

10th Annual Meeting of the International Society of Technology Assessment in Health Care (ISTAHC). Baltimore, USA, 1994.

Health care expenditures and expensive medical technology: the paradox of low-income economy countries.

Lázaro P*, A Berra, S Luengo, JL Monteagudo.

Health Services Research Unit, Instituto de Salud Carlos III, Madrid, Spain.

Abstract

Background

Although medical technology is viewed as a key factor in determining health care costs, no many studies have addressed this issue. In addition little is known about the technology intensity for a given amount of available resources. To explore these factors, we performed a study on the distribution of five big ticket medical technologies (BTT) in the international context.

Methods

The study compares the distribution of Computed Tomography Scanners (CT), Magnetic Resonance Imaging (MRI), Extracorporeal Shock Wave Lithotripters (ESWL), Cobalt Units (CU), and Linear Accelerators (LA) installed across 28 countries (China, India, Mexico, the former Soviet Union and the 24 countries of the Organization for Economic Cooperation and Development (OECD) at the end of 1990. Data were collected from the multinational manufacturing industry, national and international institutions, and literature. Information was subject to reliability and validity analyses. We calculated the number of BTT units per million inhabitants (pmi) and per billion dollars of health care expenditures (phce).

Results

Japan and the United States lead the OECD countries in units pmi. The OECD means and standard deviations (SD) were the following: 11.5 CTs pmi (SD=10.5); 2.1 MRIs pmi (1.9); 0.9 ESWLs pmi (0.7); 1.8 CUs pmi (1.2); and 4.6 LAs pmi (2.0). The four non-OECD (low-income economy) countries studied had very low figures in terms of units pmi in comparison to OECD countries. The health care expenditures (HCE) per capita among OECD countries (mean=\$1,128; SD=\$462) was much greater than the figures of the former Soviet Union (\$145), Mexico (\$89), India (\$21) and China (\$11). In BTT units phce, Japan and Greece lead the OECD countries. The OECD means were: 10.2 CTs phce (8.7); 1.8 MRIs phce (1.2); 1.0 ESWLs phce (0.7); 1.8 CUs phce (1.2); and 2.4 LAs phce (1.1). The four non-OECD countries had more BTT units phce than OECD countries. For example, China had 26.5 CTs, 16.3 ESWLs, and 8.8 LAs phce, Mexico 2.1 MRIs phce, and India 4.7 CUs phce.

Conclusions

Although BTT tends to be concentrated in high-income economy countries, low-income economy countries devote to expensive medical technology a large fraction of their HCE in comparison to richer countries. As a paradox, the portion of HCE available for basic needs, such as preventive medicine or primary care, could be smaller in low-income economy countries than in high-income economy countries.

* Current Address: Pablo Lazaro y de Mercado. Tecnicas Avanzadas de Investigacion en Servicios de Salud (TAISS). Cambrils 41-2, 28034, Madrid. Spain. E-mail: plazaro@taiss.com.