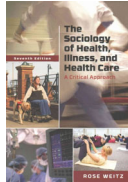


## Chapter 4:

### Illness and Death in the Less Developed Nations



What measures would you guess are used to determine whether a country is most, less, or least developed?

- Gross national income per capita (person)
- Diversity of economies with most developed nations having many different industries

Which countries are considered more developed? Less developed? Least developed?

- More developed: examples include: U.S., Canada, Western Europe, Japan
- Less developed: examples include: Brazil, China, India, Mexico
- Least develop: examples include: Haiti, Ethiopia, Afghanistan

How do more developed nations differ from less developed nations in terms of health?

- Health conditions are more likely to be chronic rather than acute (epidemiological transition of nations)
- More access to health care technologies
- Lower infant and maternal mortality rates
- Longer life expectancy
- Less poverty, malnutrition, disease

What factors contribute to malnutrition in less developed nations?

- the social distribution of food is unequal
- in non-democratic countries, a small group of people are in power and this small elite group controls the food resources
- typically the low-income and females have the least access to resources due to historical/cultural norms (patriarchy)
- Over population, density
- Poor sanitation increases Diarrheal diseases—loss of fluids
- Environment/climate change (how can this be?)

Typical day in Hong Kong or Beijing.



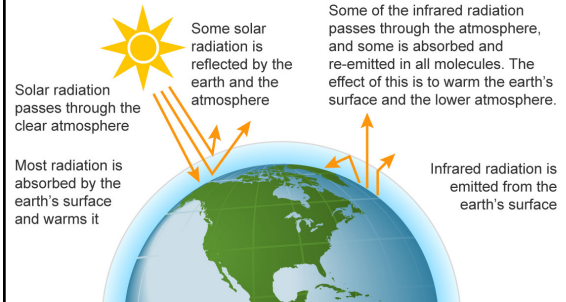
What would you guess is the basic cause of the climate crisis?

Increased temperatures around the world are causing global climate change.

What is causing the earth's temperature to increase?

The green house effect.  
What is this?

### The greenhouse effect



What are the effects of climate change?

How is it related to malnutrition and other health issues, particularly in least developed nations?

- Climate change (i.e., warming of the earth, erratic weather) is having many effects
- Floods and earthquakes can reduce a person's assets (money) to barely livable; destroy businesses and the jobs associated with them
- Sewage systems can be destroyed leaving untreated sewage and undrinkable water, producing gastrointestinal disease
- Less food is grown with less land available (deserts are being created)

Typically, there is enough food produced throughout the world but it is not distributed equally

In some socialist countries, there has been a redistribution of resources which has assisted low-income citizens

China is a good example. While Weitz believes the communist government can ignore citizen cries for help, this isn't my experience or understanding.

What can result from malnutrition?

- Iodine deficiency causes brain damage
- Lack of vitamin A causes blindness and mental retardation (resulting from anemia/iron deficiency)
- One's immune system is weakened resulting in greater chance of disease

When considering the various diseases found more often among lesser developed nations, how is HIV/AIDS related to tuberculosis?

HIV strains the persons immune system to the point that other diseases can not be "fought off" such as tuberculosis (a disease within the lungs)

How would you guess poverty, malnutrition and disease affect one another?

- Poverty creates malnutrition
- Malnutrition weakens one's immune system which increases the chance of disease
- Disease reduces one's chances of working pushing one into poverty

What factors can cause the spread of infectious diseases in lesser developed nations?

- sexual partners (including intercourse, oral, anal sex) and concurrent sexual partners
- childbearing women to their babies
- use of needles (e.g., heroin)
- prostitutes (fostered by labor migration in less developed nations)
- access to treatment (women less likely to have access)
- labor migration as workers must migrate to find work
- travel

Why is diarrhea dangerous in least developed nations? What causes it and what are its effects?

- people die from dehydration and electrolytic imbalance; also leads to malnutrition that then leads to disease
- in less developed nations—second leading cause of death of children under 5
- Lesser developed nations lack the resources (or have them but choose not) to provide medicines to kill the bacteria causing diarrhea


The use of infant formula in less developed countries is deadly for babies with an estimated 13% of all infant deaths due to the manufactured formula.

Can you guess why?

- the formula is not as nutritious as breast milk (lacks mother's antibodies)
- the formula is in powder form and must be mixed with water and put in a bottle. The water and bottle are often contaminated. Unless boiled, they will often cause infections.

What causes diarrhea beyond contaminated water used with powdered baby food/formula?

- caused by infections, bacteria, parasites
- ingesting contaminated water or foods; insufficiently cooked food; lack of sanitation (e.g., sanitary toilets)




Chronic disease is found most often in more developed nations but it is increasingly found in lesser developed nations. **Why?**

becoming more common in less developed nations (China, India, Brazil, Mexico) due to tobacco and alcohol use, obesity

**Why is having a chronic disease in a less developed nation more troublesome than in a developed nation?**

There is less access to treatment



**What are the most common serious health issues in more developed nations?**

- heart disease
- stroke and other cardiovascular diseases (involves heart and blood vessels)
- cancer

**What are the most common diseases in the least developed nations?**

- lower respiratory infections (e.g., pneumonia; acute bronchitis)
- HIV/AIDS
- Diarrheal diseases (e.g., lack of sewage systems, defecating outdoors)



**What are the advantages of building a dam in a less developed nation?**

- provides electricity
- Provides water to cities; international factories more attracted to area
- Irrigation for farming

**What are the disadvantages of building a dam in a less developed nation?**

- flooding and destroying the agricultural fields of rural citizens
- plagues of water born diseases

## Village Sustainability and Health of the Rural Chinese Elderly

### Examining the CHARLS Pilot Study of a Rich and Poor Province

(Dale Yeatts, Xiaomei Pei, Cynthia Cready, Yuying Shen, Hao Luo)

### Purpose of Research

- To examine the relationship between village characteristics and the health of the rural Chinese elderly
- Characteristics include environmental, economic, and social conditions important to village sustainability

### Methods:

- There were 74 Villages included in the study. The variable, "village", was treated as a random effect (used STATA software, its "cluster" command allows for this control)



### Results:

Gansu (poor province) and Zhejiang (rich province)  
comparison of means—statistically significant differences  
on dependent and most independent variables such as:

	Zhejiang	Gansu
Av. # of physical limitations	1.2	3.2
% with no physical limitations	49%	21%
coal used in at least one household in village	16%	90%
has sewage system	53%	06%

### (Results continued)

	Zhejiang	Gansu
per capita village income 3000+ yuan (\$500)	89%	13%
household monthly expenses 1500+ (\$250)	66%	36%
Av. # programs for seniors	1.7	0.3
NCMS started 2005 or later (new cooperative medical scheme)	24%	89%
peasant paid 11+ yuan for NCMS	84%	10%

### (Results continued)

- Factors affecting health in Gansu:  
(negative binomial regression based on 1.0)
  - Environment: has village sewage system  
(IRR=.68; or 32% less likely to have health problems)
  - Social: married (IRR=.73);
  - control variables: male (IRR=.77);  
60+ years (IRR=1.58);  
education (IRR=.74)

### Conclusions/Policy Implications

1. New Cooperative Medical Scheme seems to be working since it is associated with fewer health limitations, suggesting the program should be maintained
2. villages located in more rural and remote locations such as those in Gansu should be provided the means to obtain sewage systems

### Conclusions/Policy Implications

3. A moratorium on coal in the home would contribute to better health
4. increasing activity centers for seniors and organizations for the elderly could result in fewer health limitations

Epigenetic transformation -- you are what your grandparents ate: Pamela Peeke at TEDxLowerEastSide  
<https://www.youtube.com/watch?v=Udlz7CMLuLQ>

Kids Try Their Grandparent's Childhood Favorite Food | Kids Try | HiHo Kids  
[https://www.youtube.com/watch?v=xk8PdL\\_PdSo](https://www.youtube.com/watch?v=xk8PdL_PdSo)

Why Families in Europe Are Sending Elderly Relatives To Care Homes in Thailand (show at least 11 mins.)  
<https://www.youtube.com/watch?v=P5WaZTPJtGY>

Aged care workers reveal what it's really like inside nursing homes | Four Corners (hidden camera showing the problem)  
[https://www.youtube.com/watch?v=IQZqpLo\\_cHo&t=906s](https://www.youtube.com/watch?v=IQZqpLo_cHo&t=906s)

31

"Doctors and Nurses" documentary film on health workforce (7:50)

<https://www.youtube.com/watch?v=HPaMwIkx2PA>

India: The reality of healthcare in developing countries (5:07)

<https://www.youtube.com/watch?v=VAT27Zzoktc>

Health care in India (5:57)

<https://www.youtube.com/watch?v=IsMfQ8xcylQ>

Identify changes you think would contribute most to improving the health of people in the less developed nation?

Identify three *selfish* reasons why Americans (individuals, corporations, government, voluntary organizations) should care about illness and death for *less* developed nations?

How are the effects of natural disasters amplified by the political and economic conditions in less developed nations?

[Kahoot](#)

<https://create.kahoot.it/#login?next=>