Heart diseases are a leading cause of hospitalisation and death in OECD countries (see Indicator 1.4). Coronary angioplasty is a revascularisation procedure that has revolutionised the treatment of ischemic heart diseases over the past twenty years. It involves the threading of a catheter with a balloon attached to the tip through the arterial system, usually started in the femoral artery in the leg, 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 European countries in the use of coronary angioplasty (Figure 3.9.1). Germany and Belgium have the highest rates of angioplasty in 2008, followed by Italy and Norway. In Belgium, the high rate of coronary angioplasty can only be partly attributed to patient mobility. In 2006, only 2.5% of people who received an angioplasty on an in-patient basis in Belgium were non-residents (European Commission, 2008a). The rate of use of angioplasty is the lowest in the Netherlands and Switzerland, although these two countries report only the main procedure (not all procedures), resulting in a significant under-estimation (see box on definition).

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, 2003). In most European countries, angioplasty now accounts for at least 70% of all revascularisations (Figure 3.9.2). Although angioplasty has replaced in many cases bypass surgery, it is 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).

A number of reasons can explain cross-country variations in the number of revascularisation procedures in general and angioplasty in particular, 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.

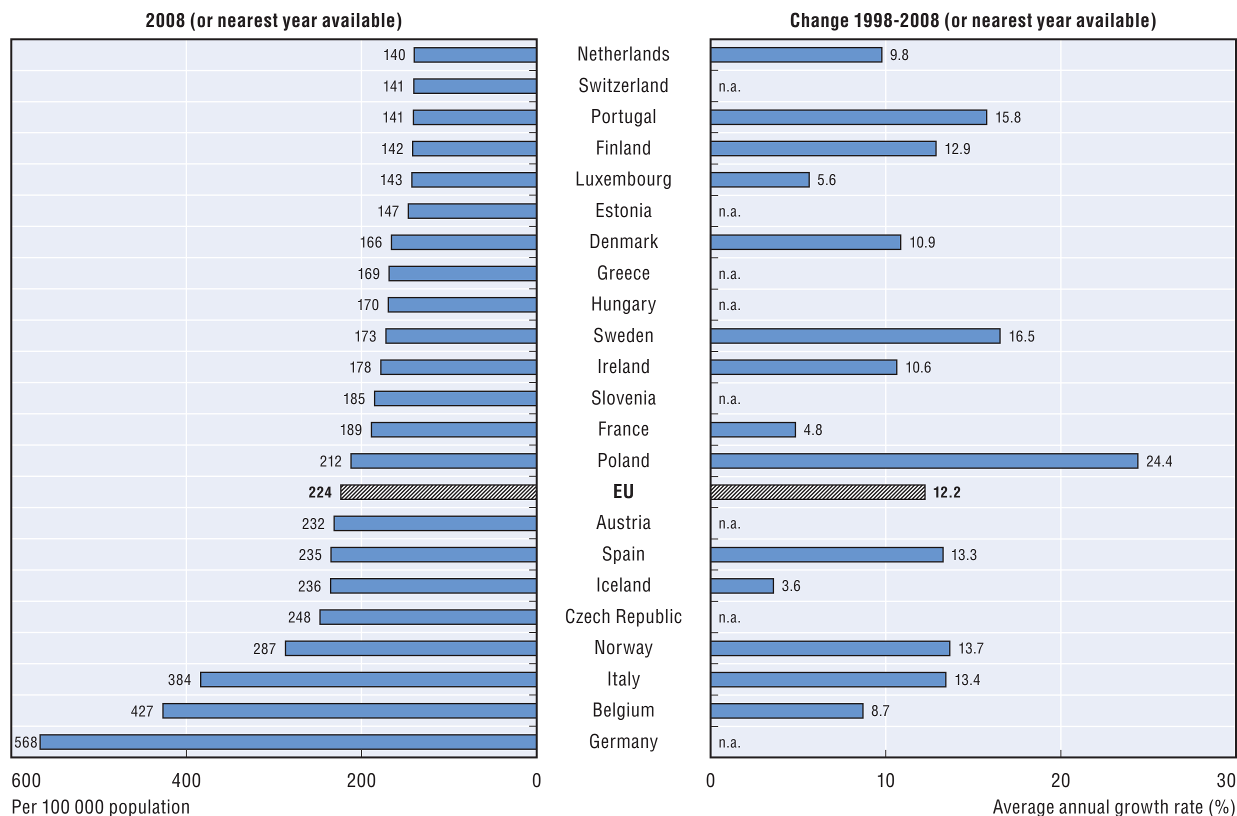
The large variations in the number of revascularisation procedures across countries do not seem to be closely related to the incidence of ischemic heart disease (IHD), as measured by IHD mortality (see Figure 1.4.1). IHD mortality in Germany is lower than the average across EU countries, but Germany has the highest rate of revascularisation procedures. On the other hand, IHD mortality in Finland is above the EU average, while revascularisation rates are below average.

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 EUR 6 000 in France, EUR 8 000 in Sweden and EUR 8 600 in Italy. Nonetheless, the estimated price of an angioplasty in Italy remains 30% lower than in the United States (Koechlin *et al.*, 2010).

Definition and deviations

The data relate to in-patient procedures, normally counting *all* procedures. However, 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 (or the number of *patients* receiving one or more procedures), resulting in a significant under-estimation of the total number. This is the case for the Netherlands 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). For all countries, the data do not include coronary angioplasties performed on an ambulatory basis.

3.9.1. Coronary angioplasty per 100 000 population

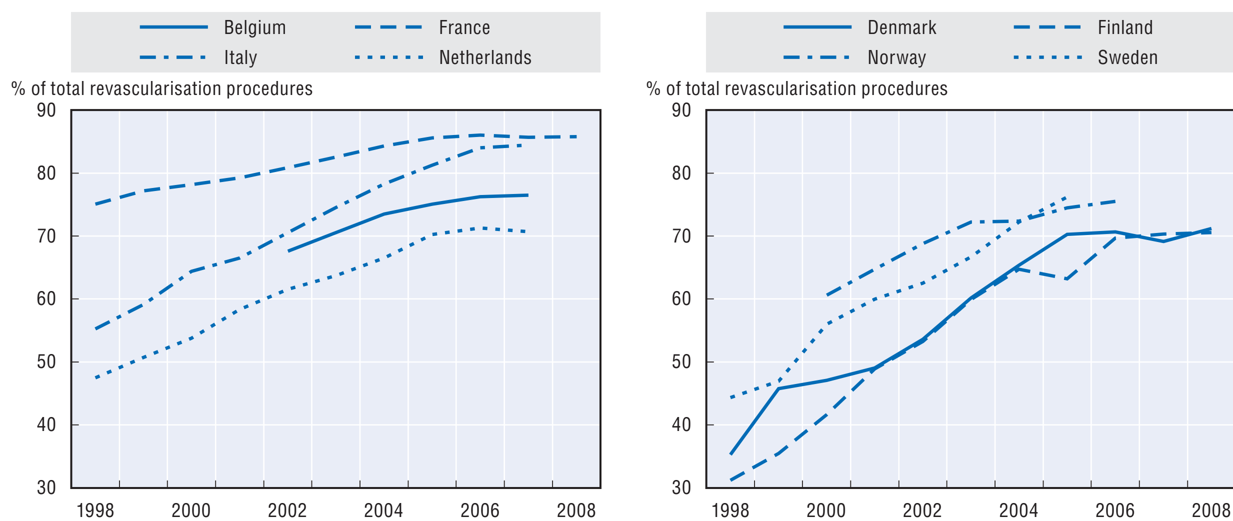


Note: Some of the variations across countries are due to different classification systems and recording practices.

Source: OECD Health Data 2010.

StatLink http://dx.doi.org/10.1787/888932337053

3.9.2. Coronary angioplasty as a percentage of total revascularisation procedures, 1998-2008



Note: Revascularisation procedures include coronary bypass and angioplasty.

Source: OECD Health Data 2010.

StatLink http://dx.doi.org/10.1787/888932337072

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