

Reimbursement of Sleep Procedures across Europe

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Background

The ongoing joint effort of the ESRS and ANSS to further develop sleep medicine in Europe and to introduce standards for education and accreditation has led to several accomplishments. The catalogue of knowledge and skills, the guideline papers for sleep medicine centre accreditation and sleep medicine expert certification are all important steps towards a more uniform and standardised education for sleep medicine procedures across Europe.

Sleep Medicine as a medical field is still young and recognition is increasing in research as well as in clinical practice. Nevertheless, renewal and implementation of standard procedures are not only driven by the necessity to diagnose and treat but is influenced by the cost-benefit factor for most clinical units. The diagnostic procedures of some of the sleep disorders and their treatment is rather time consuming and the level of reimbursement may become a restricting factor.

In fact, only few cost- benefit studies are conducted and even though a growing number of European prevalence- and impact papers on sleep disorders are published these are insufficient in order to be able to argue for the necessity to treat sleep disorders on a larger scale regardless the cost. Furthermore, different healthcare systems make it difficult to compare reimbursement structures between European countries.

Non-systematic inquiries leave the impression that reimbursement for conducting sleep medicine not only differs to a great extent across Europe but it may be underwaged and thereby hinder further development of sleep medicine in some countries. With the actual work based on questionnaire data posted to the presidents of National Sleep Societies in Europe we aimed to calculate the factual resources needed to conduct sleep medicine according to standard and to document differences in reimbursement of sleep medicine procedures and treatment across Europe.

Methods:

Due to the complexity and diversity of the issue only data from public health care have been included in the analysis. Data were retrieved and analysed from a questionnaire posted to the presidents of the European National Sleep Societies in 2013 (n=28). The items asked included remuneration for a sleep specialist visit, performance of a polygraphy or polysomnography, a CPAP treatment titration, and the rental costs for different PAP devices. Data from 21 countries were finally included in the analysis.

As this study aims to compare reimbursement of sleep medicine services in the different European countries, we put the reimbursement number into relation of the PPS (Purchasing power standard) adjusted GDP (Gross Domestic Product) of each country. Costs were re-calculated to Euros when necessary, but after the adjusted calculations the unit presented in our analysis do not represent a specific value of a currency.

Results:

21 countries provided data, however, a number of NSS could not estimate reimbursement numbers transferred by the public health care system. As shown in figure 1, compensation for a sleep specialist varies with a factor of >10 (e.g. Slovakia and Denmark).

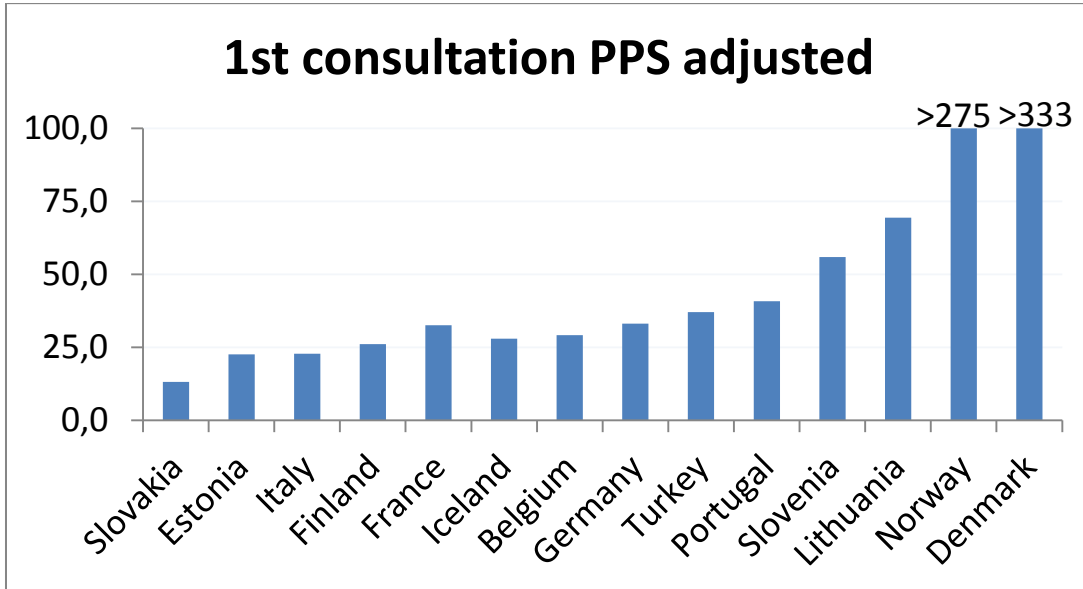


Figure 1. Reimbursement of clinical visits in 14 European countries (GDP/PPS adjusted, results do not represent monetary value) .

Fifteen countries reported the reimbursement numbers for polygraphy. The reimbursement for attended and unattended polygraphy varied considerable between countries (e.g. factor close to 50 for Slovakia and Denmark). The reimbursement for attended CR polygraphy usually supersedes considerable the reimbursement for unattended recordings.

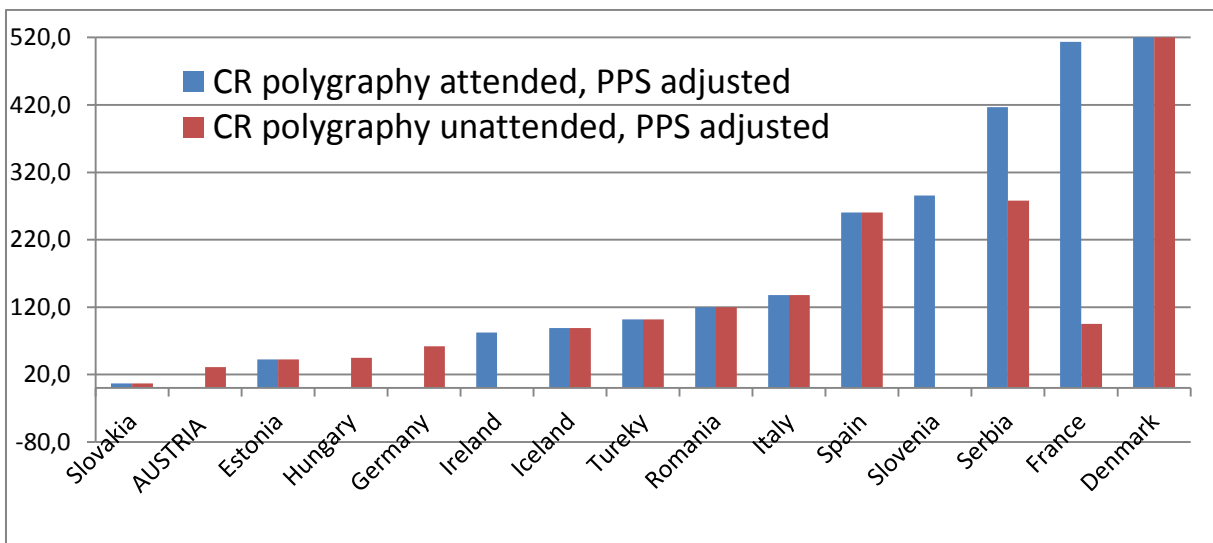


Figure 2: Reimbursement for cardiorespiratory polygraphy in 16 European countries. (GDP/PPS adjusted, results do not represent monetary value)

Polysomnography is a labour intense diagnostic method and different modes of performing this diagnostic test are applied. The analysis shows again substantial differences in the remuneration for this method. Unattended PSG does appear as a specific figure in a subgroup of countries (12 out of 20) and reimbursement is often lower than that for attended PSG. Video-PSG did not receive more compensation than other PSG modes.

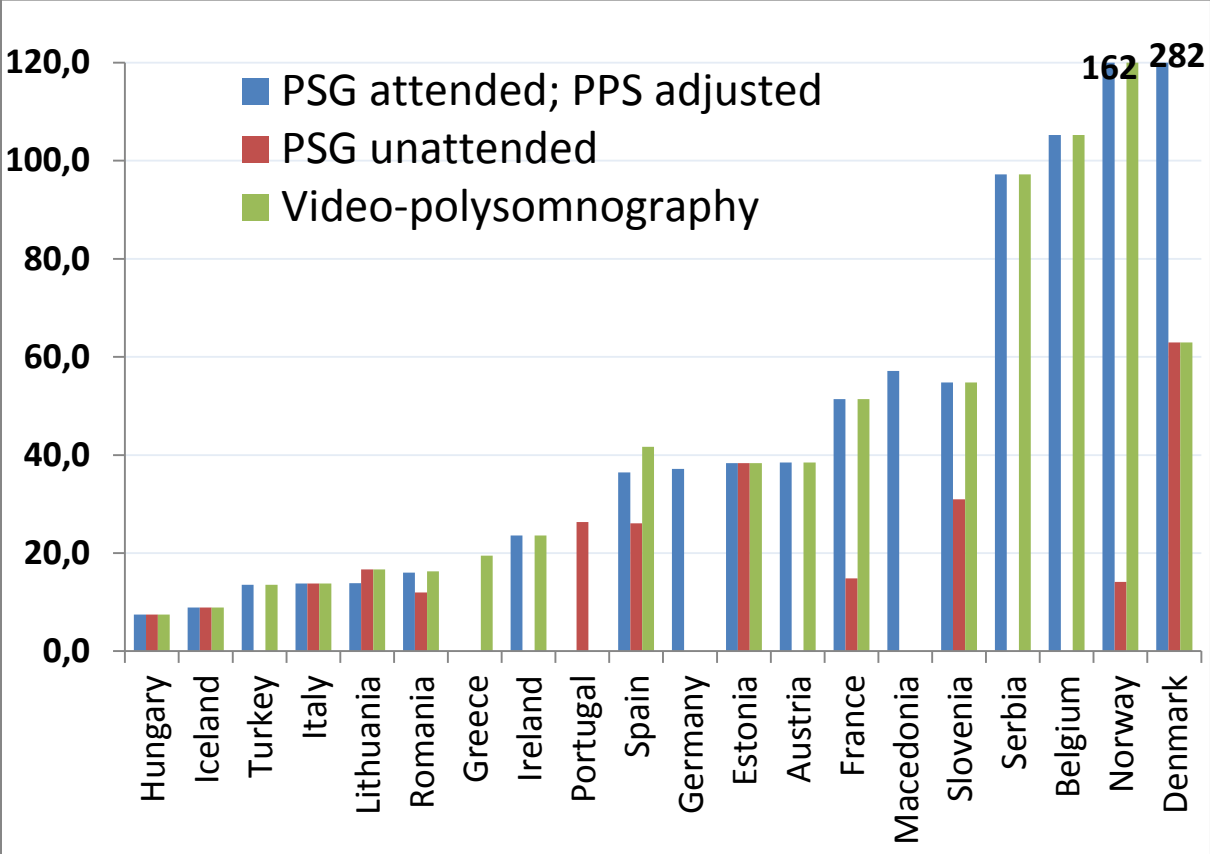


Figure 3: Reimbursement for unattended, attended, and video PSG in 20 European countries. (GDP/PPS adjusted, results do not represent monetary value)

Reimbursement for PAP initiation is similar in CPAP, BiLevel and for Auto Servo ventilators (ASV) in the majority of countries (14 out 15) and only 2 countries apply a stepwise reimbursement approach. The variation in reimbursement over countries is considerable.

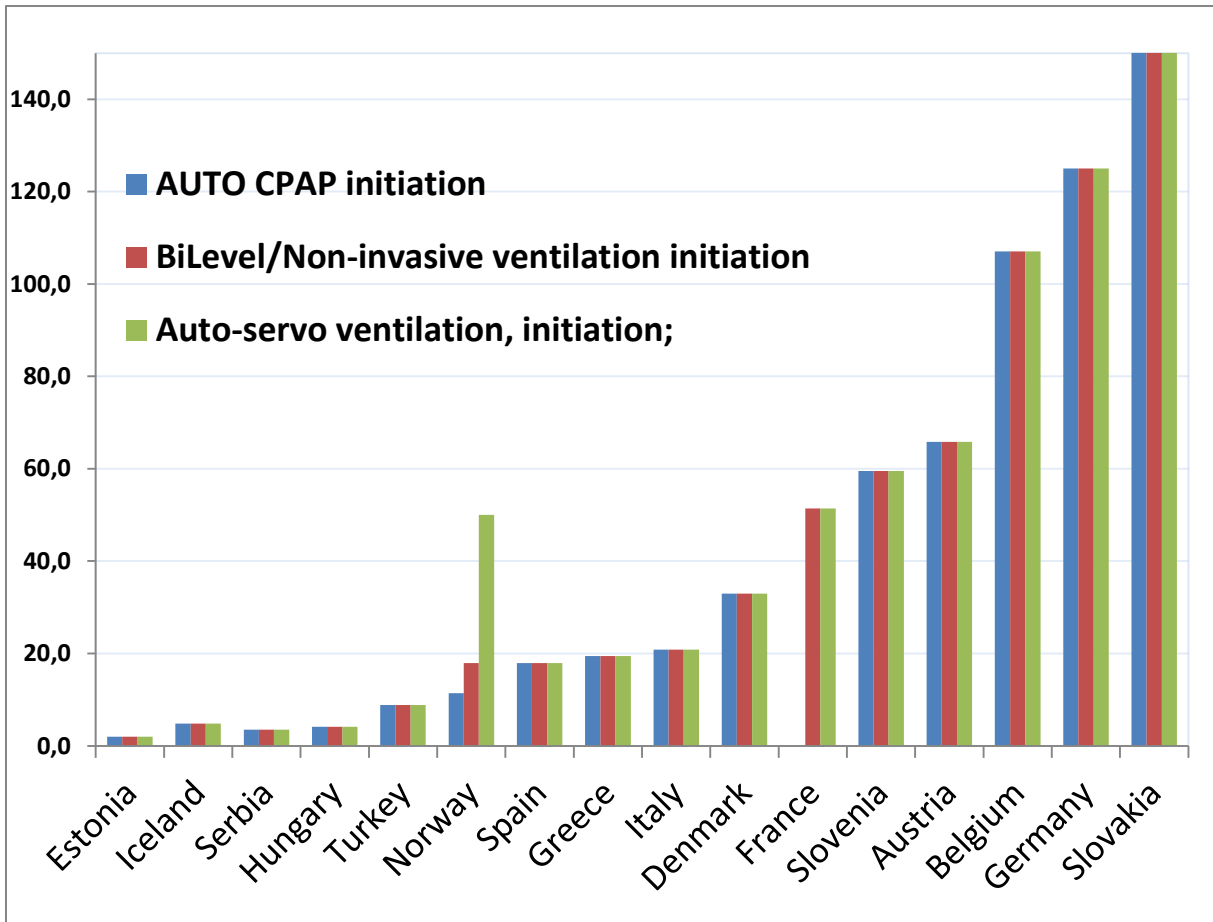


Figure 4: Reimbursement for PAP titration procedures in 15 European countries. (GDP/PPS adjusted, results do not represent monetary value)

The current prices for PAP treatment devices are highly variable between countries and may even vary within countries. BiLevel- and ASV devices are usually more expensive than CPAP devices. The numbers given do not account for different subtypes and extra features of the devices.

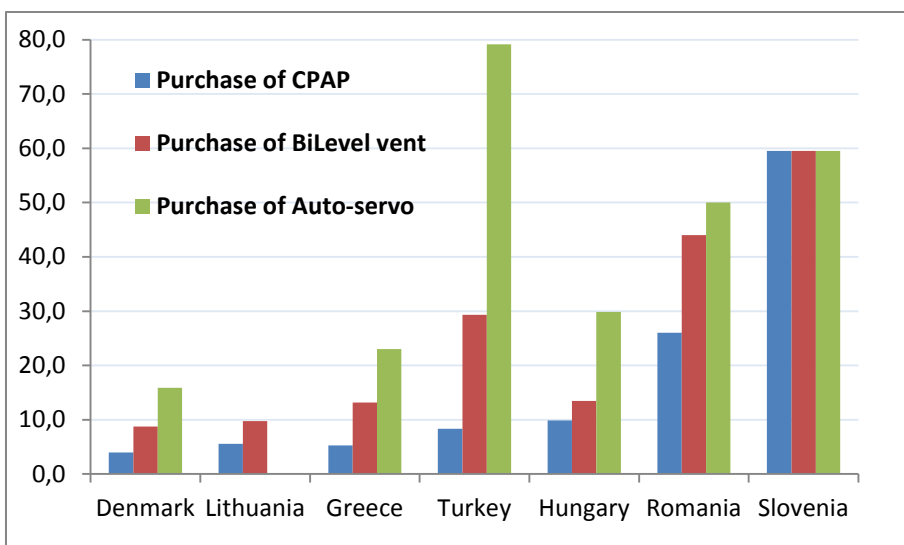


Figure 5: Prices for PAP devices in 6 countries (GDP/PPS adjusted, results do not represent monetary value)

In a number of countries, PAP devices are distributed to patients with a leasing or rental mode of payment.

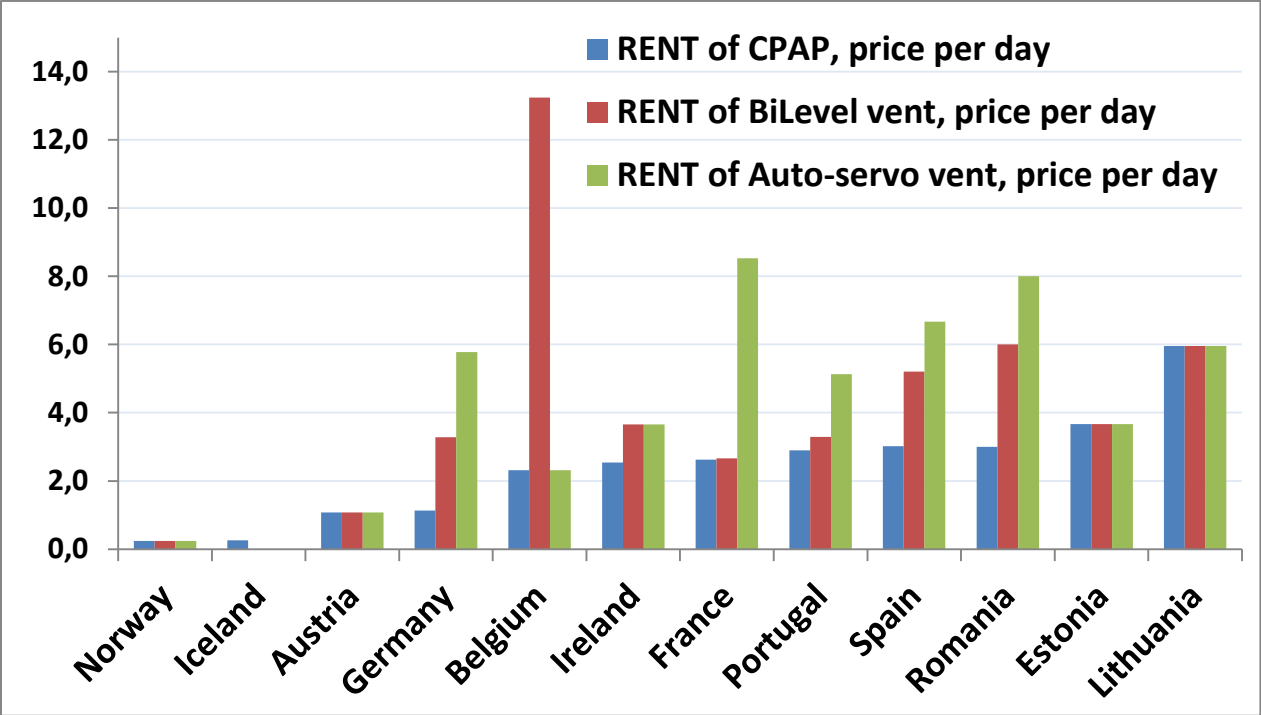


Figure 6: Rental costs for PAP devices derived from 12 European countries. (GDP/PPS adjusted, results do not represent monetary value)

Summary and discussion:

Our data suggest for the first time that reimbursement for sleep medicine services is highly variable across European countries. In addition, prices for PAP devices are also different between and within countries. Our data are limited to information gained from the public health area and may be very different in private health care. Our analysis pinpoints that at least part of the sleep medicine services are significantly underpaid which may negatively influence the process and outcome quality as well act as a hinder for adequate access to sleep medicine services in parts of Europe. Furthermore the reimbursement for diagnostic sleep procedures may differ greatly from the reimbursement for treatment within a country.

A number of limitations need to be considered. First, our data are based on information from the presidents of the national sleep societies, only. No formalized protocol for data assessment has been implemented and the representativeness of our data for each country cannot be assured. Second, reimbursement is rapidly changing and is exposed to competition between different healthcare providers. For example, tenders for CPAP devices may lead to significant reduction of prices which we cannot account for in our analysis. Third, data on national GDP/PPS and currencies are also exposed to continuous changes over time which make the assessment of reimbursement on country level imprecise. Fourth, even in the public healthcare system of one country the reimbursement strategies may differ. Finally, the mode of CPAP titration in Europe is variable and includes Auto CPAP titration (attended and unattended), attended CPAP titration with and without PSG, and/or the use

of formulas for prediction of fixed CPAP pressure. Similarly, titration of home mechanical ventilation for Bi-Level PAP devices may be performed in very different settings and are highly likely also dependent on the diagnosis and the clinical condition of the patient. The information on remuneration of this service was therefore even more complex to assess and the uniformity of reimbursement figures suggest that a rather mean value for all the different procedures or the value for the most common procedures were given. In our analysis we attempted at least in part to control for the limitations mentioned above. However, our results must be considered as a representative example but cannot be generalized without caution.

Future improvement of this analysis include the assessment of mean costs related to working forces involved in sleep medicine services (nurses and physicians) on a national level. This step will allow to evaluate not only the amount of time and resources actually spent for each sleep medicine procedures in the different countries but also lead to a more correct comparison of the level of reimbursement. By this analysis we may have a better understanding of the feasibility of reimbursement structures in Europe. In a further step, outcome of diagnostic and therapeutic procedures could be related to the efforts and costs spend for the different sleep medicine procedures.