The Impact of Water on World Health

Teaching Water:
Global Perspectives on a Resource in Crisis

August 5, 2013

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Roadmap

1. Introduction to HGHI
2. What is ‘global health’?
3. Water in the white space
4. Global responses to the water crisis
5. Final messages: Bringing it home
6. Q&A
Working for a more equitable world of health
It's not about fixed borders and static processes, but fluid populations and dynamic policies; not about serving others somewhere else, but about us, together, working for the well-being of all.

Reframing The Future
We face a global health paradox: in a world where technological advances in everything from cell phones to cellular microbiology have touched lives everywhere, there has never been as broad a divide in health status...more

New & Newsworthy
Knowledge for the Public Good
When it comes to research and development (R&D) for health technologies, whether for pharmaceuticals, diagnostics, or other devices, there is often a gap between where investments are directed and the point of greatest need. To address these challenges in health R&D, the World Health Organization established read more.

Global Health Resources
- Harvard Schools
  Gateways to global health commitments at every Harvard school...more
- Institutes & Centers
  Multi-disciplinary partnerships with global health ambitions...more
- Affiliated Hospitals
  Hospital-based global health centers and clinical training programs...more

News Feed
- Designing a cleaner future
- In pursuit of science
- Avoiding the digital ‘flock’
- Healthy menus for people and planet
- Reflections on justice delayed

more
In the suburb of Chelsea, residents stocked up after a main break rendered water in the area undrinkable.
What is ‘global health’?
Global Health: Conceptual Foundation

What is ‘global health’ not?
Global Health: Conceptual Foundation

What is global health not?

• It is not “international health”
• It is not foreign health
• It is not health of the poor
• It is not communicable diseases
• It is not about risks moving from South to North
• It is not about solutions moving North to South
“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

-Preamble to the Constitution of the World Health Organization
‘Global health’ or ‘world health’ refers to the health of all populations in the world, regardless of nation, state, geographical position or stage of development. It includes an interdisciplinary set of challenges involving health determinants (social, political, economic), collections of health problems, and the societal responses to both. Global health is inclusive of population-level policies as well as individual approaches to health promotion and pays special attention to the needs of the most vulnerable populations.
Population-level of Analysis

Refers to all populations in the world, regardless of nation state, geographical position or stage of development

- National populations
- Migrants
- Populations of failed or fragile states
- Refugees and displaced populations
- Victims of humanitarian crises
- Victims of human rights violations
How do we define ‘global health’?

The defining characteristic that makes global health ‘global’ is its central concern with the interconnectedness among populations, the principle of health as a fundamental human right for all people in the world, the transfer of health risks across national borders, and the consequences of globalization on evolving patterns of health, disease, and social determinants. A core component of the HGHI global health agenda—more equitable conditions for health and more equitable access to health services—underlies our focus on disparities between and within countries, including those in our own communities.
Global Health: Core Concepts

Interdependence

Inequalities among and within populations

Population-level of analysis
Global Health: White Space

Conditions
- Infections, Malnutrition, Maternal-Child Health
- Chronic Diseases and Injuries
- Global Transfer of Risks
  - Environment (water, climate)
  - Movement across borders
  - Adoption risky lifestyles
  - Variable standards/regulations
  - Consequences of technology
  - Trade in harmful products

Determinants
- Environmental
- Population
- Biological
- Social Organization
- Wealth
- Social Stratification
- Occupational Structure
- Redistribution Mechanisms
- Working Conditions
- Living Conditions
- Lifestyles
- Healthcare System

Biomedical Research | Delivery Health Services | National Health Systems | Instruments of Social Policy | Innovations From Other Sectors | Global Health System
“Water Changes Everything”
State of the World: Big Picture

**Transitions**
- Demographic Transition
- Population Growth
- Urbanization
- Health Transition
- Inequities

**Global Risks/Forces**
- Geopolitical Risk/Conflict
- Climate Change
- Natural Resource Scarcity
- Economic Inequality
- Weak Governance

**Opportunities**
- Scientific Progress
- Technology
- Telecommunications
- Information Systems
- Systems Thinking/Analysis
Global Transfer of Health Risks

• Environment (water, climate change)
• Movement people across national boundaries
• Adoption of risky lifestyles across cultures
• Variable standards/regulations (e.g., occupational, safety)
• Consequences of technology spread (e.g., resistance)
• Trade in harmful products, legal (tobacco) or illegal
Which global trends impact the water-health equation?

Population dynamics
Urbanization
Poverty
Climate change
Globalization
Trade and investment policies
Intensification of agriculture

How is human wellbeing influenced by water and sanitation provision?

Lack of access to safe water and adequate sanitation are the leading causes of morbidity and mortality, particularly amongst children.

It is estimated that diseases resulting from poor water, sanitation and hygiene account for almost 10% of the total global burden of illness.

Source: UNU-INWEH, 2008
900 million people live without access to safe water supplies.

Source: UNU-INWEH, 2008
2.5 billion people live without access to improved sanitation.

Source: UNU-INWEH, 2008
Diseases with the largest water, sanitation and hygiene contribution in 2000:
Fraction of the total global burden of disease in DALYs

- Schistosomiasis
- Trachoma
- Intestinal parasitic infections
- Lymphatic filariasis
- Malnutrition (only PEM)
- Drownings
- Malaria
- Consequences of malnutrition
- Diarroheal diseases

*Values estimated from WWDR 2012, p.725
Improved access to clean water can reduce diarrhea and waterborne diseases by at least 25%; improved sanitation is accompanied by more than a 30% reduction in child mortality.

How has the world responded?
In September 2000, 189 heads of state adopt **UN Millennium Declaration** to reduce poverty and hunger, ill-health, gender inequality, lack of education, access to clean water and environmental degradation.
1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality
4. Reduce child mortality
5. Improve maternal survival
6. Combat HIV/AIDS, malaria, other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development
Sanitation and Hygiene: Key Ingredients in MDGs

**GOAL 1**
Eradicate extreme poverty & hunger
Sanitation is essential for productive lives

**GOAL 2**
Achieve universal primary education
Sanitation enhances enrolment/retention

**GOAL 3**
Promote gender equality & empower women
Sanitation enhances women's dignity and ability to lead

**GOAL 4**
Reduce child mortality
Sanitation reduces morbidity/mortality

**GOAL 5**
Improve maternal health
Sanitation reduces pre and postnatal risks

**GOAL 6**
Combat HIV/AIDS, Malaria & other diseases
Sanitation prevents vector and water borne diseases

**GOAL 7**
Ensure environmental sustainability
Sanitation contributes to a clean and healthy environment

**GOAL 8**
Develop a global partnership for development
Sanitation calls for multisector partnerships

*Figure 1: Sanitation and Hygiene: Key Ingredients in MDGs (modified from Mehta and Knapp, 2004)*
United Nations International Year of Water Cooperation
Which research questions are essential, but unanswered globally?

• How can we better understand the social, political, cultural and economic systems through which water flows?

• What are the potential impacts of climate change on the distribution of and access to water resources?

• How can we integrate knowledge from the social, health, physical and other sciences to conserve natural systems, manage water properly, and protect and promote human health?

• What kind of data-driven models can we create to link provision of water and sanitation to human health and well-being to test the efficacy of policy interventions?

• How can we create a globally accessible platform that provides visual representation of vulnerability to specific diseases and water-related hazards to inform and empower all levels of civil society?

## Global Health: Responses

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FIGURE 10.2
Parties in the water dialogue space

Dialogue Space:
Where stakeholders meet to ensure there are no 'missing conversations'

Source: Adapted from Moss et al. (2003, p. 37).

Source: WWDR4, UNESCO, 2012
FIGURE 10.3
Value perspectives in the water dialogue space

Source: Adapted from Moss et al. (2003, p. 36).
“Water Changes Everything”
“Just as water is central to every aspect of life on earth, it must lie at the heart of the new vision we forge for sustainable development for the century ahead... [This] is a call to action – to strengthen mechanisms of global coordination, to improve national institutions and to weave the two levels more tightly together.”
Final messages

1. Water is essential to live and yet it is a limited resource that must be responsively governed.

2. We live in a globalized, interdependent world. The water crisis is taking place here at home as well as in resource-poor settings abroad.

3. We need to work together across disciplines to find solutions.

4. It starts with education. Educators have an important role to play in helping to emphasize the central importance of water in our everyday lives and in teaching conservation so that it becomes second nature.
A girl washes her hands in a UNICEF provided WASH facility in Port-au-Prince, Haiti

Source: UNICEF, 2012


