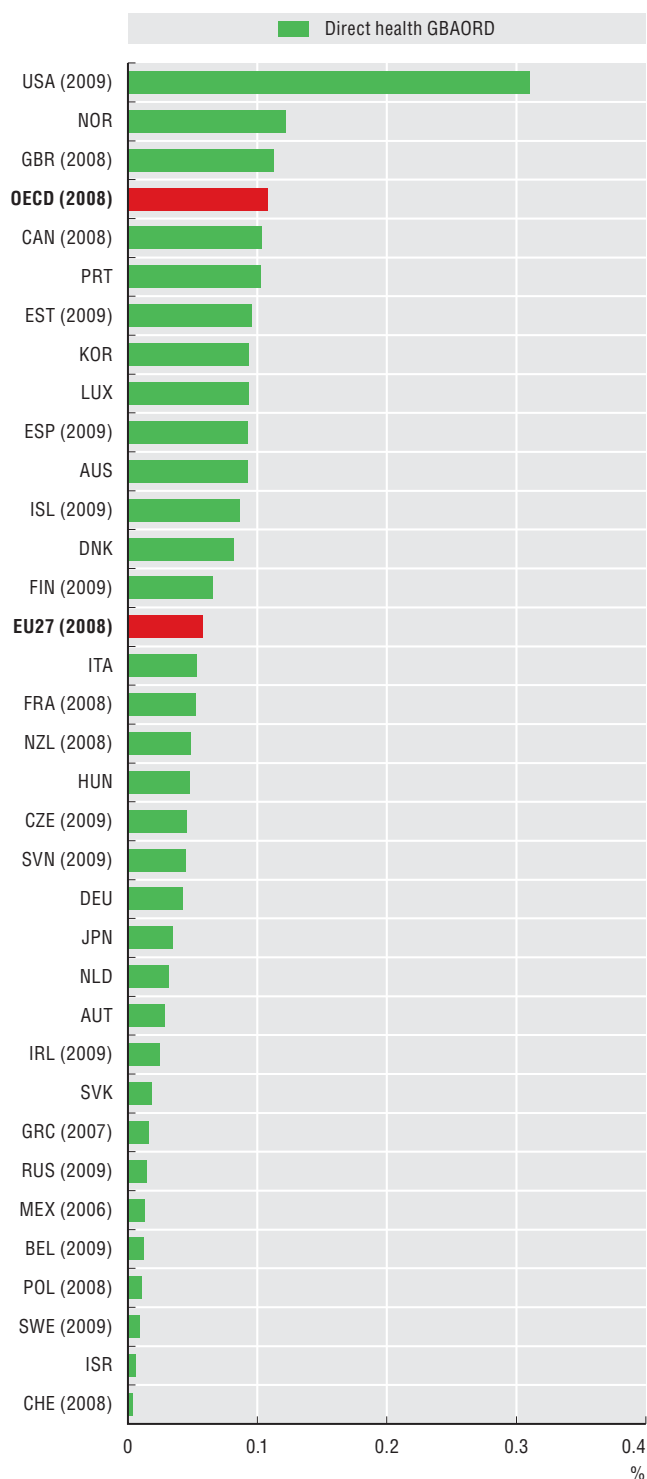


4. TARGETING NEW GROWTH AREAS

2. Health innovation

Health R&D in government budget appropriations or outlays for R&D, 2010

As a percentage of GDP



Source: OECD, Research and Development Database, May 2011.

StatLink <http://dx.doi.org/10.1787/888932486716>

OECD countries are faced with the health-care challenges of ageing populations and others, such as increasingly drug-resistant diseases and the risk of global pandemics. Innovation is a critical means of improving the capacity of health systems to address these problems while containing escalating costs. The public sector plays a significant role alongside business and non-profit organisations, by supporting R&D directly but also through the procurement of new treatments resulting from R&D. Government budget appropriations or outlays for R&D (GBAORD) indicate that direct government support of health-related R&D in OECD countries was about 0.1% of their combined GDP in 2008. The United States is by far the largest funder in both absolute and relative terms, at just over 0.3% of GDP spent on health R&D.

However, when data from additional information are used to adjust for institutional differences in the funding of health R&D, the United States ceases to be such a strong outlier. For example, Germany's health R&D goes from 0.05% to nearly 0.15% while for Austria it increases from 0.03% to 0.25% as a percentage of GDP.

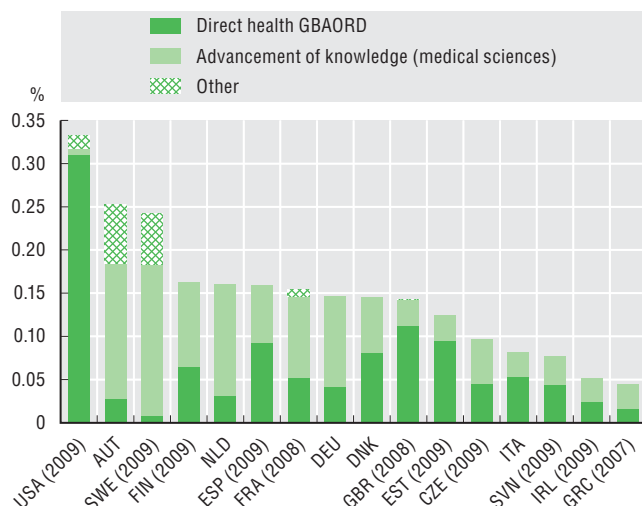
Filings for patents in medical technologies increased at an average annual rate of 5% in the 2000s, at the same pace as total patent applications filed under the Patent Cooperation Treaty (PCT), while pharmaceutical patents remained constant. In relative terms, patents in pharmaceuticals represented 7.5% of all patents in 2007-09, a severe drop from more than 11% in the late 1990s, whereas medical technology patents remained an average 8% of total patents. In the late 2000s, the United States led in health patenting, with more than 40% of health-related PCT patent applications. The BRIICS countries (Brazil, the Russian Federation, India, Indonesia, China and South Africa) made an increasing number of PCT filings in pharmaceuticals to reach more than 7% of all such patents.

Definitions

The International Patent Classification (IPC) was used to identify health-related inventions among patent applications filed under the Patent Cooperation Treaty (PCT) according to the technology classification presented in Schmoch (2008). *Patents in medical technologies* are defined by classes A61 [B, C, D, F, G, H, J, L, M, N] and H05G. *Patents in pharmaceuticals* cover class A61K, excluding Codes A61K8/* (cosmetics). Although medical technology is generally associated with high technology, it covers less sophisticated products and technologies such as operating tables, massage devices, bandages, etc. *Pharmaceuticals* are considered an area of application rather than a specific technology, even though the key sub-class A61K is primarily organised by technology (e.g. medicinal preparations containing inorganic active ingredients). For further details on the IPC, see the World Intellectual Property Organization (WIPO) website at www.wipo.int/ipcpub/.

Public funding of health-related R&D, 2010

As a percentage of GDP

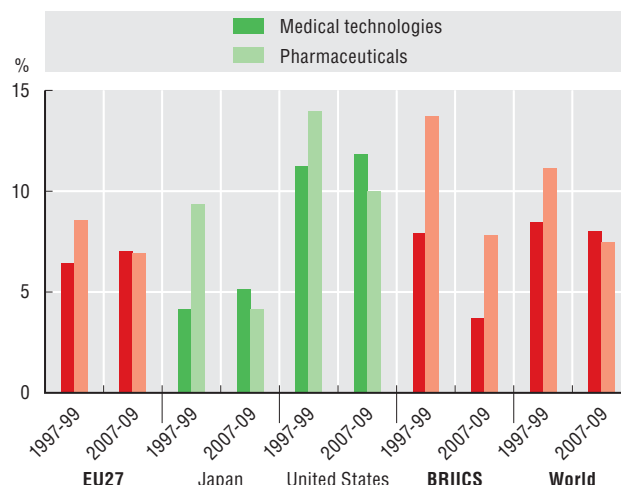


Source: OECD calculations based on the Research and Development Database and national sources, May 2011. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932486735>

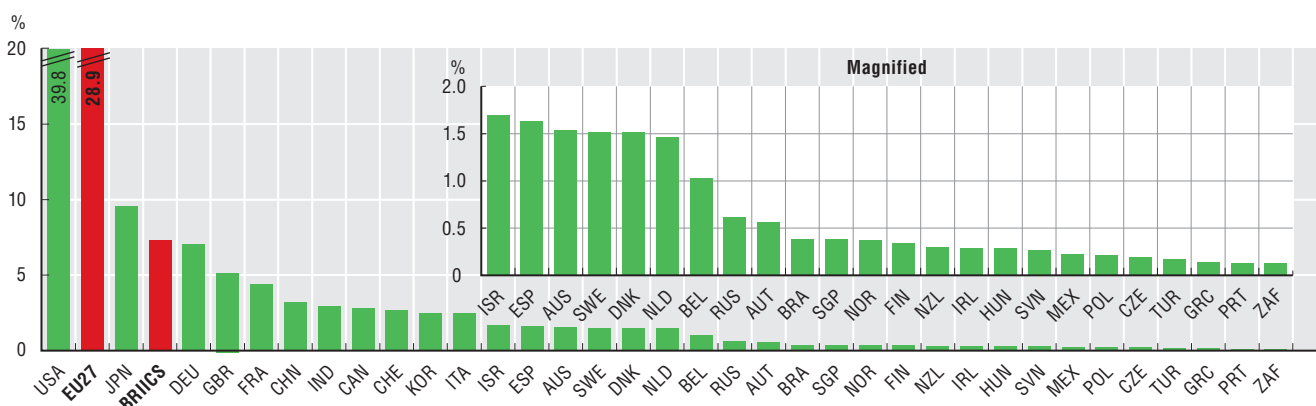
Health-related patents, 1997-99 and 2007-09

As a percentage of total PCT patent applications



Source: OECD, Patent Database, May 2011. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932486754>

Countries' share of pharmaceutical patents filed under the PCT, 2007-09

Source: OECD, Patent Database, May 2011. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932486773>

Measurability

Public funding of health 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 not-for-profit institutions. Government budget appropriations or outlays for R&D (GBAORD) can be broken down by socio-economic objective, such as the protection and improvement of public health, as defined by the OECD *Frascati Manual*. 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 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. To address some of these limitations and to provide a more complete picture of health-related R&D, funding of medical sciences via non-oriented research and general university funds is included when available as are other relevant funds, notably general support for R&D in hospitals.



From:

OECD Science, Technology and Industry Scoreboard 2011

Access the complete publication at:

https://doi.org/10.1787/sti_scoreboard-2011-en

Please cite this chapter as:

OECD (2011), "Health innovation", in *OECD Science, Technology and Industry Scoreboard 2011*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/sti_scoreboard-2011-35-en

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.