# High rates of self purchasing on oral antibiotics in Serbia: implications for future policies

M. Kalaba (Republic Institute for Health Insurance, Serbia), M. Bajcetic (University of Belgrade, Serbia), T. Sipetic (Medicines and Medical Devices Agency of Serbia), B. Godman (KI, Sweden; Mario Negri, Milan, Italy), S. Coenen (Infectious Disease Institute, University of Antwerp, Belgium), H. Goossens (University of Antwerp, Belgium)

## Introduction

There is currently high antibiotic consumption in Serbia. Expenditure on antibiotics is also growing with increasing use of newer expensive antibiotics. Utilisation is enhanced by patients also purchasing antibiotics directly at community pharmacies, which is illegal but currently only limited challenges to this practice.

## Objective

(a) Assess the extent of self purchases in Serbia

(b) Compare overall antibiotic consumption (reimbursed and total) with consumption in other EU countries documented on the ESAC database

(c) Suggest measures to reduce antibiotic consumption and expenditure in Serbia (reimbursed and self purchasing) based on experiences in other countries

## Methodology

a) Retrospective drug utilisation analysis of oral antibiotic consumption in DDDs and DDDs/ TID including the Penicillins - J01CA, J01CE, J01CF, J01CG, Cephalosporins - J01DB, J01DC, J01DB, Macrolides J01FA, and Quinolones - J01MA, J01MB, in both database: reimbursed - issued on prescription (RZZO) and the total including self purchases (Medicines and Devices Agency, ALIMS database) from 2005 to 2009
b) Total utilisation rates in 2007 compared with ESAC database for the same classes across Europe
c) Potential measures suggested based on the experiences of the co-authors

## Conclusions

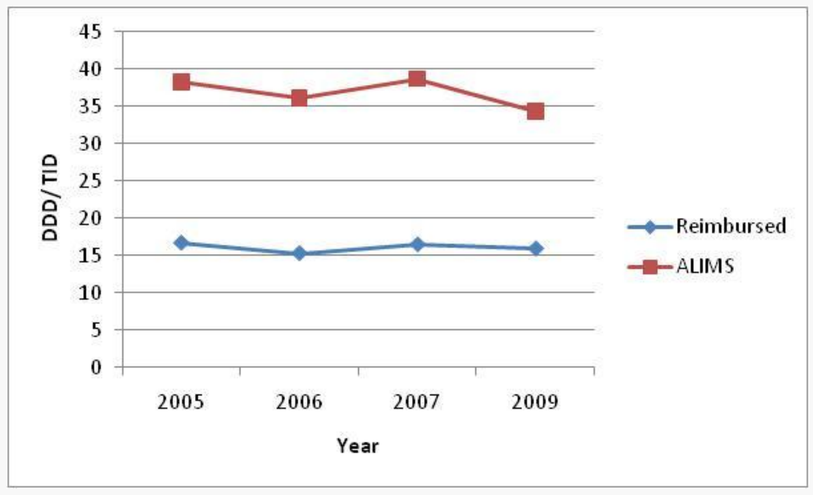
Extent of self purchasing antibiotics in Serbia is appreciably greater than other European countries including Spain, where self purchasing increased overall utilisation by over 30%. As a result, overall antibiotic consumption in Serbia is high compared with other EU countries.

Reducing antibiotic consumption must become a high priority among all national authorities in Serbia to reduce resistance development and conserve resources. Apart from compulsory implementation of existing law, additional measures could include monitoring of antibiotic prescribing against agreed guidance and educational campaigns among patients based on experiences in other European countries.

## Results

Reimbursed utilization decreased in Serbia by 5% (DDD basis) from 2005 to 2009 (Figure 1). Changes in utilization among the 4 reimbursed classes ranged from +29.7% for macrolides to - 8% for penicillins. Total utilisation (ALIMS data) appreciably higher than reimbursed (Figure 1).

Figure 1 – Antibiotic utilisation (reimbursed and ALIMS) 2005 to 2009 in DDDs/ TID




In 2007, Serbia had the highest utilisation of penicillins, second highest for macrolides (11.98 vs. 0.89 in Sweden) and third highest for quinolones (Figures 2 and 3).

Figure 2 – European penicillin consumption in 2007

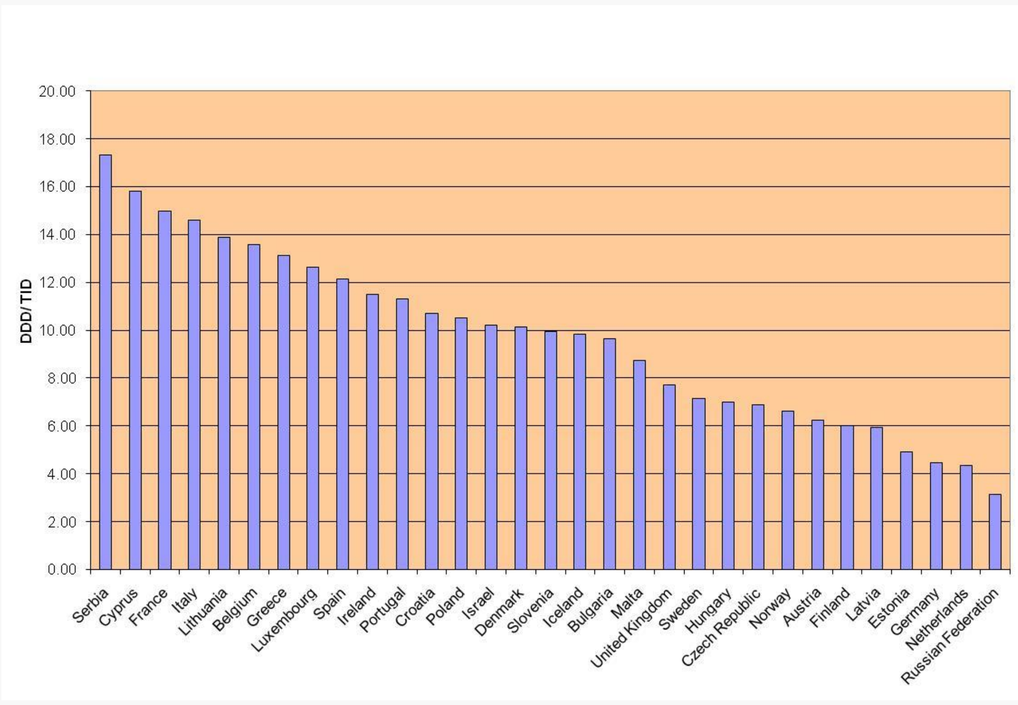
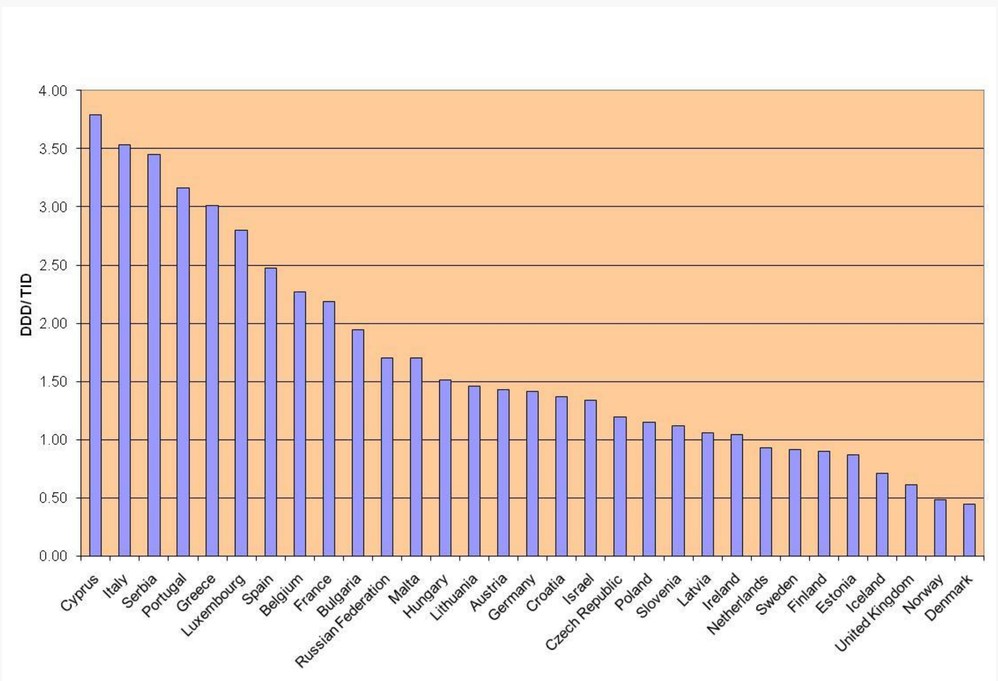



Figure 3 – European quinolone consumption in 2007




E-mail: marija.kalaba@rzzo.rs; Brian.Godman@ki.se
Telephone: 00468-585 81068