

Medical technologies may improve diagnosis and treatment. Access to these technologies is improving, but also contributing to increases in health spending. Computed tomography (CT) scanners and magnetic resonance imaging (MRI) units help doctors diagnose a range of conditions by producing images of internal organs and structures of the body. MRI exams do not expose patients to ionising radiation, unlike conventional radiography and CT scanning. Mammography is used to diagnose breast cancer, and radiation therapy units are used for cancer treatment. But such equipment is expensive.

The availability of diagnostic equipment has increased in many countries in the Asia-Pacific region. Japan has by far the highest number of MRI and CT scanners per million population, followed by Australia and the Republic of Korea (Figures 3.8 and 3.9). The Republic of Korea has the highest number of mammography per female aged 50-69, followed by other OECD countries such as Japan, New Zealand and Australia (Figure 3.10). The availability of these diagnostic medical technologies is high in OECD countries but also in Brunei Darussalam, Malaysia, Mongolia and Singapore. On the other hand, Lao PDR, Myanmar and Papua New Guinea reported the lowest numbers.

The availability of treatment equipment is also much higher in OECD countries than non-OECD countries in the Asia-Pacific region. New Zealand and Australia have over ten radiation therapy units per million population, much higher than the OECD average of 7.2, and Japan and the Republic of Korea also have more than five per million people. But there is less than one per 10 million people in Myanmar, Cambodia, Pakistan and Sri Lanka, and no radiation therapy unit in Fiji and Lao PDR (Figure 3.11).

General guidelines or benchmarks regarding the ideal number of medical technologies per population are not available. 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

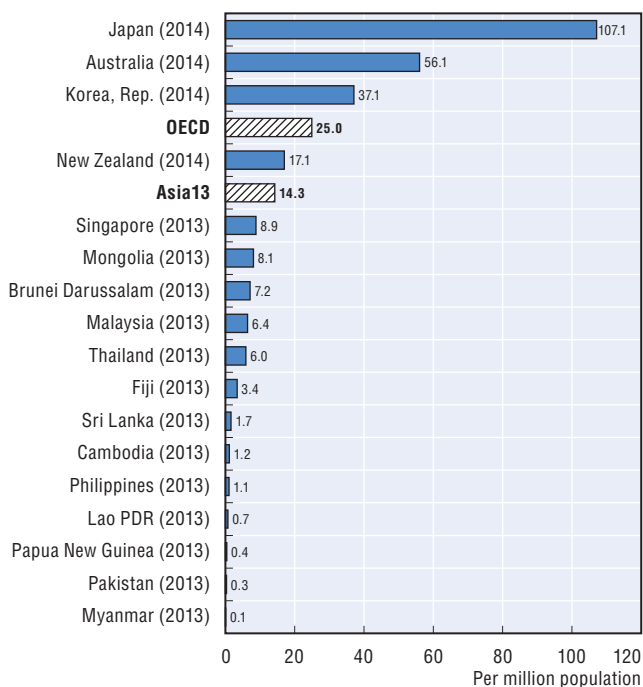
overuse of these costly diagnostic procedures, with little, if any, benefits for patients (OECD, 2015b). Although the use of medical technologies is not well known in the Asia-Pacific region, data from OECD countries show that several countries with a high number of CT scanners and MRIs, such as Greece and the United States, also have a higher number of diagnostic exams per population, suggesting some degree of overuse (OECD, 2015b).

Clinical guidelines have been developed in some OECD countries to promote more rational use of diagnostic technologies (OECD, 2010). In Australia, clinicians may use Diagnostic Imaging Pathways (DIP), an evidence-based clinical decision support tool and educational resource for diagnostic imaging. DIP guides the choice of the most appropriate diagnostic examinations in the correct sequence in a wide range of clinical scenarios. The broad objective is to reduce the number of unnecessary examinations that may expose patients to risk without benefits, and increase the number of appropriate examinations resulting in cost-effective diagnosis (Government of Western Australia, 2013).

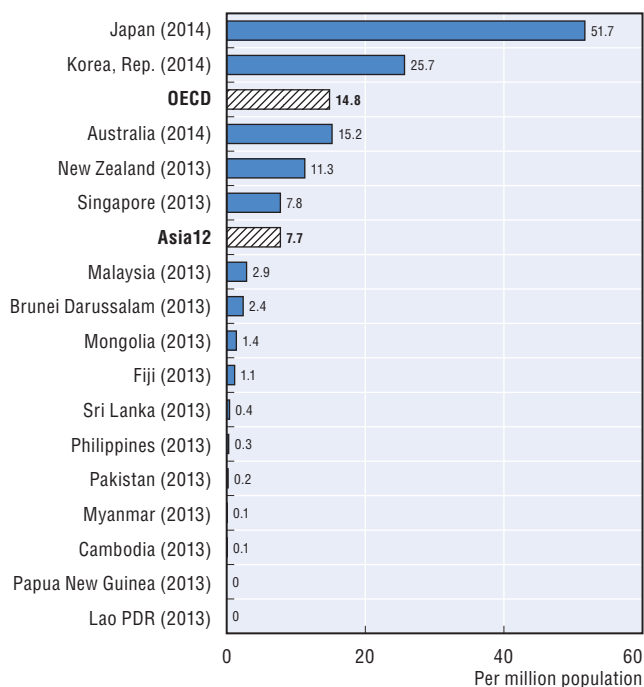
Definition and comparability

The data cover equipment installed both in hospitals and the ambulatory sector and public and private sectors in most countries. However, there is only partial coverage for some countries. In Myanmar, data refer to equipment in the public sector. MRIs in Brunei Darussalam refer to those in the private sector, and in Mongolia, radiation therapy units refer to those in the public sector. For Australia, the number of medical technology equipment includes only those eligible for public reimbursement (about 60% of total MRI units are eligible for reimbursement under Medicare, the universal public health system).

3.8. Computed tomography scanners, latest year available

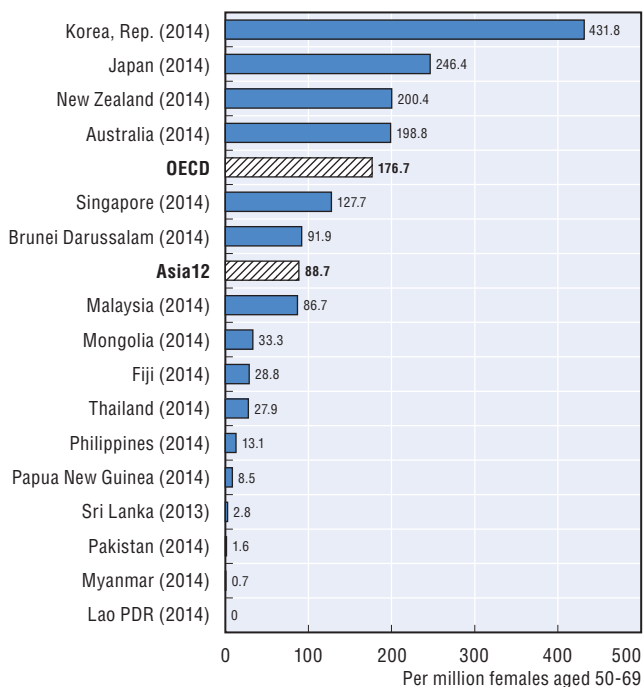


3.9. MRI units, latest year available

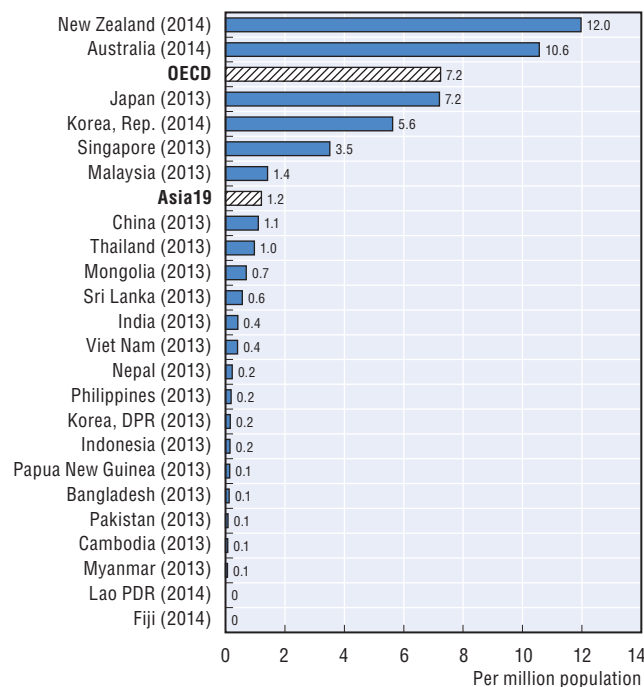


Source: OECD Health Statistics 2016; WHO (2016e).

3.10. Mammography units, latest year available



3.11. Radiation therapy units, latest year available



Source: OECD Health Statistics 2016; WHO (2016e).

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