Heart diseases are a leading cause of hospitalisation and death in European countries (see Indicator 1.4). Coronary angioplasty is a procedure that has revolutionised the treatment of ischemic heart diseases over the past twenty years, involving the use of a minimally invasive technique to re-open the obstructed coronary arteries rather than an open-chest bypass surgery. The placement of a stent to keep the artery open accompanies the majority of angioplasties.

There is considerable variation across European countries in the use of coronary angioplasty (Figure 3.8.1). Germany, Belgium and Austria had the highest rates of angioplasty in 2010, although the rates in these three countries are overestimated because they are based on a count of all procedures rather than based on a count of patients (see the box on "Definition and comparability"). The angioplasty rate was the lowest in Ireland, Poland, Romania and the United Kingdom. However, in these latter two countries, the data do not cover activities in private hospitals, resulting in some underestimation.

The use of angioplasty has increased rapidly since 1990 in most European 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 3.8.2). The EU average is close to 80%. For a large number of EU countries, the growth in angioplasty was higher between 2000 and 2005, compared to the 2005-10 period. Countries such as Romania, Spain and Sweden, which had low rates of angioplasty in 2000, have witnessed high annual growth rates since then. Whilst variation in the use of angioplasty persists, the degree of variation has diminished over the past decade, as many countries have caught up with the early adopters of this technology.

Coronary angioplasty has expanded surgical treatment options to wider sections of the patient population, although 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 European countries was about EUR 5 900 in 2009 compared with EUR 15 300 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.

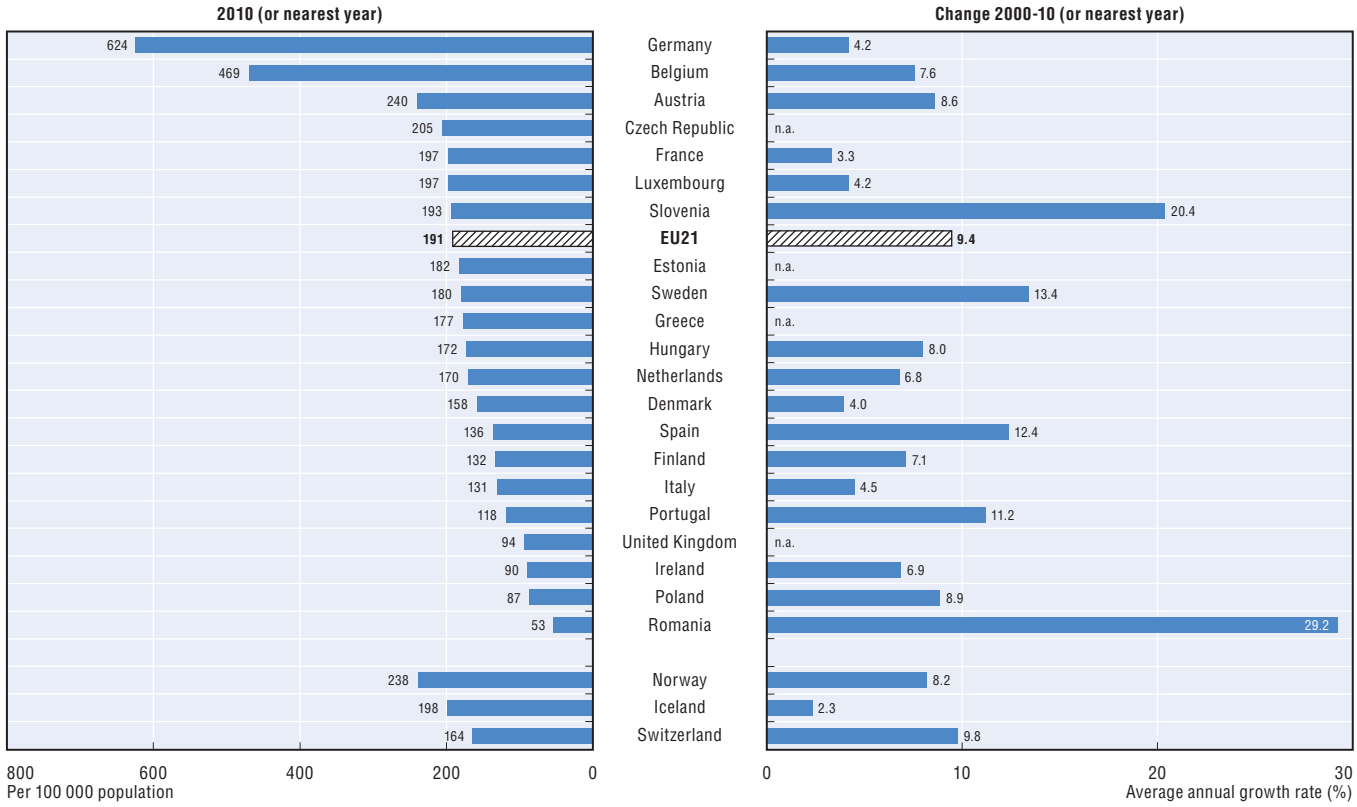
A number of reasons can explain cross-country variations in the rate of angioplasty, including: *i)* differences in the incidence and prevalence of ischemic heart diseases; *ii)* differences in the capacity to deliver and pay for these procedures; *iii)* differences in clinical treatment guidelines and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

Definition and comparability

The data relate to inpatient procedures, excluding coronary angioplasties performed or recorded as day cases. In most countries, the data refer to the number of patients who have received an angioplasty during a hospital stay, except in Austria, Belgium, Germany and Slovenia where they are based on a count of all procedures (including possibly several procedures per patient), leading to an overestimation compared with other countries.

In Ireland and the United Kingdom, the data only include activities in publicly-funded hospitals, resulting in an underestimation (it is estimated that over 10% of all hospital activity in Ireland is undertaken in private hospitals). Data for Portugal relate only to public hospitals on the mainland.

3.8.1. Coronary angioplasty per 100 000 population, 2010 and change between 2000 and 2010

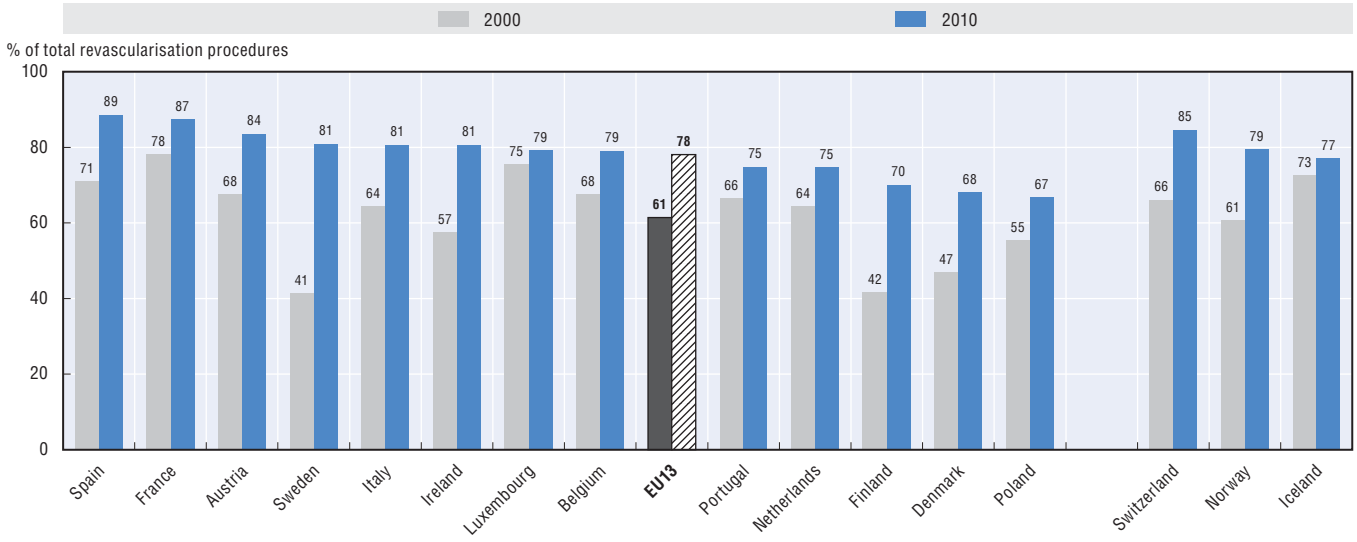


Note: Some of the variations across countries are due to different classification systems and recording practices.

Source: *OECD Health Data 2012; Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888932704532

3.8.2. Coronary angioplasty as a share of total revascularisation procedures, 2000 and 2010 (or nearest year)



Note: Revascularisation procedures include coronary bypass and angioplasty.

Source: *OECD Health Data 2012.*

StatLink http://dx.doi.org/10.1787/888932704551