



# Prescriptions of antibiotics under the examination of regional variations in 2010

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## Abstract

**Background:** Antibiotics belong to the most utilized medicines in Germany. The broad use of this medicine gets recently criticised because the increasing of bacterial resistances could be connected to the high rate of prescriptions. The European Union and also the Federal Government made a recommendation in conjunction with the carefully use of antibiotics in context of the German Antimicrobial Resistance Strategy. This study analyses the rate and the volume of prescriptions paying particular attention to regional variations, differences of age and groups of specialist physicians in Germany in 2010.

**Method:** The basis of calculation of this analysis is the nationwide data of prescriptions of medicine which include comprehensive information of multiple health insurances referred to §295 para. 2 SGB V in 2010. All prescriptions with the ATC-code "J01" (antiinfectives) have been used. Patients who have received at least one prescription for medicine of the group "J01" in 2010 have been taken into account for this study. The examination of regional variations occurs on the level of the regional Associations of Statutory Health Insurance Physicians.

**Results:** 21.9 million patients received at least one prescription for antibiotics in 2010 (this corresponds to 31.5% of all patients who have a statutory health insurance). The prevalence of prescriptions is strongly age-dependent (U-shaped correlation). The patients older than 90 years and younger than 15 years have the highest rates of prevalences of prescriptions (55.7% and 39.1%). Patients between 45-55 years (27.3%) have the lowest rates. The group of base penicillins are on top of the ranking because their volume of prescriptions (26.7%/91.4 million DDD) is higher than those of other drug groups. More than half of all DDD (53.6%) get prescribed by general practitioners and family doctors. The prevalences of prescriptions in West Germany are strikingly high and compared to this the prevalences of prescriptions in East Germany are very low (maximum 36.6% in Saarland vs. minimum 25.0% in Brandenburg). There is a different regional distribution in the group of patients who are younger than 15 years old (maximum 46.6% in Saarland vs. minimum 33.3% in Schleswig-Holstein).

**Conclusion:** The results of the analysis show that the prescription volume depends on regional variations and differences of age. It was not possible to find the reason for these variations, but presumably an important influencing factor is the attitude of the patients and the doctors towards prescriptions.

**Keywords:** antibiotics, antibiotic prescriptions, drug therapy, infectious diseases, guidelines, prescription rates, second line antibiotics

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