

Measuring Costs: The Economics of Health

ABSTRACT

Health organizations require money to operate, whether they are governmental, commercial, or donor operated. Economics is the study of use of money as macroeconomics (system-wide) and microeconomics (individual components). Many factors influence costs of health: limited resources, technology, changing disease patterns, population demographics, and prevalence of risk factors for chronic diseases. The study of health systems as market economies is confounded by many factors that limit consumer choices, including limitations in supply and allocation of resources, health promotion and disease prevention in reducing disease prevalence and costly hospital utilization. Recently, economists have applied game theory to management and policy for resource allocation. Innovations in organization of health care for more effective use of resources are a challenge in high-income countries and more so for low-income countries. Economic analysis, particularly in a recessionary period, is an essential part of the health promotion and public health planning process.

SUPPORT MATERIAL

Student Competencies: Transferable Knowledge and Skills

The following are points of emphasis highlighting key principles that public health graduates are expected to understand and apply into practice. The key points arise from this chapter and other studies in specialized courses, seminars, readings during public health education, and continuing education. The selected skills and knowledge are divided into two parts. The first consists of core questions pertaining to immediate student requirements, while the second refers to competencies essential for successful public health practitioners. These include competencies recommended by the American Public Health Association in 2007, as well as those of the European Association of Schools of Public Health and the Public Health Agency of Canada's 2008 Report on Core Competencies. For more detailed competencies please consult the Association of Schools of Public Health website at: <http://www.asph.org/document.cfm?page=851>

Part I: Core Questions

1. What is the importance of economic analysis of health care?
2. Which methods are used to assess the economic value of a health program or procedure?

3. Describe the advantages and disadvantages of financing health services for a registered or geographically defined population by:
 - (a) capitation
 - (b) categorical grants
 - (c) block grants
 - (d) fee-for-service.
4. Describe the advantages and disadvantages of payment for hospital services by:
 - (a) per diem
 - (b) per item of service
 - (c) diagnosis-related groups (DRGs)
 - (d) block budget.
5. Describe the advantages and disadvantages of payment for physician services by:
 - (a) fee-for-service
 - (b) capitation
 - (c) salary
 - (d) fundholding.
6. Which factors must be included in the cost of illness to an individual? A family? A society?
7. Which elements are included in cost-benefit analysis of a clinical or public health procedure?
8. Describe the advantages and disadvantages of the following:
 - (a) managed care
 - (b) district health systems.
9. Discuss cost-containment, resource allocation, priorities, and how to determine them in the context of universal health coverage.
10. What can be done to shift resources from excessive hospital facilities to improve community health services and health promotion?

Part II: Knowledge and Skills

1. Recognize the value and limitations of economic tools such as cost-effective analysis and cost-benefit analysis in planning and economic reasoning in the policy-making process for health care in your country and globally.
2. Recognize important issues in financial allocations within health systems.
3. Compare health economics in different countries with reference to externalities, the laws of supply and demand, and price elasticity.
4. Recognize the importance of financial incentives to health care providers to increase the efficiency and cost-effectiveness of the system (e.g., changing from a fee-for-service compensation method to capitation, diagnosis-related groups, and their influence on the overall health of a population).

TABLE 11.2 Estimated Child Deaths Globally, 2010

	Deaths 2010 (Millions)	Action Required
Neonates Aged 0–27 Days		
Preterm	1.078	Nutrition support during pregnancy, prenatal care, referral of high-risk pregnancies
Intrapartum complications including asphyxia	0.717	Skilled birth attendance in sanitary delivery, inhalation therapy facility and routine infant care
Sepsis or meningitis	0.393	Sterile delivery, vaccination, antibiotics
Pneumonia	0.325	Vaccination, antibiotics
Congenital abnormalities	0.270	Maternal multivitamins before and during pregnancy, folic acid before pregnancy, iodized salt, folic acid fortified flour
Other neonatal disorders	0.181	Routine vitamin K injection
Tetanus	0.058	Tetanus vaccination during pregnancy
Diarrhea	0.050	Clean water, breastfeeding, ORS
Children Aged 1–59 Months		
Other disorders, including congenital anomalies, pertussis, cancer, malnutrition	1.36	Breastfeeding, maternal folic acid and flour fortification, vitamins A, D, and iron supplements, vaccination, deworming
Pneumonia	1.071	Vaccination, early treatment of pneumonia
Diarrhea	0.751	Clean water, ORS, rotavirus vaccination
Malaria	0.564	Vector control, bed nets, case management
Injury	0.354	Parental education
Meningitis	0.180	Vaccination, antibiotics
AIDS	0.159	ART during pregnancy
Measles	0.114	Vaccination for herd immunity
Total	7.6	Health policy and primary care

Note: The estimates are within an uncertainty range of 2.5–9.75 percentiles.

AIDS=acquired immunodeficiency syndrome; ORS=oral rehydration salts; ART=antiretroviral therapy.

Source: Column 2 adapted from: Liu L, Johnson HL, Cousens S, Perin J, Scott S, Lawn JE, et al. Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000. *Lancet* 2012;379:2151–61. Available at: <http://www.jhsph.edu/departments/international-health/globe/summer2012/child-causes-of-death.html> [Accessed 28 November 2012].

- Understand how economics is combined effectively with other public health sciences including biostatistics, epidemiology, and disease modeling in the conduct of cost-effectiveness studies and other types of economic study.
- Assist in the conduct of economic evaluations related to new health interventions, health systems, health services, or public health interventions.
- Perform statistical and other analytical or modeling tasks necessary to complete cost-effectiveness analyses.
- Use economic theory to predict responses to revisions in policies and incentives provided by changes in government policy, the health system, health services provision, or public health.
- Assist with the content in the conduct of econometric analyses of changes related to policy and to perform data management and statistical tasks related to econometric analyses.

- Assist in the interpretation of results of all types of economic evaluation and analysis for policy purposes.

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