

# Public Health & Climate Change



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# Health Impacts of Climate Change

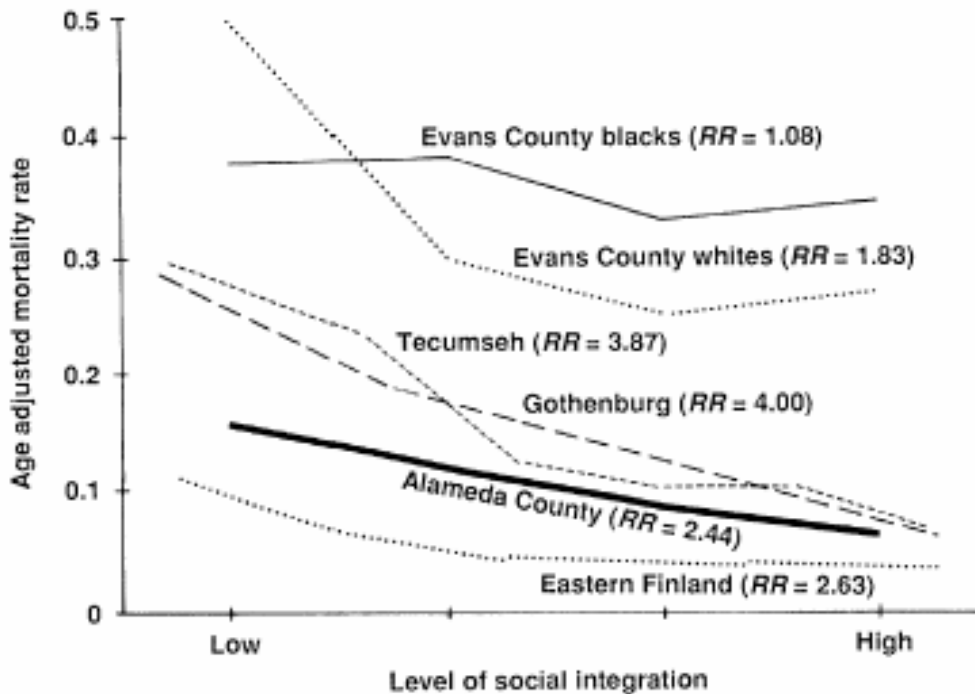
- ✓ Increased heat waves and shifts in urban air quality
- ✓ Vector born diseases
- ✓ Range and seasonality of infectious diseases
- ✓ Rising sea levels and extreme weather events = dislocation, environmental refugees = global security issue
- ✓ Threatened food supply, release of toxins into environment
- ✓ Decrease in water quality



# Heatwaves

- ✓ Greater risk for heat stroke
- ✓ Vulnerable populations & health inequalities
- ✓ Shifts in ground level ozone

# Social Networks & Illness



**Fig. 1.** Level of social integration and age-adjusted mortality for males in five prospective studies. *RR*, the relative risk ratio of mortality at the lowest versus highest level of social integration.

Social network measures:

Marriage, contact with friends and family, church membership and formal/informal memberships

9 year prospective study

Berkman and Syme in

House et al 1988.



# Vector Born Disease

- ✓ Dengue, malaria, west nile virus, others
- ✓ Differential exposure on a global level
- ✓ Some unexpected byproducts - spraying may cause chronic disease, drug resistance



# Extreme Weather Events



- ✓ Injuries and death
- ✓ Long term psychological problems
- ✓ Increased infectious disease
- ✓ Contaminated water supplies



What is the current state of adaptation measures and what are the impediments to developing more effective policies?

# Adaptation Measures

Health outcome	Legislative	Technical	Educational	Cultural and Behavioural
Thermal	Building guidelines	Housing, public buildings, urban planning to reduce heat island effects, air conditioning	Early warning systems	Clothing, siesta
Vector-borne diseases		Vector control, Vaccination, impregnated bednets. Sustainable surveillance, prevention and control programs	Health education	Water Storage practices
Water borne diseases	Watershed protection laws Water quality regulation	Genetic/molecular screening of pathogens. Improved water treatment (e.g., filters). Improved sanitation (e.g., latrines)	Boil water alerts	Washing hands and other hygiene behavior. Use of pit latrines

Source: Watson et al, 2001: 261.



# Adaptation Measures



- ✓ Federal versus city-level
- ✓ Existing:
  - ✓ Heat warning systems
  - ✓ Insurance industry
  - ✓ Research on emergency management

# Political Freeze



- ✓ Lack of recognition of CC as a reality
- ✓ Institutional fragmentation
- ✓ Complexity of problems
- ✓ Scientific norms prohibiting false positives  
slow assertive policy recommendations (Myhr  
& Traavik 2004)
- ✓ Difficulty creating a public/scientific/political  
dialogue about health impacts (Kovats et al.  
2005)

# Scientific Uncertainty



- ✓ Range of potential extreme weather events that are difficult to calculate
- ✓ Difficulty linking projections with specific illness outcomes
- ✓ Characteristics of scientific pursuits themselves; consequent need for cross-disciplinary collaborations



How is the situation changing?

# Public Concern



- ✓ Lack of scientific consensus leads to public contention
- ✓ Usually about mitigation, not adaptation
- ✓ “Framing” - process through which social movements reorient experiences and events of constituents into a new interpretive schema
- ✓ That is changing...

# Climate Justice Framework



- ✓ 10 points developed in “The Climate Justice Declaration”
- ✓ Main foci: accountability of polluters, the participation of affected people in policy-making and inclusion of inequalities in *planning for climate change health outcomes* (Cordova et al. 2005).



# Just Adaptation?



- ✓ Paavola & Adger (2005) - how to make adaptation fair?
  - ✓ 1) avoid dangerous climate change
  - ✓ 2) forward looking responsibility
  - ✓ 3) putting the most vulnerable first
  - ✓ 4) equal participation of all

# Overlapping w/ Scientific Findings



- ✓ Urgency regarding interventions
- ✓ Importance of health inequalities in US and globally

# Opportunity for “Destabilization”



- ✓ Policy-making a cyclical process of scientific study, resultant interpretation of science, & political decisions that act on it (Brown et al. 2006)
- ✓ “destabilization...must be formed at a moment when change is possible, when people are producing different meanings in many other areas of life” (Haraway 1989: 303)



# Complexity of Problem

- ✓ Norgaard (2005)- “collectively seeing complex systems”:
  - ✓ 1) building global circulation models w/ basic physical principles,
  - ✓ 2) integrating models that were built to understand economic and ecological systems separately,
  - ✓ 3) assessments reports for scientists and policymakers,
  - ✓ 4) network of scientists advancing scholarship/models based on each other’s work