

Medical technologies

New medical technologies are improving diagnosis and treatment, but they are also increasing health spending. This section presents data on the availability and use of two diagnostic technologies: computed tomography (CT) scanners and magnetic resonance imaging (MRI) units. CT and MRI exams help physicians diagnose a range of conditions. Unlike conventional radiography and CT scanning, MRI exams do not expose patients to ionising radiation.

The availability of CT scanners and MRI units has increased rapidly in most OECD countries over the past two decades. Japan has, by far, the highest number of MRI and CT scanners per capita, followed by the United States for MRI units and by Australia for CT scanners (Figures 6.3 and 6.4). Greece, Iceland, Italy, Korea and Switzerland also has significantly more MRI and CT scanners per capita than the OECD average. The number of MRI units and CT scanners per population is the lowest in Mexico, Hungary, Israel and the United Kingdom.

There is no general guideline or benchmark regarding the ideal number of CT scanners or MRI units per population. However, if there are too few units, this may lead to access problems in terms of geographic proximity or waiting times. If there are too many, this may result in an overuse of these costly diagnostic procedures, with little if any benefits for patients.

Data on the use of these diagnostic scanners are available for a smaller group of countries, excluding Japan. Based on this more limited country coverage, the number of MRI exams per capita is highest in Turkey and the United States, followed by France, Luxembourg and Belgium (Figure 6.5). In the United States, the (absolute) number of MRI exams more than doubled between 2000 and 2013. In Turkey, it has grown even faster, by two-and-a-half times between 2008 and 2013. In this country, there is growing evidence that MRI exams are being systematically prescribed for patients with various health problems, resulting in overuse of these tests. The number of CT exams per capita is highest in the United States, followed by Luxembourg, France and Greece (Figure 6.6). However, in Greece, the number of CT exams decreased by over 40% between 2008 and 2012, while the number of MRI exams also came down by about 30%.

There are large variations in the use of CT and MRI scanners not only across countries, but also within countries. For example, in Belgium, there was almost a two-fold variation in MRI and CT exams between provinces with the highest and lowest rates in 2010. In the United Kingdom (England), the utilisation of both types of diagnostic exams is generally much lower, but the variation across regions is greater, with almost a four-fold difference between the Primary Care Trusts that had the highest rates and lowest rates of MRI and CT exams in 2010/11. In Canada, there has been a strong rise in the use of both MRI and CT exams in all parts of the country over the past decade, but there continues to be wide variations across provinces (OECD, 2014).

Clinical guidelines have been developed in several OECD countries to promote a more rational use of MRI and CT exams. In the United Kingdom, the National Institute for Health and Clinical Excellence (NICE) has issued a number of guidelines on the appropriate use of MRI and CT exams (NICE, 2012). In the United States, a “Choosing Wisely” campaign was launched in 2012, led by professional medical associations, to develop clear guidelines for doctors and patients to reduce the use of unnecessary diagnostic tests and procedures. The guidelines include, for instance, avoiding imaging studies such as MRI, CT or X-rays for patients with acute low back pain without specific indications (Choosing Wisely, 2015). A similar “Choosing Wisely” campaign was launched in Canada in 2014, and work has also started in several other OECD countries to produce similar clear guidelines and recommendations to promote a more proper use of diagnostic tests and other procedures. It is still too early to tell to what extent these campaigns will succeed in reducing the overuse of MRI and CT exams.

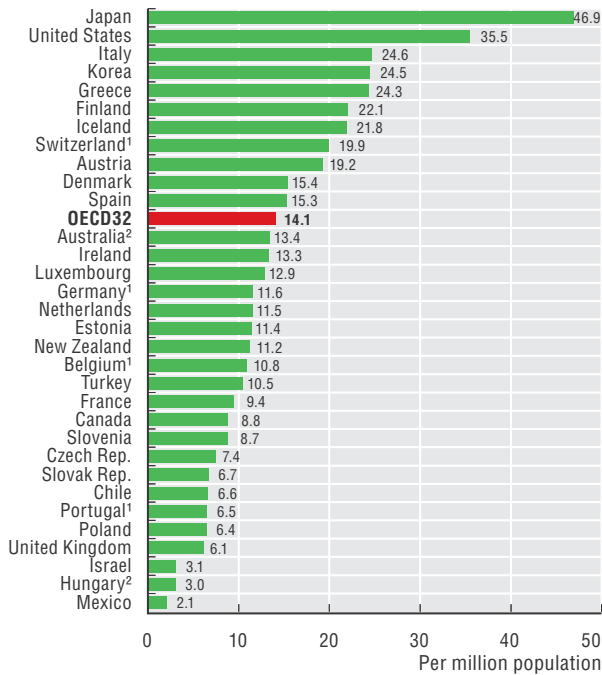
Definition and comparability

The data in most countries cover MRI units and CT scanners installed both in hospitals and the ambulatory sector, but the coverage is more limited in some countries. MRI units and CT scanners outside hospitals are not included in Belgium, Germany, Portugal and Switzerland (for MRI units). For Australia and Hungary, the number of MRI units and CT scanners includes only those eligible for public reimbursement. Similarly, MRI and CT exams performed outside hospitals are not included in Austria, Germany, Ireland, Portugal, Switzerland and the United Kingdom. Furthermore, MRI and CT exams for Ireland only cover public hospitals. In Australia, the data only include exams for private patients (in or out of hospitals), while in Korea and the Netherlands, they only include publicly financed exams.

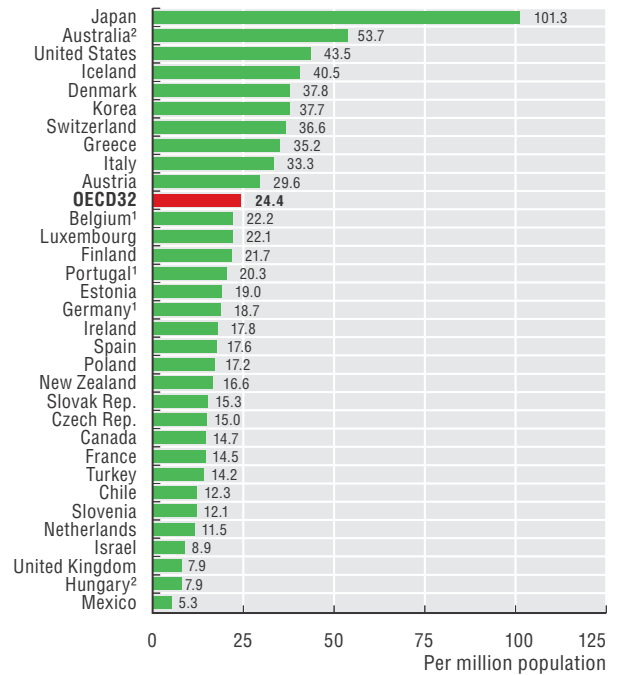
References

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6.3. MRI units, 2013 (or nearest year)



6.4. CT scanners, 2013 (or nearest year)



1. Equipment outside hospital not included.

2. Only equipment eligible for public reimbursement.

Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933280972>

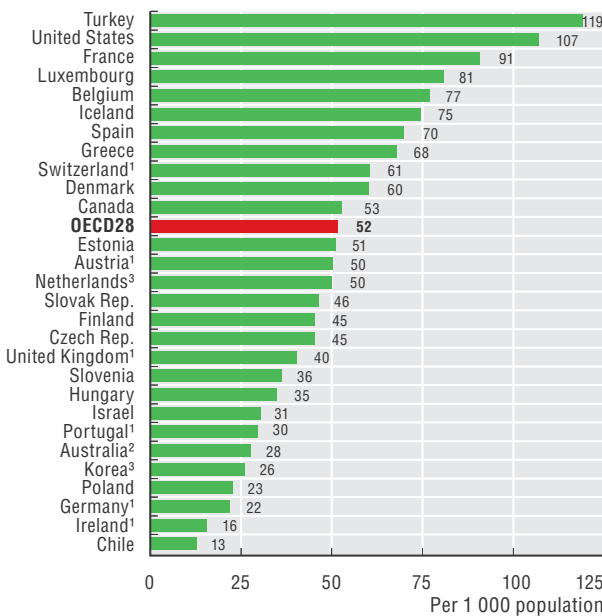
1. Equipment outside hospital not included.

2. Only equipment eligible for public reimbursement.

Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933280972>

6.5. MRI exams, 2013 (or nearest year)



1. Exams outside hospital not included (in Ireland, exams in private hospital also not included).

2. Exams on public patients not included.

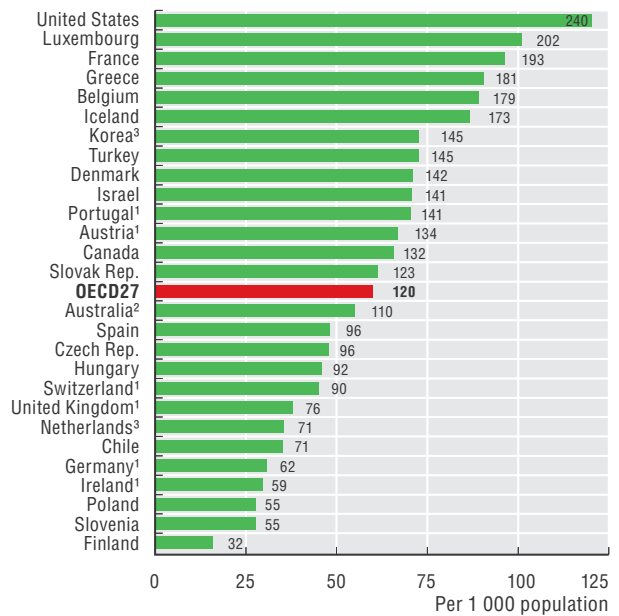
3. Exams privately-funded not included.

Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933280972>

Information on data for Israel: <http://oe.cd/israel-disclaimer>

6.6. CT exams, 2013 (or nearest year)



1. Exams outside hospital not included (in Ireland, exams in private hospital also not included).

2. Exams on public patients not included.

3. Exams privately-funded not included.

Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933280972>



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