

Understanding Risk and Predicting Health Outcomes



'If you can't measure it, you can't manage it'

Michael Bloomberg,
Risky Business 2014

Purpose of this session

- ▶ Overview of methods
 - ▶ Whats new
 - ▶ Whats useful?
 - ▶ What's missing?
- ▶ Input to GHHIN
 - ▶ Key messages
 - ▶ Research gaps and research barriers
 - ▶ What do we want from the network?

Session

part 1. Population based studies

Benjawan Tawatsupa	Association between temperature and health outcomes of population in Thailand
Francesco Chesini	Analysis of mortality during heatwaves 2013-2014 in Argentina
Joan Ballester	Recent trends in temperature, vulnerability and heat-attributable mortality in Europe
Peter Kim Sreatfield	Identifying and attributing heat effects in rural Bangladesh
Discussion.	

part 2. Physiological studies/Occupational health

Andreas Flouris	Impacts of occupational heat strain on health and productivity: systematic review
Ollie Jay	Should electric fans be used in a heatwave?
Jason Lee	Meta-analysis to evaluate the effectiveness of heat injury reduction measures
Discussion	

part 3. Studies on heat perceptions and behaviour

Lam Holly	Personal heat protective measures during the 2017 heatwave in Hong Kong: A telephone survey study
Ashley Ward	Identifying and engaging with groups vulnerable to heat risks.
Discussion	

part 4. Key messages

Key messages

Types of evidence

- ▶ Epidemiological studies
 - ▶ Demographic surveys
 - ▶ Longitudinal studies.
 - ▶ Routine data [mortality, hospital admissions]
- ▶ Field studies
 - ▶ Behaviours
 - ▶ Work outcomes
- ▶ Lab studies
- ▶ Perception surveys
- ▶ Qualitative research
 - ▶ Impacts, acceptability, barriers to uptake

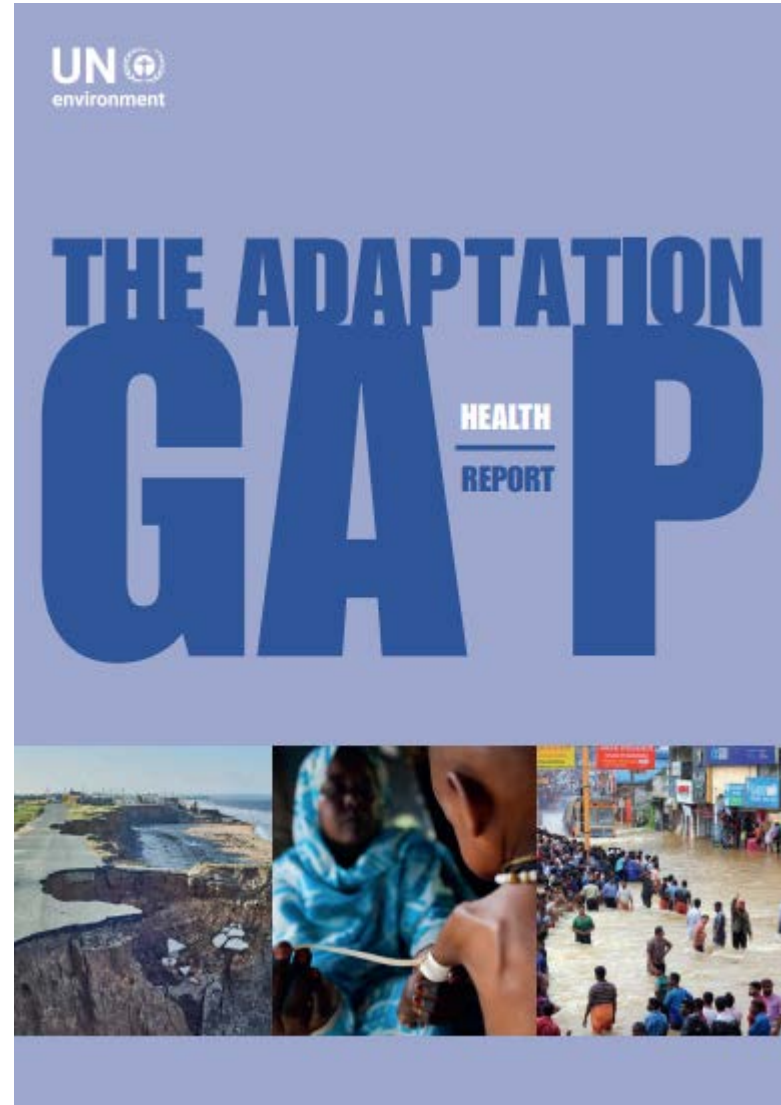
Knowledge gaps

- ▶ What do we know?
 - ▶ Multiple outcomes/mechanisms
 - ▶ New methods
 - ▶ Scale - individual, household, community, city, country, region, global
- ▶ Regions/countries
- ▶ Determinants/risk factors
 - ▶ Social factors
 - ▶ Housing/built environment
- ▶ What do we need to know - how to provide evidence for heat planning/protection
 - ▶ Burdens - how big is the impact? What is the cost?
 - ▶ High risk groups- who is most affected, who would benefit from intervention?

ADAPTATION GAP FOR HEAT AND EXTREME EVENTS

Research priorities

- DEFINITIONS OF HEAT AND EXTREME EVENTS
- OUTCOME METRICS FOR THE HEALTH IMPACTS OF HEAT AND EXTREME EVENTS
- RISK ASSESSMENT AND MANAGEMENT OF THE HEALTH IMPACTS OF HEAT AND EXTREME EVENTS



Key Messages

- ▶ Key advances-{what is new}
 - ▶ [Population studies, physiological studies, heat behaviours/surveys]
- ▶ Key evidence gaps {What more to do we need to know that is relevant for policy}
 - ▶ geographical regions
 - ▶ outcomes
 - ▶ heat planning
- ▶ Opportunities and Proposed Actions {e.g. contributions put forward, e.g. we are already doing X, and will include and share with GHHIN partners}
- ▶ Recommendations for GHHIN {What should we focus on doing and making happen}

Key messages..

- ▶ Improved characterisation of impacts [cf. excess deaths]
- ▶ Costs of events
- ▶ Occupational heat strain should be recognised as a global public health problem.
- ▶ Research to date shows that one out of three individuals working in hot conditions experiences high levels of hyperthermia or more serious pathological symptoms of heat illness, such as acute kidney injury, nausea, or fainting.
- ▶ The impacts of occupational heat strain are not limited to health. They also include productivity. Of those individuals who work under heat stress, 30% report productivity losses. On average, productivity declines by 2.6% for every degree increase beyond 24°C WBGT.
- ▶ Concerted international action is needed to mitigate its effects in light of the occurring climate change and the anticipated rise in heat stress.
- ▶ Establishing a surveillance system for occupational heat stress, which will provide a basis for public health policy, health-care planning, and resource allocation for occupational heat strain prevention.

Future of GHHIN...

- ▶ Training needs
 - ▶ Epidemiological methods?
- ▶ Science meetings.
- ▶ Next forum - 2020
- ▶ International collaborations
 - ▶ MCC - multi city.
 - ▶ MOMO -?
 - ▶ ?
- ▶ ?? Exchanges/secondments
- ▶ Access to evidence- depositary of stuff..