2.4. Health-related R&D

Ageing is one of the major challenges facing OECD societies and economies in the next decades. Innovation can help to meet this challenge, by improving the performance of health systems and reducing their costs. Health-related research and development (R&D) provides a useful indicator of innovative efforts in this field.

In OECD countries in 2008, direct government support of health-related R&D based on government budget appropriations for R&D (GBAORD) was about 0.11% of their combined GDP. Direct support for health-related R&D represented over 0.22% of gross domestic product (GDP) in the United States, far above the levels for the European Union (0.05% in 2006) and Japan (0.03% in 2008). Since 2000, it has decreased only in Sweden.

The data on direct support for health-related R&D suggest that the United States accounts for around three-quarters of the OECD total. However, when data from additional GBAORD categories are used to adjust for institutional differences in the funding of health R&D, the picture changes. The United States is no longer an outlier: health-related R&D budgets relative to GDP approach that of the United States in a number of countries, notably owing to the important contribution of funding of medical science (through general university funds and non-oriented research). Sweden, with a relatively modest direct government budget for health-related R&D as a percentage of GDP, is a case in point.

Another indicator often used as a component of health-related R&D is R&D expenditure by the pharmaceutical industry. In 2006, it represented around 0.3% of GDP in Belgium, Sweden, the United States and the United Kingdom, and reached almost 0.5% in Denmark.

The share of pharmaceutical R&D in business sector R&D (BERD) is above 20% in Belgium, Denmark, Ireland and the United Kingdom, and over 40% in Hungary. While the ratio of pharmaceutical R&D to GDP is low in the Netherlands, Poland and Spain (less than 0.1%), this sector accounts for a significant share of total business sector R&D in the three countries (more than 10%).

Public funding of health R&D

Health-related R&D is difficult to measure owing to institutional complexity and diversity; it may be publicly or privately funded and be carried out in firms, universities, hospitals and private non-profit institutions. The government budget appropriations or outlays for R&D (GBAORD) can be broken down by socioeconomic objectives, such as the protection and improvement of public health, as defined by the *Frascati Manual* (OECD, 2002).

The GBAORD health category is used here as a proxy for total central government funding of health-related R&D. However, this category only covers programmes for which health is the primary objective. Furthermore, the classification of programme and institutional funding depends on how governments present their R&D priorities as well as on the formal mandate of the institutions concerned. Arrangements for funding R&D in hospitals also vary among countries.

To address some of the limitations mentioned above and to provide a more complete picture of health-related R&D, funding of medical sciences via non-oriented research and general university funds are included when available as are other relevant funds, notably general support for R&D in hospitals.

Sources

OECD, R&D Database, May 2009.

OECD, ANBERD Database, June 2009.

Going further

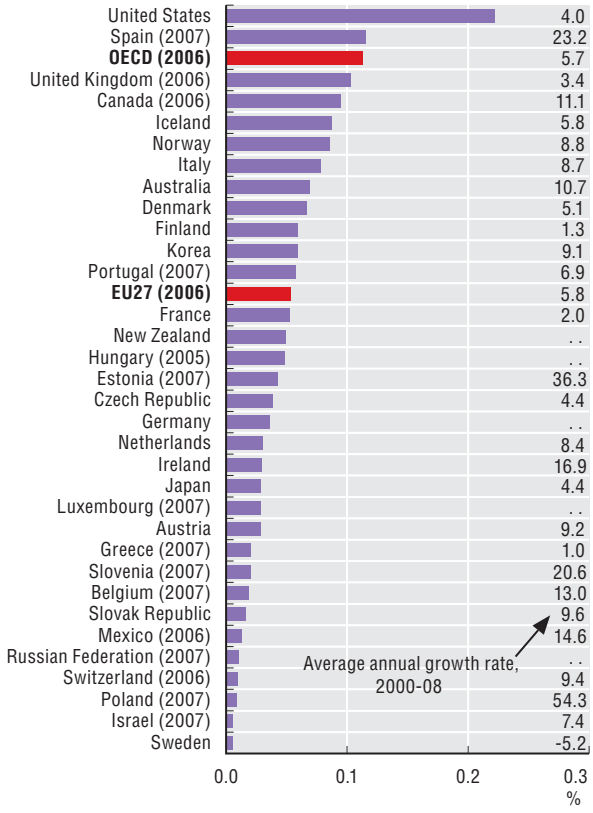
OECD (2002), *Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development*, OECD, Paris, *www.oecd.org/sti/frascatimanual*.

Figure notes

Growth rate for 2000-07 for Spain, Portugal, Greece, Slovenia, Belgium and Israel; 2000-06 for OECD, United Kingdom, Canada, EU27, Mexico and Switzerland; 2001-08 for Denmark; 2002-07 for Estonia; 2002-08 for the Czech Republic; 2004-07 for Poland; and 2005-08 for Norway.

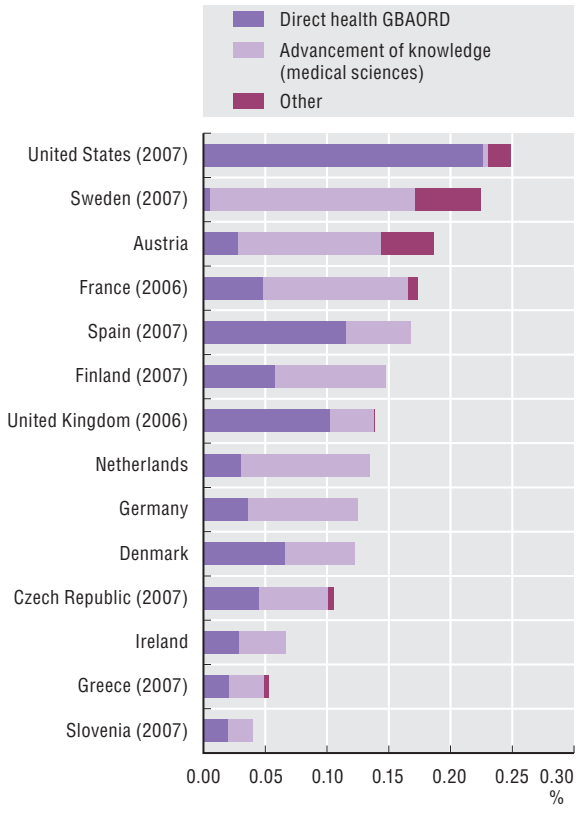
"Advancement of knowledge" comprises non-oriented R&D and general university funds, and "Other" includes other relevant national and international categories.

Health R&D in GBAORD as a percentage of GDP, 2008



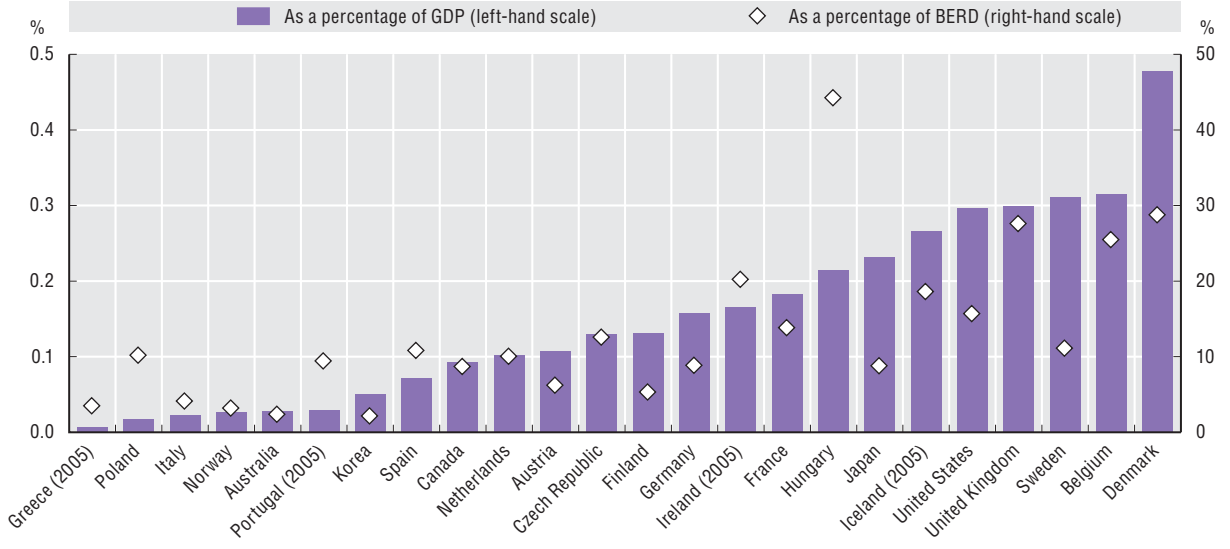
StatLink http://dx.doi.org/10.1787/743056803871

Direct and indirect government support for health-related R&D, 2008



StatLink http://dx.doi.org/10.1787/743084208765

R&D in the pharmaceutical industry as a percentage of BERD and of GDP, 2006



StatLink http://dx.doi.org/10.1787/743144573255