Both asthma and chronic obstructive pulmonary disease (COPD) are, to a considerable degree, either preventable or manageable through proper prevention or primary care interventions. Proper management of these chronic conditions in primary care settings can reduce exacerbation and costly hospitalisation (Menn *et al.*, 2012). Hospital admission rates serve as a proxy for primary care quality, whereby high admission rates may point to poor care co-ordination or care continuity. They may also indicate structural constraints such as an inadequate supply of family physicians (Rosano *et al.*, 2012).

Asthma is a condition that affects the airways that carry air in and out of the lungs. Asthma symptoms are usually intermittent and treatment can be highly effective, even often reversing the effects of bronchial irritation. A recent survey conducted in 70 countries showed that the global prevalence of clinically treated asthma in adults was estimated to be 4.5%. However, asthma prevalence in some European countries was amongst the highest in the world, with the Netherlands, Sweden and the United Kingdom having prevalence rates of 15% or higher (To *et al.*, 2012). COPD, on the other hand, is a progressive disease. It affects around 64 million worldwide and tobacco use is a major risk factor (WHO, 2011a). In 2008, COPD accounted for around 3% of total deaths in the European Union (WHO, 2011b). A Danish study found that COPD patients use over three times as many hospital bed-days and twice as many general practice visits as similar aged patients without COPD; overall, COPD accounted for 6% of the total annual health care costs of treating the population aged 40 and over (Bilde *et al.*, 2007).

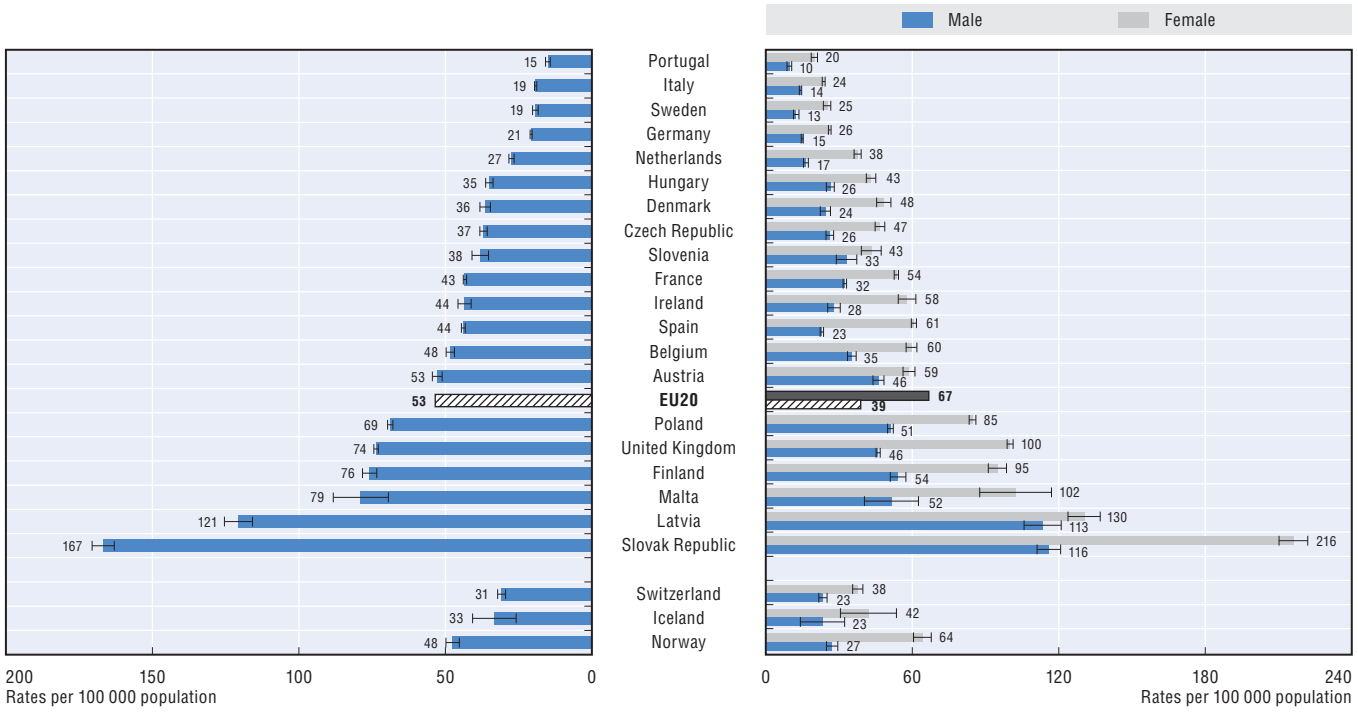
Figure 4.1.1 shows that among the EU member states, asthma accounts for an average of 53 hospital admissions per 100 000 population in 2009. Asthma-related admissions in the Slovak Republic and Latvia were more than double the EU average, whereas Portugal, Italy, Sweden and Germany report rates that are less than half the EU average. Adult females experienced higher rates for asthma admissions compared to males in all countries. On average, the female admission rate was around 70% higher than the male hospitalisation rate. This is in contrast to the results found amongst children where both asthma prevalence and hospital admissions are highest amongst boys (Lin and Lee, 2008). The reasons for gender differences in asthma-related hospital admissions are not well understood (Melero-Moreno *et al.*, 2012). The incidence of asthma among women has increased and "asthmatic women have poorer quality of life and increased utilisation of health care compared to males, despite having similar medical treatment and baseline pulmonary function" (Kynyk *et al.*, 2011).

As shown in Figure 4.1.2, the average COPD-related admission rate was 184 per 100 000 population in EU member states in 2009, nearly four times greater than for asthma. By contrast to asthma-related admissions, males had a higher COPD admission rates than females in most countries. Notable exceptions were Denmark, Iceland, Norway and Sweden where there were no statistically significant differences between males and females. Ireland and Austria have the highest admission rates for COPD. Portugal, France and Switzerland have rates that are less than half the EU average. Whilst some of the variation undoubtedly reflects differences in smoking rates, there is evidence that differences in the quality of care may also play an important role. Based on preliminary results of a 13 European countrywide evaluation, both process of care and outcomes vary considerably between and within countries. The evaluation showed that approximately 50% of COPD admissions lead to a re-admission or death within 90 days (Hartl *et al.*, 2011).

### Definitions and comparability

The asthma and COPD indicators are defined as the number of hospital discharges of people aged 15 years and over per 100 000 population, adjusted to take account of the age and sex composition of each country's population structure. Differences in diagnosis and coding between asthma and COPD across countries may limit the precision of the specific disease rates. Differences in disease classification systems, for example between ICD-9-CM and ICD-10-AM, may also affect the comparability of the data.

### 4.1.1. Asthma hospital admission rates, population aged 15 and over, 2009 (or nearest year)

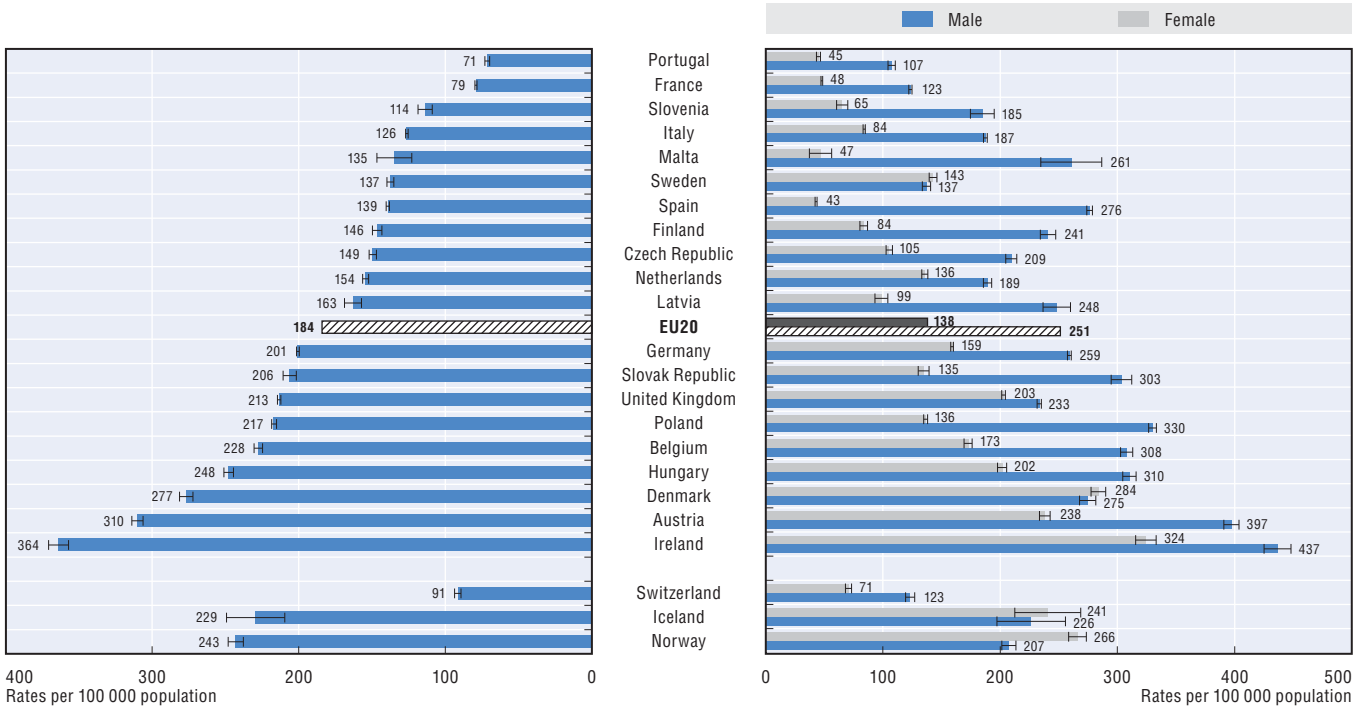



*Note:* Rates are age-sex standardised to the 2005 OECD standard population. 95% confidence intervals represented by ⊢⊣.

*Source:* *OECD Health Data 2012.*

StatLink http://dx.doi.org/10.1787/888932704798

### 4.1.2. COPD hospital admission rates, population aged 15 and over, 2009 (or nearest year)




*Note:* Rates are age-sex standardised to the 2005 OECD standard population. 95% confidence intervals represented by ⊢⊣.

*Source:* *OECD Health Data 2012.*

StatLink http://dx.doi.org/10.1787/888932704817