

4. HEALTH CARE ACTIVITIES

4.6. Cardiac procedures

Heart diseases are a leading cause of hospitalisation and death in OECD countries (see Indicator 1.3). 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 2011, Germany, Israel, the Netherlands, Austria, Norway and Belgium had the highest rates of coronary angioplasty, while the United States, Denmark, Belgium and Germany had the highest rates of coronary bypass grafts (Figure 4.6.1).

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 1.3.1). 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 is eight times higher in the district with the highest utilisation rate compared with the district with the lowest rate (Nolting et al., 2012; Kumar and Schoenstein, 2013).

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 (Moïse et al., 2003). On average across OECD countries, angioplasty now accounts for 78% of all revascularisation procedures (Figure 4.6.2), and exceeds 85% in France, Spain and Israel. In many OECD countries, the growth in angioplasty was more rapid between 2000 and 2005, compared to the 2005-11 period. In Denmark and the United States, the share of angioplasty increased quickly between 2000 and 2005, 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 these two coun-

tries 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 and other countries reduces the likelihood that the same patient will need another angioplasty (Epstein et al., 2011).

Coronary angioplasty has expanded surgical treatment options to wider groups of patients. A UK study found that approximately 30% of all angioplasty procedures are a direct substitute for bypass surgery (McGuire et al., 2010). Angioplasty is however not a perfect substitute since bypass surgery is still the preferred method for treating patients with multiple-vessel obstructions, diabetes and other conditions (Taggart, 2009).

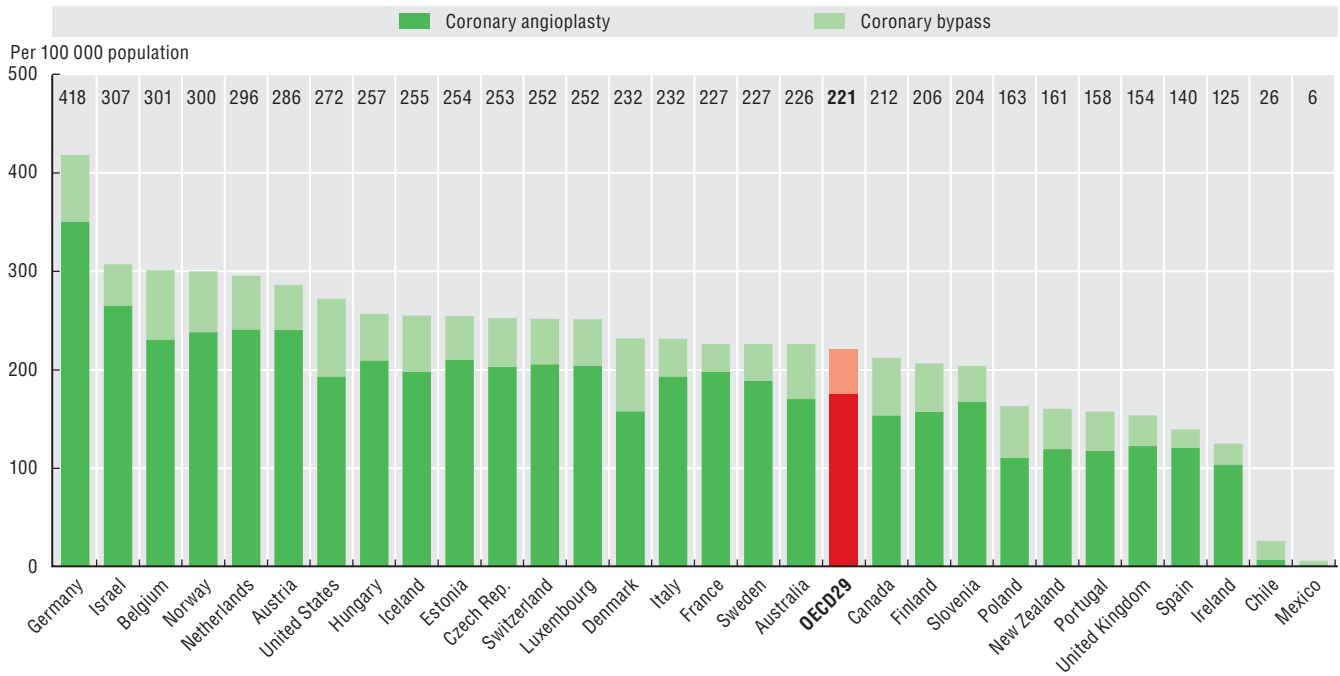
Coronary angioplasty is an expensive intervention, but it is much less costly than a coronary bypass surgery because it is less invasive. The estimated price of an angioplasty on average across 24 OECD countries was about USD 7 400 in 2010, compared with 17 400 for a coronary bypass. Hence, for patients who would otherwise have received bypass surgery, the introduction of angioplasty has not only improved outcomes but has also decreased costs. However, because of the expansion of surgical interventions, overall costs have risen.

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.

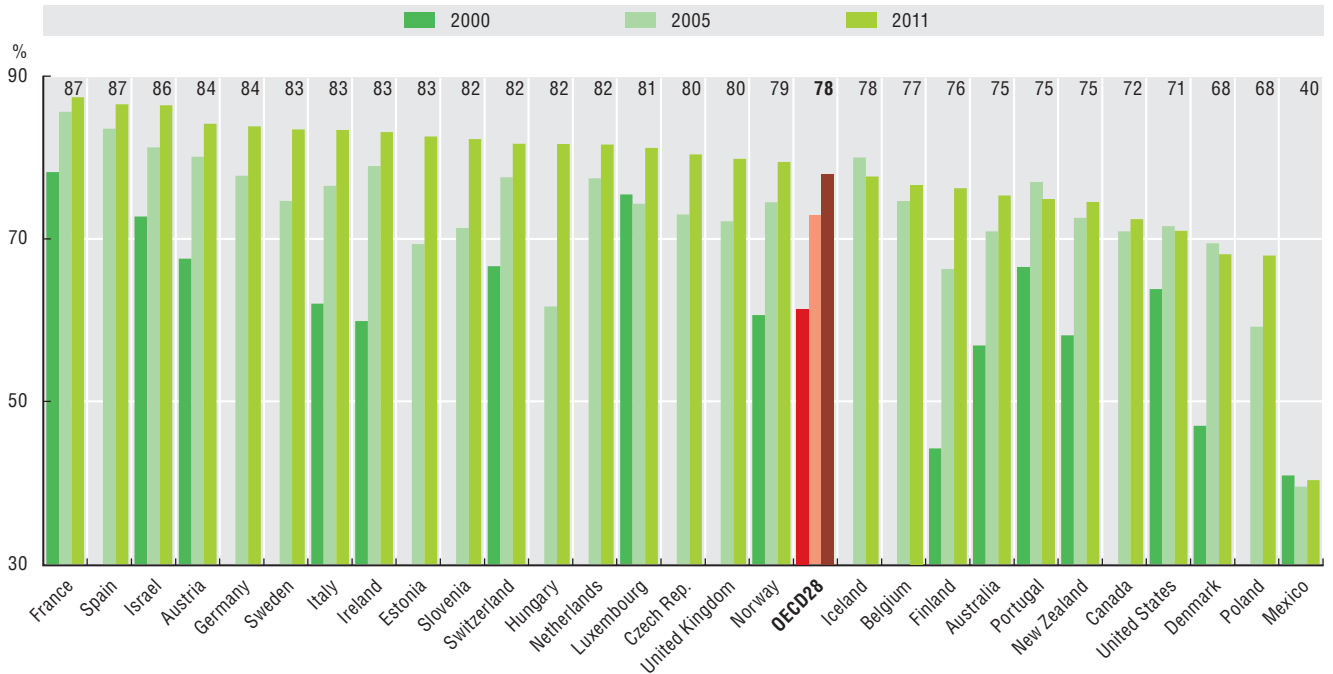
4.6.1. Coronary revascularisation procedures, 2011 (or nearest year)



Note: Some of the variations across countries are due to different classification systems and recording practices.
 Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888932917503>

4.6.2. Coronary angioplasty as a share of total revascularisation procedures, 2000 to 2011 (or nearest year)



Note: Revascularisation procedures include coronary bypass and angioplasty.
 Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888932917522>



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