

4. HEALTH CARE ACTIVITIES

4.6. Cardiac procedures (coronary angioplasty)

Heart diseases are a leading cause of hospitalisation and death in OECD countries (see Indicator 1.3). Coronary angioplasty is a revascularisation procedure that has revolutionised the treatment of ischemic heart diseases (heart attack and angina) over the past 20 years. It involves the threading of a catheter with a balloon attached to the tip through the arterial system into the diseased coronary artery. The balloon is inflated 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. Drug-eluting stents (a stent that gradually releases drugs) are increasingly being used to stem the growth of scar-like tissue surrounding the stent.

There is considerable variation across OECD countries in the use of coronary angioplasty (Figure 4.6.1). Germany, Belgium and the United States had the highest rates of angioplasty in 2009, followed by Norway and Austria. The rate of use of angioplasty is the lowest in Mexico and Chile.

The use of angioplasty has increased rapidly since 1990 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 (Moïse *et al.*, 2003). On average across OECD countries, angioplasty now accounts for 75% of all revascularisation procedures (Figure 4.6.2). Although angioplasty has in many cases replaced bypass surgery, it is not always a substitute since bypass surgery is still the preferred method for treating patients with multiple-vessel obstructions, diabetes and other conditions (Taggart, 2009).

A number of reasons can explain cross-country variations in the rate of angioplasty, including: i) differences in the incidence and prevalence of ischemic heart diseases; ii) differences in the capacity to deliver and pay for these procedures; iii) differences in clinical treatment guidelines and practices; and iv) coding and reporting practices.

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 1.3.1). IHD mortality in Germany and Belgium are not too far from the OECD average, but these two countries have the highest rate of revascularisation procedures. On the other hand, IHD mortality in Finland is above the OECD average, while revascularisation rates are below average.

In the United States, there has been a decline in the overall rate of revascularisation procedures between 2000 and 2009, driven by an almost 30% decrease in the number of coronary artery bypass graft (CABG) per capita, while the rate of angioplasty remained relatively stable. One of the reasons why the angioplasty rate did not increase is due to the greater use of drug-eluting stents which reduces the likelihood that the same patient will need another revascularisation. The combination of stable angioplasty rate, together with a reduction in repeat revascularisation, indicates that increasing numbers of patients have received an angioplasty over time (Epstein *et al.*, 2011).

Coronary angioplasty is an expensive intervention, although it is much less costly than a coronary bypass because it is less intrusive. In 2007, the average estimated price of an angioplasty was about USD 14 400 in the United States, USD 9 300 in Canada and Sweden, and USD 7 000 in France (Koechlin *et al.*, 2010).

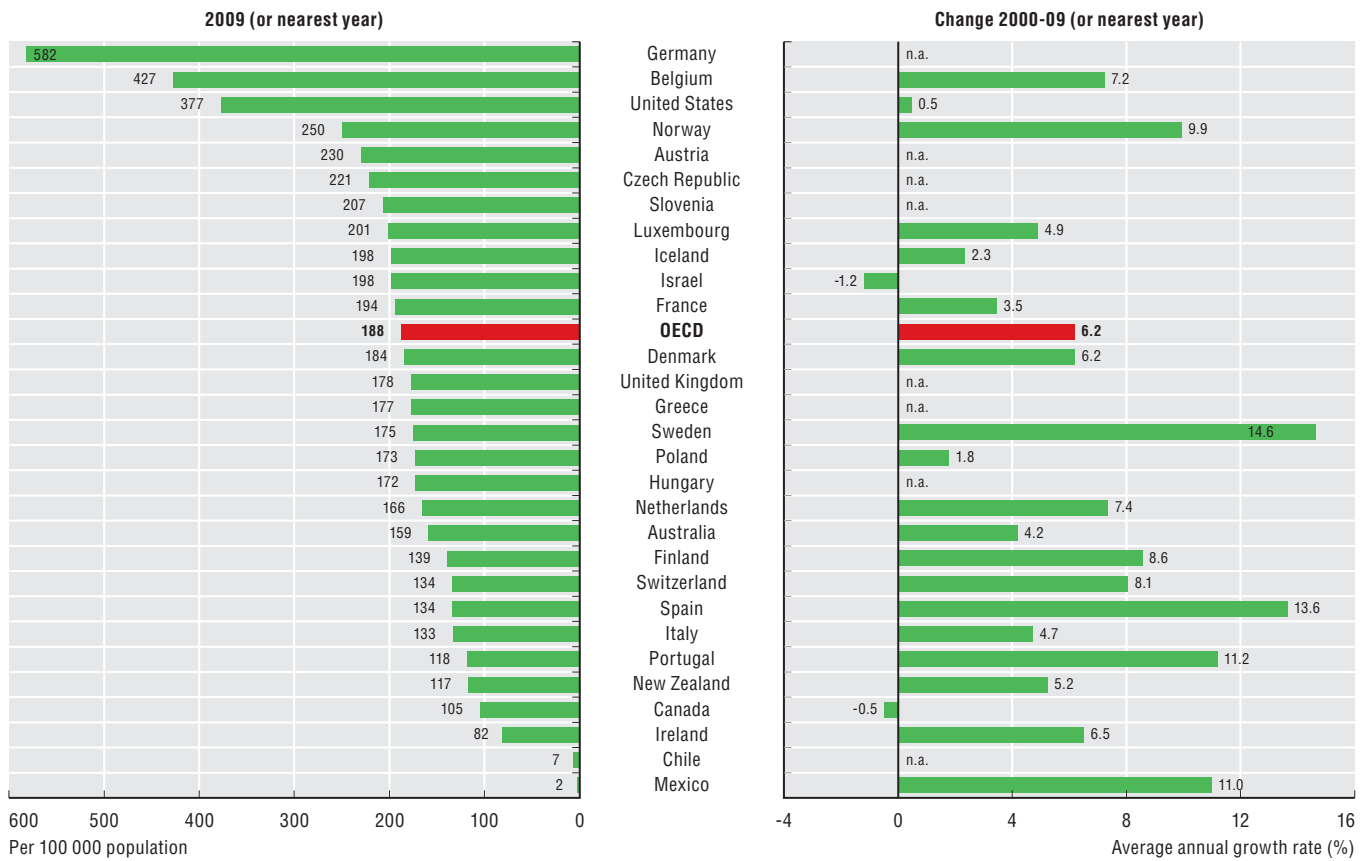
Definition and comparability

The data relate to inpatient procedures, excluding coronary angioplasties performed or recorded as day cases. Classification systems and registration practices vary across countries, and the same procedure can be recorded differently (*e.g.* an angioplasty with the placement of a stent can be counted as one or two procedures). Some countries report only the *main* procedure which may result in a significant under-estimation of the total number. This is the case for Italy, Luxembourg and Switzerland. In Ireland, the data only include activities in publicly-funded hospitals (it is estimated that over 10% of all hospital activity in Ireland is undertaken in private hospitals). In countries such as the Netherlands, approximately 25% of all coronary angioplasties are registered as day cases, and these are not reported here.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

4.6. Cardiac procedures (coronary angioplasty)

4.6.1 Coronary angioplasty per 100 000 population, 2009 and change between 2000 and 2009

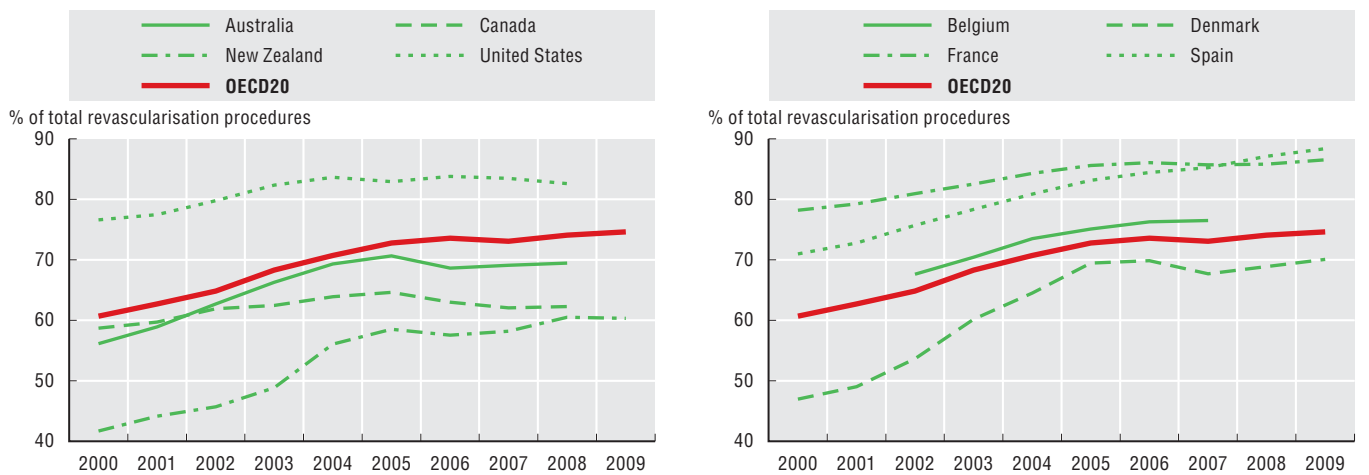


Note: Some of the variations across countries are due to different classification systems and recording practices.

Source: OECD Health Data 2011.

StatLink <http://dx.doi.org/10.1787/888932524716>

4.6.2 Coronary angioplasty as a percentage of total revascularisation procedures, 2000-09



Note: Revascularisation procedures include coronary bypass and angioplasty.

Source: OECD Health Data 2011.

StatLink <http://dx.doi.org/10.1787/888932524735>



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