

**Lessons**

According to the Slovenian data, women use more medicines than men, as do the elderly. Analyzing the data regarding medicines prescription to different age groups and gender, it is possible to educate doctors in order to improve the patients safety and also the population safety. For example, pediatricians in Slovenia were advised to prescribed less medicines to the age group under 4 years. Number of prescriptions was reduced from 151 Rp/100 inhabitants in 2006 to 132 Rp/100 inhabitants in 2010. Drug consumption monitoring is important in health care system planning and for determination of priorities in public health.

**Public health impact of the reference pricing system of medicines in Republic of Macedonia in 2009**

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**Introduction**

Medicines prices control mechanism did not exist in Republic of Macedonia until 2007. Supply of medicines on Positive list (PL) reimbursable by Health Insurance Fund (HIF) was done centrally by international tenders until 2004. Main selection criteria for best tender offer was medicines price, which determined their PL price. Reference pricing (RP) rules from 2009 use comparative analysis of prices in referent countries in the region. Reference price is the highest amount that HIF reimburses for particular prescription medicine.

**Objectives**

Impact of RP methodology on: 1) prices of nationally most consumed medicines, 2) financial affordability of PL medicines

for eight selected clinical conditions related to av. monthly wages, 3) number of same INN of medicines on the market.

**Methodology**

Comparative statistical analysis to estimate differences according to two pricing methodologies: international tender in 2004 and RP in 2009.

**Results**

Av. prices per pack of 20 most consumed PL medicines reimbursable by HIF decreased from 1,3€ in 2004 to 0,7€ in 2009 (Mann-Whitney U Test:  $Z = 2,164$ ,  $p = 0,0304$ ). Out of 20 medicines, 14 (70%) have decreased prices per pack between 2004 and 2009 (Student t-test:  $p = 0,0157$ ). Absolute cost of treatment for eight selected clinical conditions in 2009 vs 2004 is lower in six and higher in two conditions. Av. cost of all eight treatments is 2,84 € in 2004 and 2,12€ in 2009 (Wilcoxon Matched Pairs Test:  $Z = 1,120$ ,  $p = 0,2626$ ). Less working hours are needed to purchase medicines for all clinical conditions in 2009 (94,12 h) vs 2004 (227,87 h) (Wilcoxon Matched Pairs Test:  $Z = 2,240$ ,  $p = 0,0250$ ). Patients and prescribers have wider selection of marketed medicines with same INN in 2009 vs 2004 (Mann-Whitney U Test:  $Z = -2,607$ ,  $p = 0,0091$ ).

**Conclusions**

Public health impact of RP system includes lower medicine prices, bigger choice for patients and prescribers, HIF funds savings. RP methodology reduces price of most consumed medicines by increasing market offers of generic equivalents, due to ATC grouping of medicines and prices comparison of same generics in reference countries in the region. Better financial affordability of medicines in 2009 is partly result of lower medicines prices, but predominantly result of higher monthly wages.

## 4.C. Professional practice

**Attitude and knowledge of health services providers**

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**Background**

The medical use of ionizing radiations is growing as a result of technical progress and the continuing expansion of the field of possibilities that it generates, not only in therapeutic effects but also in getting diagnostic information. This fact has led to the increase of medical exposures that give no helpful insight toward the diagnostic purpose.

**Methods**

To find out the reason behind these useless medical exposures we have started an inquiry using questionnaires on 2000 radiologists, 500 physicians of different specializations and 1500 radiology nurses. Fearing that these questionnaires could be tinted by conscience (the answers reflect the knowledge of the subject not his actions) we have completed our inquiry with a direct investigation into the radiology units.

**Results**

We have noticed a great gap between the radio-protection knowledge of practitioners and their actions in the field: some do not do anamnestic exams at all, while 60% do the exams even when they find it useless.

Answers received from the physicians of different specializations prove that 80% of them have no knowledge of radiobiology, the physics of radiation or of the doses of radiation received during procedures by their patients. This is why they

recommend the procedure without examining the patient, fact proved both by the orders of medical examination and by the medical files found at the radiology centers of which 55% are left blank, neglecting even the examination of the body part for which the radiology exam had been requested.

83% of radiology operators (nurses) do not know either the role of the shutter or of the importance of the coincidence between the light and radiation beam, a counterproductive collaboration being noticed between them and the medical practitioner, fact reflected often in the quality of the x-ray films.

**Conclusions**

It is imperative that the future basic medical teachings ensure a solid knowledge of what radiology can offer the world of diagnostics and the risks involved in using this method of investigation.

Radiology operators (nurses) must be aware of what is expected of them when it comes to the quality of imaging and together with the radiologists they must help obtain the quality of film that leads to the correct diagnosis.

**The hybrid position of nurse practitioners in general practice**

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**Background**

The reorganization of health systems in European countries has led to new forms of collaboration between health professionals. In particular in general practice surgeries new patterns of organization based on work distribution, task