

## Cardiac procedures

Heart diseases are a leading cause of hospitalisation and death in OECD countries (see indicator on “Mortality from cardiovascular diseases” in Chapter 3). Coronary artery bypass graft and angioplasty have revolutionised the treatment of ischemic heart diseases in the past few decades. A coronary bypass is an open-chest surgery involving the grafting of veins and/or arteries to bypass one or multiple obstructed arteries. A coronary angioplasty is a much less invasive procedure involving the threading of a catheter with a balloon attached to the tip through the arterial system to distend the coronary artery at the point of obstruction; the placement of a stent to keep the artery open accompanies the majority of angioplasties.

In 2013, Germany, Hungary and Austria had the highest rates of coronary revascularisation procedures, while the rates were lowest in Mexico and Chile (Figure 6.16).

A number of reasons can explain cross-country variations in the rate of coronary bypass and angioplasty, including: 1) differences in the capacity to deliver and pay for these procedures; 2) differences in clinical treatment guidelines and practices; and 3) differences in coding and reporting practices. However, the large variations in the number of revascularisation procedures across countries do not seem to be closely related to the incidence of ischemic heart disease (IHD), as measured by IHD mortality (see Figure 3.6 in Chapter 3). For example, IHD mortality in Germany is slightly below the OECD average, but Germany has the highest rate of revascularisation procedures.

National averages can hide important variations in utilisation rates within countries. For example, in Germany, the rate of coronary bypass surgery and angioplasty is nearly three times higher in certain regions compared with others. There are also wide variations in the use of these revascularisation procedures across regions in other countries such as Finland, France and Italy (OECD, 2014).

The use of angioplasty has increased rapidly over the past 20 years in most OECD countries, overtaking coronary bypass surgery as the preferred method of revascularisation around the mid-1990s – about the same time that the first published trials of the efficacy of coronary stenting began to appear. On average across OECD countries, angioplasty now accounts for 78% of all revascularisation procedures (Figure 6.17), and is equal or exceeds 88% in Korea, Estonia, France and Spain. In many OECD countries, the growth in angioplasty was more rapid between 2000 and

2006 than afterwards. In the United States, the share of angioplasty increased quickly between 2000 and 2006, but has fallen slightly since then. Part of the explanation for this slight reduction may be due to the fact that the data reported by the United States do not cover the growing number of angioplasties carried out as day cases (without any overnight stay in hospital). In addition, the greater use of drug-eluting stents in the United States as well as in other countries reduces the likelihood that the same patient will need another angioplasty (Epstein et al., 2011).

### Definition and comparability

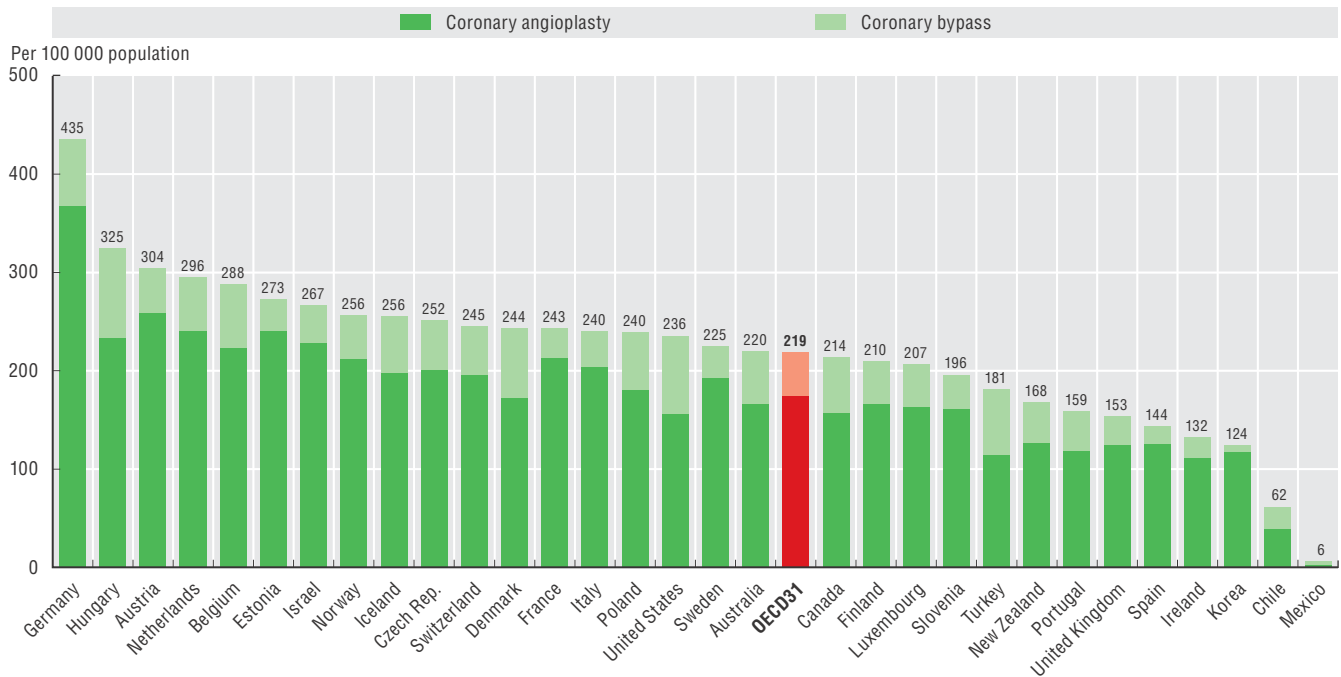
The data for most countries cover both inpatient and day cases, with the exception of Chile, Denmark, Iceland, Norway, Portugal, Switzerland and the United States, where they only include inpatient cases (resulting in some under-estimation in the number of coronary angioplasties; this limitation in data coverage does not affect the number of coronary bypasses since nearly all patients are staying at least one night in hospital after such an operation). Some of the variations across countries may also be due to the use of different classification systems and different codes for reporting these two procedures.

In Ireland, Mexico, New Zealand and the United Kingdom, the data only include activities in publicly-funded hospitals, resulting in an under-estimation (it is estimated that approximately 15% of all hospital activity in Ireland is undertaken in private hospitals). Data for Portugal relate only to public hospitals on the mainland. Data for Spain only partially include activities in private hospitals.

### References

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- OECD (2014), *Geographic Variations in Health Care: What Do We Know and What Can Be Done to Improve Health System Performance?*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264216594-en>.

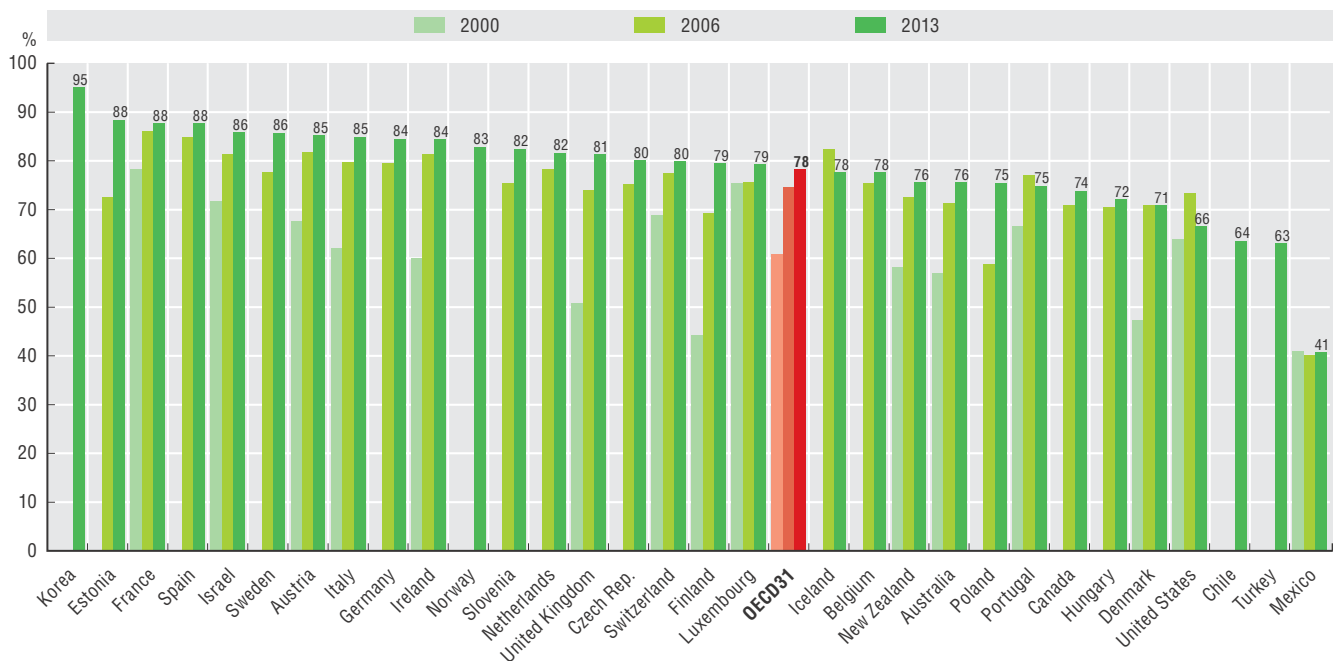
6.16. Coronary revascularisation procedures, 2013 (or nearest year)



Note: Some of the variations across countries are due to different classification systems and recording practices.  
 Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933281011>

6.17. Coronary angioplasty as a share of total revascularisation procedures, 2000 to 2013 (or nearest years)



Note: Revascularisation procedures include coronary bypass and angioplasty.  
 Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933281011>

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



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