Chapter 12

보건의료의 국제적인 이슈들

A. Global Health Issues

전염병(Communicable diseases) continue to be a major source of morbidity and death in the developing world.

The problem of transmission of communicable diseases is heightened by greater mobility of people and goods and Services (인적 물적 교류의 증대).

The control of communicable diseases can be thought of as an “international public good” particularly as treatment in one geographical region may promote drug-resistant strains of the disease that affect populations in other parts of the world.

A. Global Health Issues

Percentage of Disease Burden by Region, 2008

Cause	World (%)	Low-Income Countries (%)	High-Income Countries (%)
Tuberculosis	**2.4**	**2.9**	**0.3**
HIV/AIDS	**6.1**	**9.7**	**0.7**
Malaria	**2.7**	**4.5**	**0.0**
Cancers	**5.3**	**2.9**	**14.4**
Cardiovascular Diseases	**10.3**	**7.7**	**16.4**

A. Global Health Issues

Percentage of DALY Losses due to Communicable Diseases, 2006

Region	Percentage
Established Market Economies	**9.7**
Sub-Saharan Africa	**71.3**
Asia (excluding China and India)	**48.0**
China	**25.3**
India	**50.5**
Latin America	**42.2**
Middle Eastern Crescent	**51.0**

B. Immunization and Prevention

1. Prevention vs. Treatment

   The new field of economic epidemiology studies the direct costs of disease and such considerations as whether the disease, if contracted, is likely to lead to death, immunity, or recovery and further susceptibility.

For instance, people who live in regions where malaria-carrying mosquitoes are heavily concentrated tend either to die when very young or develop immunity.

Therefore, young children and adult outsiders are most at risk of infection. For these two high-risk groups prevention is very important.

B. Immunization and Prevention

2. The Economics of Vaccinations

The problem of externalities is important. Externalities associated with immunization involve positive externalities, but externalities of communicable disease transmission are negative.

Private markets are likely to fail where externalities exist as a significant problem.

Individual decision making (of consumers) depends on both prevalence of disease and price of the vaccine.

Lack of continuing demand will tend to discourage pharmaceutical companies from spending resources developing and marketing vaccines.

B. Immunization and Prevention

Tomas Phillipson introduced the concept of prevalence elasticity:

$$\frac{\%\ \text{change in demand for vaccinations}}{\%\ \text{change in prevalence rate of the disease}}$$

The hazard rate is defined as the propensity to be infected with a disease. It is a function of prevalence.

- When the hazard rate falls to a certain critical level, people may not bother to get immunized unless the government makes it mandatory, even if the price of vaccines is subsidized.

In situations where vaccinations are voluntary, the prevalence elasticity can be used to determine what proportion of the population will choose to be vaccinated.

B. Immunization and Prevention

3. The Emergence of Multiple-Drug Resistant Diseases (MDRs)

A world-wide problem, these new forms of disease may be created, at least in part, by some forms of treatment.

The use of drugs may cause an organism to mutate. MDRs are often promoted by using the wrong medications.

- Example: Using chloroquinine as opposed to artemisinin compounds to treat malaria.

MDRs are also promoted by incorrect use of the correct drugs (using them too frequently, not taking full dosages).

B. Immunization and Prevention

Two problems that public health officials are concerned with in the U.S., as well as in the world of developing nations:

- monitoring drug use
- isolating people who have MDRs so as not to imperil others

MDR tuberculosis, which has emerged in the U.S. and elsewhere, is a particularly serious communicable disease because it is an “opportunistic infection” in many HIV positive individuals with compromised immune systems. It is often the immediate cause of death in AIDS patients.

C. Elasticity of Demand for Health Care

1. Price Elasticity of Demand

a) Low-income vs. High-income countries:

Note the remarkable similarity in coefficients of price elasticity of demand for medical goods and services in the U.S. and developing nations. (Compare tables in Chapter 13 with those in Chapter 2)

b) Low-income vs. High-income families: Experimental studies include the RAND China study and studies of Indonesia, Peru, etc. which make use of household-level micro data.

How does our understanding of demand theory enlighten our understanding of these results?

C. Elasticity of Demand for Health Care

2. Income Elasticity

a) Cross-country comparisons show health care to be a "superior good". (Income elasticity positive and >1).

b) Studies based on individual household data show coefficients of income elasticity of demand in the range of approximately +0.3 to +0.8.

These results are quite similar to findings on the U.S. and other developed countries. They also show health care to be a "normal good".