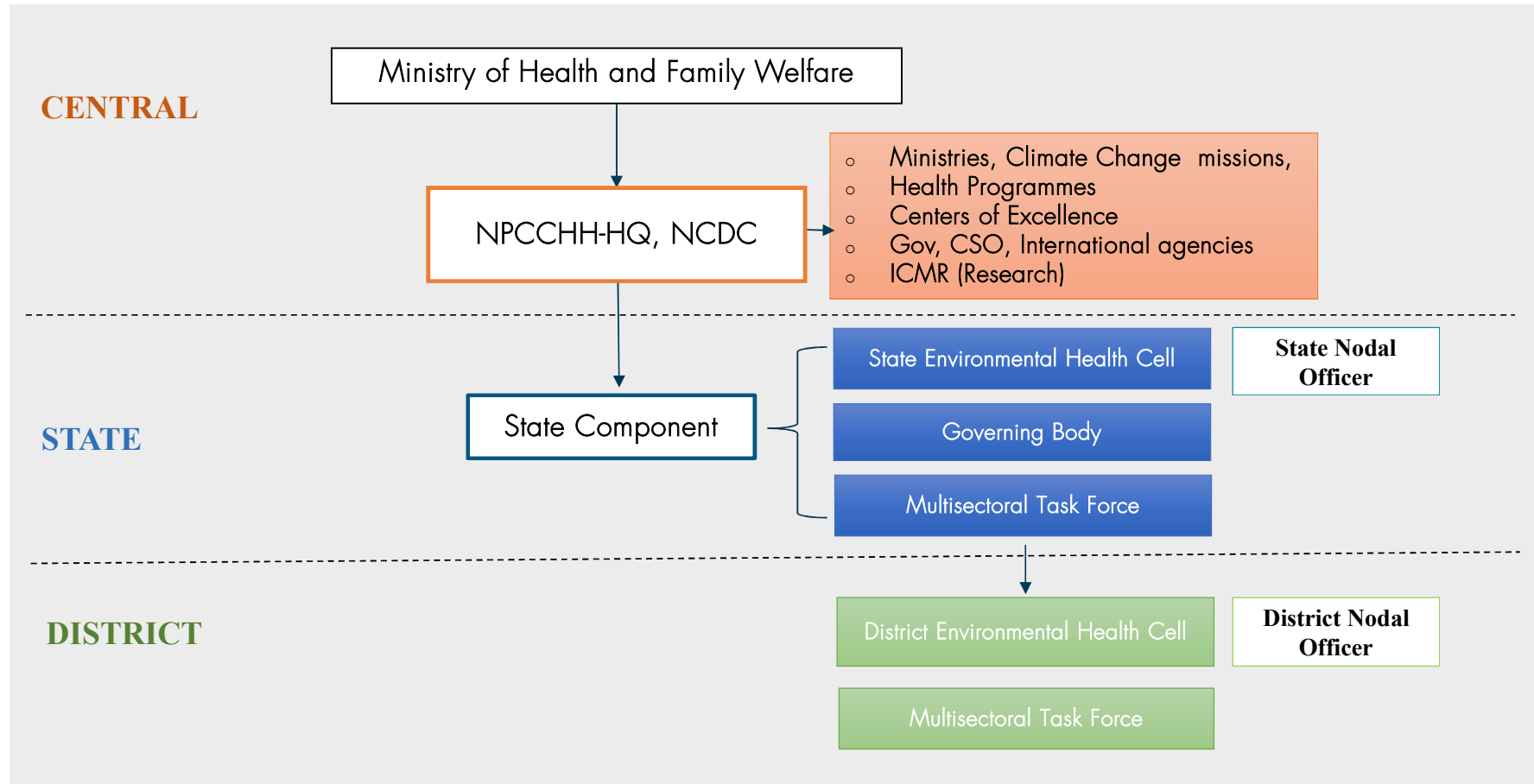
- Steering research on Climate Sensitive Diseases with ICMR

- Synergizing Inter-Ministerial efforts
- Steering Committee co-chaired by Secretaries MoHFW & MoEFCC
  - IMD (MoES), NDMA (MoHA), JJM (MoJS)

- Collaboration:
- Other missions, National prog.
  - Nat., Int. Organization (UN agencies)



# Organizational Framework



## Climate Sensitive Illnesses & Health Issues



Heat related Illnesses (HRI)



Air pollution related illnesses



Green and Climate resilient health infrastructures



Extreme weather events



Vector-borne diseases



WASH/Water-borne diseases



Vulnerability needs assessment



Mental health



Nutrition related diseases, Food security



Allergic Diseases,  
Cardio-pulmonary diseases



Occupational Health



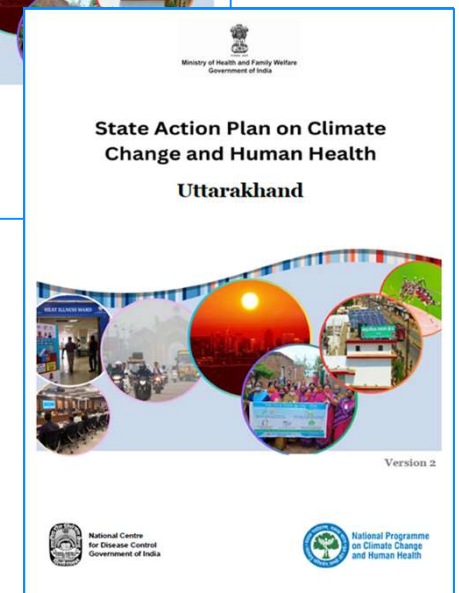
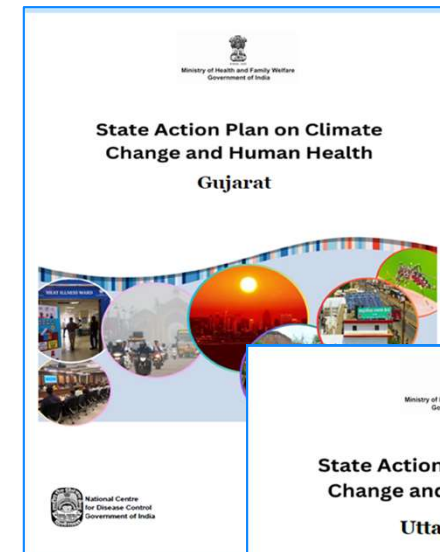
Zoonotic diseases



Regional-specific Illnesses

## Health Sector Adaptation

- Health Action Plans: State, District
- State, district task force: multi-sectoral engagement
- Integrated, digital environment-health surveillance
  - Nat. Outdoor Air and Disease Surveillance
  - Nat. Heat-Related Illnesses & Death Surveillance
- Health facility preparedness
  - Heatstroke rooms



## Health Sector Climate Mitigation

- Energy efficiency
- Energy transition: Solar power
- Rainwater harvesting
- National Hospital Energy Consumption Survey

## Multi-sectoral Coordination

India Meteorological Department

- Meteorological data sharing, joint analyses

National Disaster Management Agency

- Review of heat preparedness

Central Pollution Control Board

- Air quality data sharing

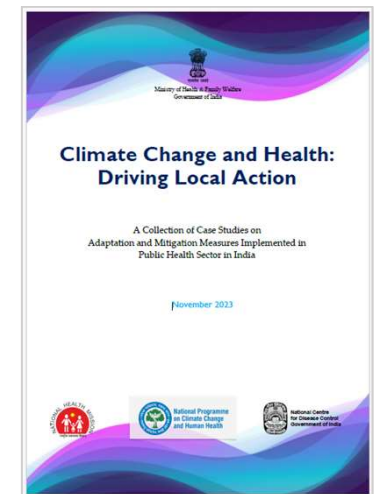
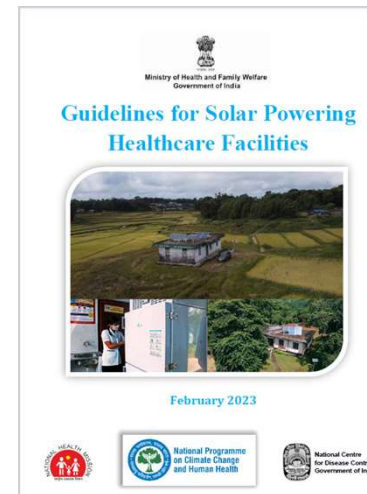
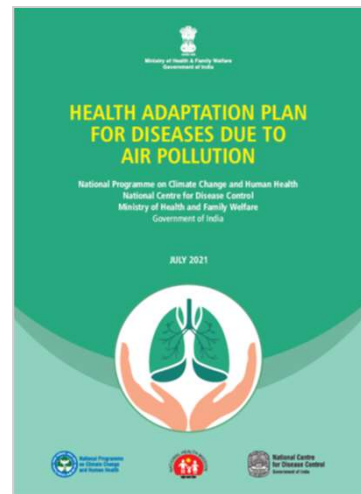
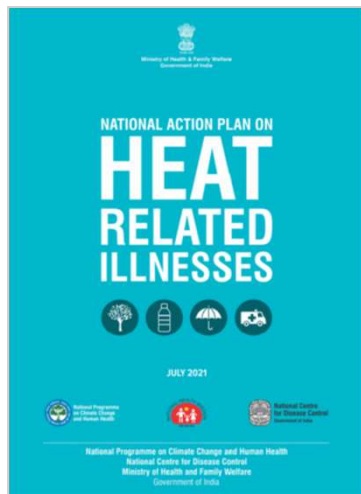
National Institute of Solar Energy

- Health facility solarization

Ministry of Environment, Forest & Climate Change

- Joint committee

# Guidelines & Resources





# Emerging Models

## Health-Centric Response to Extreme Heat: Gujarat

### Ahmedabad Heat Action Plan

- Temperature-mortality based early warning, action thresholds
- Multisectoral engagement

### Health facility preparedness

- Heat-illness wards & ORS corners

### Health surveillance

- Highest reporting coverage

### Active community awareness and support measures

## Flood-resilient Health Facilities: Kerala

Climate vulnerability assessment-based retrofitting and rebuilding of health facilities

### Structural measures

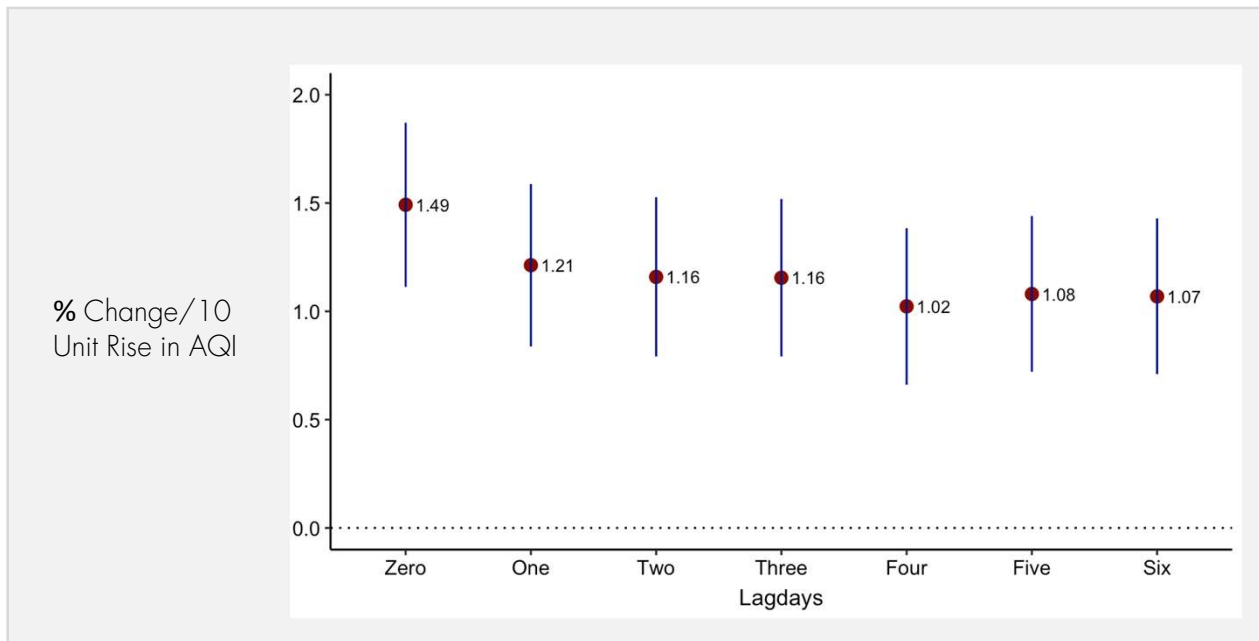
- Grill integrated compound wall
- High entrance, ramps, tiled walls
- Additional floor

### Functional measures

- Multi-hazard health facility disaster preparedness & management plan
- Critical storage: Backup inverters, medical supply at top floor
- Shifting Provisions: records, drugs, equipments
- Early warning system

## National Outdoor Air & Disease Surveillance

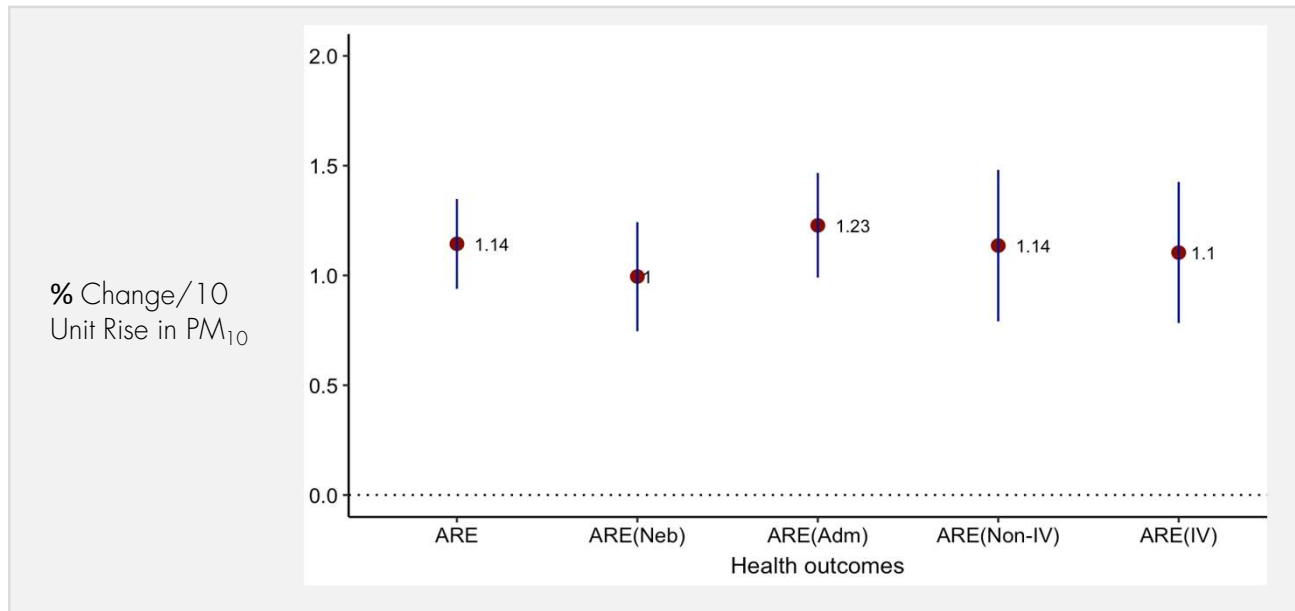
Percentage Change in Acute Respiratory Emergencies Reported with Daily Air Quality Index, Delhi, 2018–2022



- Launched in Delhi in 2017
- Sentinel site: Government Tertiary care hospitals (6)
- Daily tracking
  - Acute respiratory emergencies, respiratory internation
  - Air quality index (Central Pollution Control Board)
- With 10 unit rise in AQI, 1.5% rise in **Acute Respiratory Emergencies** on same day ( $p < 0.05$ )

## National Outdoor Air & Disease Surveillance

Percentage Increase in Acute Respiratory Outcomes with same day rise in PM<sub>10</sub>, Delhi, 2018-2022



ARE – Acute Respiratory Emergencies  
ARE (Neb) – ARE requiring Nebulization  
ARE (Adm) – ARE requiring Admission

ARE (Non-IV) – ARE requiring Non-Invasive Ventilation  
ARE (IV) – ARE requiring Invasive Ventilation

With 10 unit rise in PM<sub>10</sub>,  
> 1% increase in all measured  
Acute Respiratory Health  
Outcomes was observed on the  
same day ( $p < 0.05$ )

IANPHI

# ANNUAL MEETING

FEBRUARY 7-8, 2024 | KIGALI, RWANDA

HOSTED BY



Dr. Sébastien Denys  
Director of the Environmental and  
Occupational Health Division,  
Santé publique France, and Chair  
of the IANPHI  
Thematic Committee on Climate  
Change and Public Health

# CLOSING THOUGHTS AND REMARKS