Global massive research and development (R&D) investment by the pharmaceutical industry was fruitful to place many cutting edge technologies on the market improving health care outcomes and life quality in previously incurable illnesses [1]. Innovation rate as well as rising health expectations due to improved living standards spilled over the skyrocketing health expenditure trends from the rest of the world to Eastern Europe as well [2,3]. Substantial demographic long term change contributing to the expanding morbidity and mortality from prosperity diseases has certainly accelerated population aging affecting majority of European nations as well [4,5]. Such a profound societal change reflected itself to the health care expenditure issues across nations [6]. Drug acquisition cost account for 15-20% in majority high-income economies [7] while it is much more relevant among emerging markets accounting for up to one half of public expenditure on health [8]. Regardless of rather modest contribution of pharmaceuticals to the overall financial burden of illness in many countries, these costs remain most easily reachable by different cost containment policies [9].

Serbia could be regarded typical of wider Eastern European national health systems reforms taking place during past 25 years. It is the largest Western Balkans market and its pharmaceutical sector inner changes reflect broader circumstances that globalisation brought to the emerging regional economies [10]. For beneath mentioned assessments we relied on two complimentary sources: Global Health Expenditure Database issued by the World Health Organization relying on National Health Account system [11] and European Health For All Database (HFA-DB) [12]. Joined databases allowed insight into core national expenditure related indicators of the local market during 1995-2012 time span. National Health Accounts system of evidence and tracking of financial flow within the national health systems across the globe has been implemented in Serbia for many years [13].

National health care expenditure during past 18 years has increased approximately five fold in purchase power parity (PPP) current $ terms. This pattern actually followed dynamic overall economic development of the country and surrounding region [3, 10]. Gross Domestic Product increased from lower middle income range in the middle of 1990ties to the upper middle income in 2012. Even more relevant compared to the health market size itself is its profound inner transformation. From Table 1 we can easily notice that tenfold pharmaceutical expenditure growth tops the list. This should be contributed to the strong and successful market access by many novel medical technologies that took place during past two decades [14]. Rather subtle, hidden change that can be observed is that public expenditure on medicines only tripled at the same time. This ratio virtually marks movement of drug acquisition costs from large state...
owned Eastern European, post-Semashko insurance funds towards ordinary citizens. This phenomenon was extensively described in literature with all its consequences for the affordability of drugs to the ordinary citizens [15]. In line with aforementioned fact, total out of pocket health care expenditure is the second ranked indicator with more than seven fold growth in 18 years. An unavoidable consequence of denial of patient access to the effective primary and preventive care is decreasing citizen satisfaction at the first place [16]. Even deeper “boomerang” effect is expected in terms of worsened health outcomes and longevity due to poor affordability of medicines and early diagnostic screenings to ordinary citizens [17].

Table 1. Health expenditure values and increase; Serbia 1995–2012 per capita PPP $ terms

<table>
<thead>
<tr>
<th>Indicator value</th>
<th>1995 or closest year available</th>
<th>2012 or closest year available</th>
<th>Increase ratio 2012/1995</th>
<th>Annual increase (PPP $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceutical expenditure*</td>
<td>$37.79</td>
<td>$366.88</td>
<td>9.71</td>
<td>$24</td>
</tr>
<tr>
<td>Out of pocket expenditure</td>
<td>$64.06</td>
<td>$464.03</td>
<td>7.24</td>
<td>$22.22</td>
</tr>
<tr>
<td>Private expenditure on health</td>
<td>$75.53</td>
<td>$485.37</td>
<td>6.43</td>
<td>$22.77</td>
</tr>
<tr>
<td>Total expenditure on health</td>
<td>$259.86</td>
<td>$1,249.78</td>
<td>4.81</td>
<td>$55.00</td>
</tr>
<tr>
<td>Social security funds</td>
<td>$170.56</td>
<td>$714.32</td>
<td>4.19</td>
<td>$30.21</td>
</tr>
<tr>
<td>General government expenditure on health</td>
<td>$184.32</td>
<td>$764.41</td>
<td>4.15</td>
<td>$32.23</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>$6.11</td>
<td>$22.55</td>
<td>3.69</td>
<td>$0.91</td>
</tr>
<tr>
<td>Public Pharmaceutical expenditure*</td>
<td>$56.98</td>
<td>$164.00</td>
<td>2.88</td>
<td>$8</td>
</tr>
<tr>
<td>Public funds*</td>
<td>$302.56</td>
<td>$759.76</td>
<td>2.51</td>
<td>$45.72</td>
</tr>
<tr>
<td>Rest of the world funds / External resources*</td>
<td>$3.37</td>
<td>$4.65</td>
<td>1.38</td>
<td>$0.10</td>
</tr>
<tr>
<td>Private insurance*</td>
<td>$4.14</td>
<td>$3.82</td>
<td>0.92</td>
<td>-$0.04</td>
</tr>
</tbody>
</table>

* Few indicator annual increase rates were calculated on shorter observation period ranging 8-17 years due to missing values. Majority of indicator’s values refer to the full 18 year time span.

Figure 1. National health expenditure trends in Serbia during 1995–2012 period; expressed in current PPP $ values per capita

Observing the landscape of structural changes, it should be inevitably emphasized that public sector remains the strongest single contributor with National Health Insurance Fund (RFZO) presenting the core first party payer. Trends depicted at Figure 1 exhibit that social security funds, public funding of pharmaceuticals and so called “rest of the world funds” and private insurance contributions follow the overall increase at a much slower pace. Lag of social security funding could be partially attributed to recession induced cost containment strategies currently in place [3, 10]. Another cause is prevailing growth of direct medical costs of demanding hospital inpatient care in many clinical disciplines as evidenced by pioneering domestic cost of illness assessments [19-24]. Poor participation in medical costs by private insurance companies reflects their insufficient market penetration in Serbia and broader CEE region [25, 26]. One of rather successful strategies to combat sky rocketing drug acquisition costs is generic replacement which proved itself among some of the leading global markets [27].

A continuous social transformation seems to be replacing historical legacy of unsustainable health funding mechanisms with growing out of pocket participation by the insured citizens. World Health Organization has declared universal health coverage as its main strategic goal for the national health systems [28]. So far, for the most of these 18 years, coverage by domestic insurance premiums was actually falling both in terms of variety of services offered and the percentage of general population owning such premises. Some key health outcomes of the national health system of Serbia such as life expectancy at birth have anyway increased. These promising successes bring some hope for the future. Nevertheless national policy makers will be forced to develop more efficient legal framework in order to finance health care in a long term sustainable manner. Current difficulties in provision of medical care and increasingly frequent drug shortages experienced in recent years might be an alarm bell if we learn fast. Serbian national health system with its centuries old legacy has the advantage of administrative tradition. If it overcomes current weaknesses and adapts to an increasingly globalised market where emerging BRIC economies influence is going to rise, it may become a proper model for the surrounding communities [29].

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REFERENCES


