

Sustainability, Human Health and Well-Being: Introduction

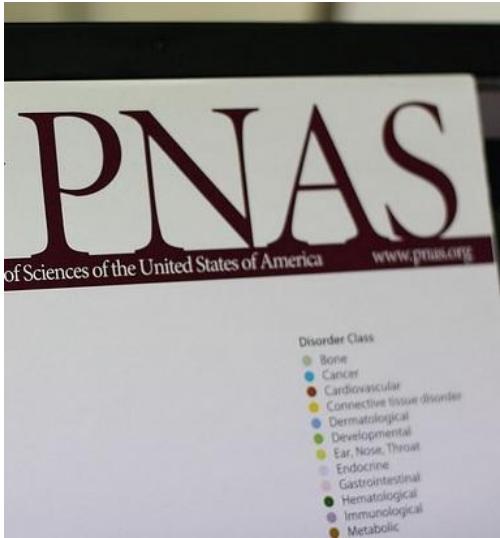
NAS Roundtable on Science and Technology for Sustainability
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Sustainability science and health



2007-11: of **308** papers published in *PNAS*
Sustainability Science section:

- Most on forests & crops, waterways & coastal systems, land use, nutrient cycles, energy production, ecosystem services
- Only **15** (<5%) papers directly and quantitatively focused on human outcomes:
 - 1 each on heat stress, kidney stones, Rift Valley fever, diarrhea, social vulnerability to natural hazards, cardiovascular disease
 - 2 each on pollution-related mortality, public health systems
 - 5 on parasitic diseases
 - (not counting 7 papers in a 2007 special issue on poverty and hunger)

Sustainability Science

Proceedings of the National Academy of Sciences of the United States of Amer

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About

PNAS has launched a section of the journal dedicated to sustainability science, an e research dealing with the interactions between natural and social systems, and with interactions affect the challenge of sustainability: meeting the needs of present an while substantially reducing poverty and conserving the planet's life support syste

Sustainability science and health

Search major medical journals on
“environmental sustainability” (2002-11)

-  The NEW ENGLAND JOURNAL of MEDICINE: 1 paper
-  JAMA[®]: 2 papers



The core concepts

Health:

“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

-WHO

Sustainability:

“harvesting or using a resource so that the resource is not depleted or permanently damaged”

-Merriam Webster

Public health:

“what we, as a society, do collectively to assure the conditions in which people can be healthy”

- IOM, *The Future of Public Health*

What's missing?

Sustainable development:

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

- WCED "Our Common Future"



The core concepts

Health:

“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

Public health:

“what we, as a society, do collectively to assure the conditions in which people can be healthy”

1. No time dimension
2. Limited sense of context
3. No mention of equity

The core concepts



1. No concept of health
2. Limited curb appeal
3. No mention of equity

Sustainability:

“harvesting or using a resource so that the resource is not depleted or permanently damaged”

Sustainable development:

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

Sustainable health

A state of complete physical, mental and social well-being, in physical, social, economic and political conditions in which people can thrive, with equitable access to those conditions, and achieved in ways that do not deplete or permanently damage needed resources, so that future generations can also enjoy such conditions.

Where do health and sustainability intersect?

- Buildings



- Transportation



- Urban design



- Nature



- Materials



- Energy



- Agriculture



- Preparedness



- Data



This session's agenda:

Domains of Sustainability with Health Implications

- Urban design



GEORGE
LUBER

- Transportation



RALPH
BUEHLER

- Energy



KIRA
FORTUNE

- Agriculture



DAVID
WALLINGA

The second session's agenda: Translation of Sustainability Science to Public Health

- Linking health agencies and organizations to sustainability
- Health Impact Assessment as a sustainability strategy

Themes to watch for

- How are (or aren't) health and sustainability compatible concepts?
- Can they be combined ("sustainable health")?
- How and where is "sustainable health" implemented?
- How can co-benefits be a) optimized, and b) quantified?
- How can health agencies and organizations engage with sustainability?

Thank you!

