Assessing Primary Care in Croatia: Could it be Moved Forward?

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Abstract

It is well known that countries with strong primary care achieve better health outcomes at lower costs. Therefore, the effort of World Health Organization in promoting primary care as a basic principal of successful health care system is an ongoing process. Although Croatia was recognized as a country with primary care orientation due to the development of health centers and introduction of specialist training of general practitioners, it seems that many health care reforms aimed at better organization of health institutions and decreasing of health care costs did not result with higher primary care orientation. By application of the Primary Care Score instrument in 2014 (Croatia received 11.2 out of 20 possible points), and international comparison performed in 2002, it was concluded that among the eighteen OECD countries Croatia could be categorized as an »intermediate primary care country«, obtaining the scores just a bit above the average.

Key words: primary care, health assessment, primary care score instrument, public health, Croatia

Introduction

There is growing evidence that countries with strong primary care (PC) achieve better health outcomes at lower costs1,2. Therefore, the effort of World Health Organization (WHO) in promoting PC as a basic principal of successful health care system is an ongoing process. It started with the Declaration from Alma-Ata3, and continued until the 2008 World Health Report Primary Care – Now More than Ever4, the reinforced resolution on PC, adopted in 2009 by all member states5. EU leadership, became more interested in the issue too: in the year 2006 the Commission set up a multidisciplinary and independent Expert Panel providing advices on effective ways of investing in health (Commission Decision 2012/C 198/06), focusing primarily on the »Definition of a frame of reference in relation to primary care with a special emphasis on financing and referral systems«6. Despite the bulk of evidence-based knowledge on the effectiveness of PC, international agreements and policy-makers everyday talks on the importance of PC, no sufficient efforts were invested in its development and integration in many countries, including Croatia.

From the 1950-ies, Croatia was well recognized as a country with high orientation toward the PC, due to the well-developed network of health centers along the country, responsible for the provision of comprehensive PC to the population of defined territory, with strong community orientation and the 3 years of specialist training of general practitioners (specialization in family medicine), starting from 1961. Since 1990-ies, the health system in Croatia is in constant changes. In the beginning, changes related to the PC were the introduction of a free choice of the PC doctors and the process of »privatization«. The responsibility for patients from a defined territory was replaced by responsibility for the patients on the PC doctors’ lists, patients who had freely chosen them7. In 1996, PC doctors became private entrepreneurs, with the obligation of contracting with the Croatian Health Insurance Fund (CHIF). Contractually they became obliged to provide primary health care for the patients on their lists8. However, this process of privatization has been implemented gradually, and therefore a certain number of PC doctors continued working within health centers as employees, or salaried doctors, but with the same contractual rights and obligations as the »private« PC doctors.
Since 2004, the cluster of reforms was focused on decreasing the growth of health care costs, and in PC particularly on prescribing, referrals and seek-leaves\textsuperscript{11}. In addition to age-adjusted capitation-fees reimbursement, fee-for-service for some preventive procedures was introduced as well as the fee-for-service reimbursement for certain diagnostic and therapeutic procedures with the aim to enlarge the scope of work and reduce referrals\textsuperscript{12}. Additional measures, aimed at rationalizing of prescribing, referrals and seek-leaves became further contractual obligations of the PHC doctors\textsuperscript{12}. In order to keep the rising health care costs under control, an additional private health insurance was introduced\textsuperscript{13}.

**Aim and scope of the study**

A combination of relatively poor health outcomes and raising health care costs, together with numerous changes within PC, were the reason to undertake this study. The main aims of the study were, therefore, to assess the orientation of the Croatian health care system toward the PC, its strengths and weaknesses related to the specific primary care characteristics and to make a comparison with the countries in which the same assessment method has been implemented.

**Methods**

The Primary Care Score instrument (PCS), proposed firstly by Starfield and lately developed by Macinko and Starfield, was applied, because this method has already been used in other countries previously\textsuperscript{14-16}. It allows for rapid and affordable first assessment in a country with limited number of systematic health service research, especially those from PC. The conceptual framework for this tool distinguishes between system characteristics describing the capacity for, and practice characteristics, describing the actual performance of PC practices. Components of system characteristics were:

a) Regulations: ¿Does special national policies exist that regulate the distributions of the PC providers and facilities?¿;

b) Financing: ¿What is the method of financing health care for the majority of the population?¿;

c) PC providers: ¿What is the predominant type of PC providers?¿;

d) Access: ¿What is the level of cost-sharing for PC visits or patients co-payment?¿.

The practice characteristics were:

a) Longitudinality: ¿Are individual patient lists required for all PC units?¿;

b) First contact: ¿Is there a requirement that PC practitioners serve as gatekeepers to other level of care?¿;

c) Comprehensiveness: ¿Is a full range of PC services and procedures available for all age groups?¿;

d) Coordination: ¿Are guidelines for the transfer of information between PC and other levels available and required?¿;

e) Family-centeredness: ¿Is there a requirement that client’s records be organized by family as opposed to by individual?¿;

f) Community-orientations: ¿Is there a policy that requires use of community-based data and/or presence of community members in PC management or priority-setting?¿\textsuperscript{14,15}.

Each characteristic is, according the predefined criteria, rated with a score 2 for »high» level of development, 1 for »moderate» level of development and 0 for »absence» or low level of development\textsuperscript{15}. The overall scores could vary from 0 to 20 points (that means 10 items times 2, 1 or 0 points).

The Delphi-group method was applied\textsuperscript{17,18}. The research was performed in July, 2014. Ten Croatian family doctors (FD) with different levels of expertise and different working conditions (rural, urban) were identified; five of them were very experienced FD with different kinds of academic degrees, and five younger FD but with at least 10 years of experience. The correspondence was arranged by e-mails in order to receive ratings that are independent from each other’s. They received standardized e-mails with instructions concerning the rating process, as well as criteria for each characteristic. After the first round, the first author calculated frequencies of assigned points for each characteristic. The results were then sent again to FDs to review the results and repeat rating process, considering the possibility of making an agreement. After the second circle, the first author re-calculated scores and sent the results back to FDs (the third circle), asking for repetition of ratings, again in order to establish consensus.

At the same time, various legislations and regulations or the research literature were searched in order to obtain information to which certain PC characteristics could be related. For instance, the characteristic named »system regulations» was related to the Establishment of the Networks of Primary Care Practices in Croatia, issued by the Ministry of Health, firstly in 1996, and updated several times until 2012 (last revision)\textsuperscript{19}.

Scores for each single characteristic, for system and practice characteristics and overall primary care score were compared with data from the literature which included 18 previously assessed countries.

**Results**

The results are presented in two parts. The first part describes PC characteristics in Croatia and the second part highlights international comparison.

**Description of PC characteristics in Croatia**

For the assessment of the PC in Croatia, a Delphi-method was used. After the three circles of assessment, complete agreement among FDs was achieved only in regard of two characteristics: Financing and Coordination. Closer agreement was achieved in the assessment of four characteristics: Longitudinality, Comprehensiveness, Fa-
Family-centeredness and Community orientation. A relative disagreement was observed in the assessment of the next four characteristics: Regulations, PC providers, Access and the First contact care. The results are presented in the Table 1.

Croatia obtained 11 out of 20 possible points or 11.2 points on average. Two characteristics got 0 points, 6 characteristics got 1 point and 2 got 2 points. Health care system characteristics acquired 6 out of 8 points; while only the existence of national policies that regulated PC providers and facilities equal distribution along the country acquired 2 points, and the others 1 point. Financing attained 1 point because it is mainly based on Bismarck model (contribution rate of 15% of revenues, brutto), but at the same time tax-based system does exist for certain population groups. Among PC doctors, the greatest segment is general practitioners (family doctors, FDs) providing healthcare only for adult population, while pediatricians and gynecologist, responsible for pre-school children and women, are in minority. Therefore, this characteristic received 1 point. Access to healthcare obtained 1 point, because, every PC visit and prescription should be cost-shared if the patients do not have additional insurance, except for only certain population groups. No health system characteristics received 0 points.

The primary care practice characteristics attained 5 out of 12 possible points. Only the longitudinality received maximum of 2 points, because an individual patient list is required for all PC units, based on a free-choice of PC doctors. Other characteristics: First contact, Comprehensiveness and Coordination received 1 point each, because of their moderate presence. Family-centeredness and Community orientations got 0 points, because of lack of regulations of their incorporation into the practice. They, therefore, do not exist in reality, except for family orientation in rural and remote areas. Table 2 presents the PC assessment scores for Croatia based on the related documents.

There were no great differences between the scores obtained from expert consensus (Table 1) and those based on documents (Table 2). Only the First contact healthcare, measured by gate-keeping role, made difference; it was well defined within the Health Care Act, but according to expert’s opinions, there were many examples of overcoming this rule in practice.

International comparison

An international comparison was made with the results of study done by Macinko, Starfield and Shi for 18 OECD countries, based on the same conceptual framework and use of the same Primary Care Score instrument. According to obtained scores, Croatia belongs to countries scoring above the mean, but on the last position (Table 3).

Discussion

Although Croatia was recognized in the second part of the last century as a county with primary care (PC) orientation due to the development of health centers along the whole country and introduction of specialist training of general practitioners, it seems that many health care reforms aimed at improving the organization and functioning of health institutions and decreasing the growth of health care costs, did not result with the higher level of PC orientation of the Croatian health system. After application of the Primary Care Score instrument (PCS) in 2014, Croatia received 11.2 out of 20 possible points. An international comparison from the data in 2002 shows that among 18 OECD countries that applied the identical assessment tool, Croatia could be categorized as intermediate primary care country, obtaining scores just minimally above the mean.

The possibility to make an international comparison was the one of the main reasons of using this version of PCS as an instrument to measure PC orientation in Croatia. Apart from possibility to perform ranking, the PCS was used to assess relationships between the PC country scores, among others variables, and different health care indicators, over the period of 28 years and in 18 OECD countries15. Generally, primary care score was negatively correlated with the all-cause mortality rates. It was also negatively correlated with specific mortality rates from ischemic heart disease, cerebrovascular disease, asthma, COPD and pneumonia. Furthermore, the scores were also linked with lower Potential Life Lost. Only the number of physicians and GDP per capita showed similar correlation, while individual determinants of health, such as alcohol consumption and smoking did not result in such strong correlations15. An enlarged version of the PCS with 15 items was used several times.
times in the past, by Starfield and colleagues. Overall health care costs and costs for medications were smaller in the countries with high PC scores as well as the higher level of self-perceived health\textsuperscript{1,14}. Despite the raising healthcare expenses, Croatia is facing week-population level health outcomes. The overall life expectancies are, at any age, under the EU average, and general and specific mortality rates are above these levels. Only the early perinatal mortality rate is under the EU average\textsuperscript{26}.

Although this study is limited in scope, it is the first attempt to assess overall country’s primary care orientation based on a reliable instrument. The validity and reliability of the PCS has been tested in several ways, using expert opinions, Cronbach’s alpha, factor analyses and finally by comparison of obtained results with those from the literature\textsuperscript{15}. The PCS provide only a general inside into the PC orientations in particular country, of course. Other scoring systems should be used for the deeper understanding of the different aspects of the quality of PC in particular country, such as the Primary Health Care Activity Monitor for Europe (PHAME\textsuperscript{2}), the System Primary Care Assessment Tool (PCAT)\textsuperscript{28} and the QUALICOP\textsuperscript{29}. Additionally, those tools are quite comprehensive, not easy for use and still with no possibilities for international comparison. A probably rater’s bias because of the low number of participating experts could be one of the study limitations, moreover because Delphi-group method did not result in complete agreement. To overcome limitations, comparison of obtained results with the analyses of legal and other documents (laws, regulations, research findings) was performed, supporting in that way Croatian’s primary care characteristics scores. A limited comparability of results in the time perspective in order to obtain reliable time-trends, is related to the lack of the same or similar research in Croatia.

<table>
<thead>
<tr>
<th>Items</th>
<th>Characteristics Description of characteristics</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care system characteristics – 6 points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Regulation</td>
<td>A special national policies do exist that regulate PC providers and facilities equal distribution along the country – Ministry of Health, The Network of Public Health Institutions, including Primary Care Practices\textsuperscript{19}</td>
<td>2</td>
</tr>
<tr>
<td>2. Financing</td>
<td>Compulsory health insurance does exist; Bismarck model mainly based on revenues, and Beveridge, tax-based model for certain population groups – Ministry of Health, Health Insurance Act – regulations on the revenues collections\textsuperscript{20}</td>
<td>1</td>
</tr>
<tr>
<td>3. PHC providers</td>
<td>General practitioners (mainly) for adult populations, pediatricians for children, gynecologist for women. Some GP practices, mainly in rural areas, include care for children – Ministry of Health, Health Care Act – definition of primary, secondary and tertiary care and their providers, PC providers\textsuperscript{21}</td>
<td>1</td>
</tr>
<tr>
<td>4. Access</td>
<td>Cost-sharing for PC visits or patients co-payment is obligatory, except for those having additional health insurance or those freed, the level is moderate – Ministry of Health, Health Insurance Act\textsuperscript{21}, CHIP Decision on »administrative« taxes\textsuperscript{22}.</td>
<td>2</td>
</tr>
<tr>
<td>Primary care practice characteristics – 6 points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Longitudinality</td>
<td>Individual patient list is required for all PHC units, based on a free-choice of doctors – Ministry of Health and Social Affairs, Health Care Acts from 1993–2013; rights and obligation of free choice of PC physicians were declared\textsuperscript{20}</td>
<td>2</td>
</tr>
<tr>
<td>6. First contact</td>
<td>PC practitioners serve as gatekeepers to other level of care, but it is possible to overcome this rule: intervention by emergency service, some specialist consultations – Ministry of Health, Health Care Act – gate-keeping role of PC doctors was defined\textsuperscript{11}</td>
<td>2</td>
</tr>
<tr>
<td>7. Comprehensiveness</td>
<td>Some PC services and procedures are not available for all age groups at one place, e.g. children, women, home care nursing, palliative care are provided by specialized services – research results, Tiljak, Budak\textsuperscript{23,24}</td>
<td>1</td>
</tr>
<tr>
<td>8. Coordination</td>
<td>Guidelines for the transfer of information between PHC and other levels are formally available, but not used in practice. There are not precise guidelines and division of tasks, except for the obligations of providing medical records\textsuperscript{25}</td>
<td>1</td>
</tr>
<tr>
<td>9. Family-centered</td>
<td>Very rarely Family centeredness, client’s records are organized by individuals not by families – No legal obligations to have a whole family under the care and no obligation for keeping family medical records</td>
<td>0</td>
</tr>
<tr>
<td>10. Community-oriented</td>
<td>No community-orientation. Policy that requires use of community-based data and/or presence of community members in PC management or priority-setting do not exists – No legal obligations.</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>
But, Macinko and collaborators’ research showed that main scores from 18 counties did not change significantly over time. A comparison with the lesser developed countries or neighboring ones with similar starting positions is also impossible due to the missing data.

Despite limitations, this study may encourage stakeholders and decision makers to move Croatian health care system towards more PC orientated. Results may be used to inform on the content of future health care reforms. As many of the characteristics ranked low or intermediate, different policy options concerning the organization and provision of PC arise. One policy option could be the implementation of family-centeredness and community orientation, both characteristics rating zero in our research. To have the entire family under the care of one doctor, a fully implementation of free choice of FDs’ would be needed; allowing by the regulations, also for rights of parents to freely choose a doctor for their children or rights of women to freely chose a doctor for care of specific aspects of women’s health. The same changes within the medical information system introduced in PC in 2008 are possible too, allowing for family, not only individual medical record system.

On the other hand, a certain limitations in a free-choice of doctor in relation to community or geographical area would be useful. Nowadays experience indicate, that many patients choose their PC doctors relatively distant from their places of residence, which makes PC less community oriented and less accessible, especially home visits and home care. Community-orientation, as policy that requires use of community-based data and/or presence of community members in a PC management or their participation in priority-settings has been well developed during the last part of the twentieth century. It seems that privatization of PC introduced the orientation toward individual patients, and not community. However, the existing positive experience could be additionally reinforced through local authorities as the most responsible for the provision of PC on their territory; moreover when resources are well developed. Health centers with trained professionals still exist and PC doctors, as solo practitioners, work as concession-holders with local governments, thus being partners in the process of planning and fulfilling of health care measures. Group practice type of FDs organization could be strong support to improve community orientation of PC.

The same situation is with other, not highly rated characteristics, such as less accessibility due to the co-payments, gate-keeping role of PC doctors, or the problem of coordination, which could easily be overcome. Until now, there is no research related to the implications of the introduction of high level of payment, called the administrative tax or the introduction of additional health insurance on the PC utilization in our country. We lack insight on the health care use of impoverished or unemployed people, who can not afford additional insurance or pay for PC visits or medications. This is even more important if we consider that the inequalities in the out-of-pocket health care payments were observed before the introduction of additional insurance and administrative taxes. The absence of coordination between the PC and specialist care, not having any guidelines related to the division of tasks, could also be worth exploring in the future.

Since the 1990s, international studies have applied methods to assess the PC in many developed countries. But, still many other countries remained not having made enough effort. Such lack of knowledge can limit the role of PC in future health care reforms. This study, therefore, could be seen as an encouragement to apply the instrument used in this research to obtain necessary information. It is even more important because the instrument is freely accessible and can easily be implemented, with no need for financial resources.

<table>
<thead>
<tr>
<th>Country Scoring above the mean</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK 19</td>
<td></td>
</tr>
<tr>
<td>Denmark 18</td>
<td></td>
</tr>
<tr>
<td>Spain 16.5</td>
<td></td>
</tr>
<tr>
<td>Netherlands 15</td>
<td></td>
</tr>
<tr>
<td>Italy 14</td>
<td></td>
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<tr>
<td>Finland 14</td>
<td></td>
</tr>
<tr>
<td>Norway 13</td>
<td></td>
</tr>
<tr>
<td>Australia 13</td>
<td></td>
</tr>
<tr>
<td>Canada 11.5</td>
<td></td>
</tr>
<tr>
<td>Sweden 11</td>
<td></td>
</tr>
<tr>
<td>Croatia 11.2 (12)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country Scoring below the mean</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan 7.5</td>
<td></td>
</tr>
<tr>
<td>Portugal 7</td>
<td></td>
</tr>
<tr>
<td>Belgium 4</td>
<td></td>
</tr>
<tr>
<td>Greece 4</td>
<td></td>
</tr>
<tr>
<td>USA 3</td>
<td></td>
</tr>
<tr>
<td>Germany 3</td>
<td></td>
</tr>
<tr>
<td>Switzerland 2.5</td>
<td></td>
</tr>
<tr>
<td>France 4</td>
<td></td>
</tr>
</tbody>
</table>

Summary statistics for the OECD Countries: Number of countries – 18; Mean score – 9.65; Std. Deviation – 5.31
Conclusion
This study provides the first internationally comparable evidence about development of primary care in Croatia. The obtained results indicate that Croatia belongs to the intermediate primary care country, still having many possibilities to move forward.

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REFERENCES


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SAŽETAK
Postoje dokazi da zemlje s jakom orijentacijom prema primarnoj zdravstvenoj zaštiti postižu bolje rezultate uz manje troškove. Zbog toga Svjetska zdravstvena organizacija stalno promovira primjenu osnovnih principa za uspješnu zdravstvenu zaštitu. Iako je Hrvatska zbog postojanja domova zdravlja i uvođenja specijalizacije obiteljske medicine bila prepoznata kao zemlja s orijentacijom prema primarnoj zdravstvenoj zaštiti izgleda da mnoge zdravstvene reforme za bolju organizaciju zdravstvenih ustanova i smanjivanje troškova zaštite nisu rezultirale jačom orijentacijom prema

takvoj zaštiti. Primjenom istraživačkog instrumenta Primary Care Score 2014. godine (Hrvatska je dobila 11,2 od 20 mogućih bodova) i međunarodne usporedbi iz 2002. godine zaključak je da se Hrvatska, između 18 OECD zemalja, može kategorizirati kao zemlja sredine u primjeni načela primarne zaštite, samo malo iznad prosječne vrijednosti.

APPENDIX 1

<table>
<thead>
<tr>
<th>Component</th>
<th>Indicator</th>
<th>Rational</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regulation</td>
<td>Does special national policies exist that regulated PC providers and facilities?</td>
<td>These policies are intended to improve equity in distribution of PC services</td>
<td>0 = no overall PC regulations 1 = limited (only some regions or populations) 2 = entire system regulated</td>
</tr>
<tr>
<td>2. Financing</td>
<td>What is the method of financing HC for the majority of the population?</td>
<td>Scored by the level of progressivity, tax-based system considered most progressive</td>
<td>0 = primarily private 1 = social security 2 = primarily tax based</td>
</tr>
<tr>
<td>3. PC providers</td>
<td>What is the predominant type of PC providers?</td>
<td>Generalist (GP, FD) considered best providers of PC</td>
<td>0 = majority are specialists 1 = majority are paediatricians, internists... 2. majority are generalists</td>
</tr>
<tr>
<td>4. Access</td>
<td>What is the level of cost-sharing for PC visits, patients co-payment</td>
<td>High PC co-pays considered to be a barrier to access</td>
<td>0 = high co-pay 1 = moderate 2 = none or very low</td>
</tr>
<tr>
<td>5. Longitudinality</td>
<td>Are individual patient list required for all PC units?</td>
<td>Patients lists considered optimal way to track patients over time</td>
<td>0 = never required 1 = limited used (or group lists only) 2 = mandatory and ubiquitous</td>
</tr>
<tr>
<td>6. First contact</td>
<td>Is there a requirement that PC practitioners serve as gatekeepers to other level of care?</td>
<td>First contact is an essential if PC is to attend to the majority of health problems</td>
<td>0 = never required 1 = required but not enforced or required for limited population only 2 = always required</td>
</tr>
<tr>
<td>7. Comprehensiveness</td>
<td>Is a full range of PC services and procedures available for all age groups?</td>
<td>Specific list of services includes: prevention, mental health, minor surgery, routine obstetrics care...</td>
<td>0 = not comprehensive (some services offered only in speciality care) 1 = somewhat (all offered but not in every PC unit) 2 = all offered in most locations</td>
</tr>
<tr>
<td>8. Coordination</td>
<td>Are guidelines for the transfer of information between PC and other levels available and required?</td>
<td>Data transfer (either through electronic or through client held records) is essential for coordination care between levels.</td>
<td>0 = no guidelines present 1 = guidelines present, but not widely used 2 = guidelines present and required</td>
</tr>
<tr>
<td>9. Family-centred</td>
<td>Is there a requirement that client’s records be organised by family as opposed to by individual?</td>
<td>Indicator that PC consider patients’ family environment in diagnosis and treatment.</td>
<td>0 = never required 1 = required for only some regions or population 2 = generally required</td>
</tr>
<tr>
<td>10. Community-oriented</td>
<td>Is there a policy that requires use of community-based data and/or presence of community members in PC management or priority-setting?</td>
<td>PC is more effective when it treats patients in their larger social context</td>
<td>0 = never required 1 = required for limited population only 2 = generally required</td>
</tr>
</tbody>
</table>

a Total Score