



**EVALUATION OF THE ORGANIZATION AND
PROVISION OF
PRIMARY CARE IN** **SERBIA**

A survey-based project in the regions of
Vojvodina, Central Serbia and Belgrade

Primary care in the WHO European Region

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Vojvodina, Central Serbia and Belgrade



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ABSTRACT

In many countries in transition, health reforms are part of profound and comprehensive changes in essential societal functions and values. Reforms of (primary) care are not always based on evidence, and progress may be driven by political arguments or the interests of specific professional groups, rather than by the results of sound evaluations. However, policy-makers and managers nowadays increasingly demand evidence of the progress of reforms and the responsiveness of services. The implementation of the WHO Primary Care Evaluation Tool (PCET) aims to provide a structured approach to this by drawing on health system functions such as governance, financing and resource generation, as well as the characteristics of a good PC service delivery system: accessibility, comprehensiveness, coordination and continuity. This report gives an overview on the findings for Serbia.

The project was implemented in Serbia in 2009 in the framework of the 2008–2009 Biennial Collaborative Agreement between the WHO Regional Office for Europe and the Ministry of Health of the Republic of Serbia, which lays out the main areas of work for collaboration between the parties. Other partners were the Netherland Institute for Health Services Research (NIVEL) – a WHO Collaborating Centre for Primary Care – and other stakeholders in the health system of Serbia, such as national policy experts, managers, medical educators, PC physicians and their patients.

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ABBREVIATIONS

| | |
|-------|--|
| BCA | Biennial Collaborative Agreement between the WHO Office for Europe and Member States |
| CIS | Commonwealth of Independent States |
| CHC | community health centre |
| CME | continuing medical education |
| EU | European Union |
| EU15 | European Union Member States before May 2004 |
| GDP | gross domestic product |
| GP | general practitioner |
| HIF | Health Insurance Fund |
| IUD | intrauterine device |
| NGO | non-governmental organization |
| NIVEL | Netherlands Institute for Health Services Research |
| PC | primary care |
| PHC | primary health care |
| PCET | Primary Care Evaluation Tool |
| PPP | purchasing power parity |
| RH | reproductive health |
| SDR | age-standardized death rate |
| SMS | Serbian Medical Society |
| STI | sexually transmitted infection |
| TB | tuberculosis |
| WHO | World Health Organization |

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FOREWORD

Primary health care embodies the values and principles that WHO pursues in its world-wide effort to help countries strengthen their health systems efficiently and equitably. WHO renewed its commitment to global improvements in health, especially for the most disadvantaged populations, in the *World health report 2008*, which urges countries to act on evidence that access to PC services forms the core of an efficient and appropriate health care system. The title of the report underscores the urgency of its message: *Primary health care – Now more than ever*.

Over the past 30 years, health in the 53 WHO Member States in the European Region has improved considerably overall, despite significant changes in the patterns and trends in disease occurrence, demographic profiles and exposure to major risks and hazards in a rapidly evolving socioeconomic environment. In addition, the Region has seen trends towards more integrated models of care and greater pluralism in the financing and organization of health systems. Governments are continuing to rethink their roles in population health and health care organization and delivery, thereby changing the context for framing and implementing health policy.

This report evaluates PC developments in Serbia, using a methodology that characterizes a good PC system as one that is comprehensive, accessible, coordinated and integrated. Other necessary attributes are continuity and equal consideration to all the functions outlined in the WHO framework in order to improve the overall health system. This means that the financing arrangements, service delivery, human and other resources (such as appropriate facilities, equipment and drugs) and necessary legal frameworks and regulations must be in place, and the system must have effective leadership. The report thus offers interested policy-makers and stakeholders a structured overview of the strengths and weaknesses of the country's PC organization and provision, taking into account the opinions of the professionals and patients concerned. The report focuses on structural performance, and provides a list of proxy indicators. However, it does not examine the process or outcome of care itself, and thus its quality. It does, nonetheless, signify a first and very important step towards a baseline for improving PC processes and outcomes. We at the WHO Regional Office for Europe hope that this report will contribute to further PC reform in Serbia.

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EXECUTIVE SUMMARY

This report summarizes the results of the WHO Primary Care Evaluation Tool (PCET), which was implemented in Serbia in 2009 in the framework of the 2008-2009 Biennial Collaborative Agreement (BCA) between the WHO Regional Office for Europe and the Ministry of Health of the Republic of Serbia, which lays out the main collaborative areas between the parties. Other partners were the Netherlands Institute for Health Services Research (NIVEL) – a WHO Collaborating Centre for Primary Care – and other stakeholders in the health system of Serbia, such as national policy experts, the Institute for Public Health, educational institutions, regional authorities, PC physicians and their patients.

Introduction

The Primary Care Evaluation Tool (PCET) is an instrument developed for the WHO Regional Office for Europe to examine both supply and demand-side aspects of PC. It is intended to support ministries of health and other stakeholders in monitoring the progress of their PC-related policies and reforms and to set new priorities on the basis of evidence-based information with the aim of further strengthening PC.

Methods

The tool was implemented in Vojvodina, Belgrade and Central Serbia in 2009. Data were processed and analyzed in December 2009 and January 2010. The survey approach relies on the self-reported experiences of physicians and their patients. The underlying methodology for the design of the PCET was derived from the WHO 2000 Health Systems Framework (1), which indicates that the performance of a health system is determined by the way in which its functions – stewardship, resource generation, financing and service provision – are organized. The PCET framework encompasses these four functions, together with the key characteristics of PC services, including: accessibility, continuity, coordination and comprehensiveness. Furthermore, a number of key dimensions and subthemes were identified for each of the PC functions and characteristics and in a second step translated into indicators or proxies. In order to evaluate the complexity of PC systems, information is gathered on different levels from demand and supply sides alike. The PCET therefore consisted of three questionnaires: one for the national level of PC, one for PC physicians/general practitioners (GPs) and one for patients. Together, the three questionnaires covered the PC functions identified and the dimensions and items derived from the framework. The questionnaires for GPs and patients were pre-structured, with precoded answers. The questionnaire for the national level contained both prestructured and open-ended questions, as well as statistical data to be filled in.

Results

National (based on information gathered by the health system questionnaire and interviews with national policy experts)

Stewardship / governance

Especially since 2002, specific PC (PC) legislation has been developed in Serbia. In the policy document *Better health for all in the third millennium*, prevention and PC were prioritized. At the Ministry of Health, PC-related responsibilities have been allocated to several departments. Mechanisms have been created to systematically involve stakeholders and interest groups in health policy development. Major PC reforms

include separating primary and secondary care delivery (expected completion 2010), the advanced introduction of the “chosen doctor” and ongoing PC decentralization in favour of municipalities. Recent plans and activities focus on a new performance-related payment system, human resources planning, a relicensing scheme for health care workers and a voluntary accreditation scheme for community health centres (CHCs).

Financing

One quarter of the Serbian health budget is spent on PC, with CHCs mostly funded from the Health Insurance Fund and municipal sources providing the rest. As all PC physicians have a salary and are employed by the state, there are few financial incentives for good performance. Salaries of GPs and paediatricians are equal. Salaries of medical specialists are 35% above the salaries paid in PC. Performance indicators have been developed as the basis of a new capitation-based payment system, which is expected to improve the quality of PC services. The existing copayments for essential services, such as consultation of primary and secondary care physicians and prescribed drugs, are an obstacle to health care access.

Human resources

Around one quarter of all physicians in Serbia work in PC, as GPs, paediatricians, gynaecologists, occupational physicians and dentists. PC nurses comprise one third of the total in the country. GPs, paediatricians and gynaecologists are organized in their own professional organizations. All four faculties of medicine offer three-year postgraduate GP training programmes. The quality of PC services is monitored at various levels by many clinical and other indicators. Clinical guidelines for specific use in PC are being developed on a range of topics; 25 have been distributed.

Service delivery

On average Serbian citizens have four PC contacts per year, with 22% resulting in referral to a specialist and 13.5% in hospital admissions. There are 1.6 drug prescriptions made per patient contact.

Physician and patients

(based on survey responses)

Accessibility of care

The reported size of the practice population of GPs was 1200 on average, well below the national norm. Paediatricians reported an average population of almost 1000. Nevertheless, almost half of the GPs and paediatricians indicated that staff shortages existed in their CHC. Home visits were rare. Physicians as well as patients answered that patients' access to services was good, although evening access could be better. Physical access (except for wheelchair users) as reported by patients was good and most patients were satisfied with current opening hours and services. Patients in rural areas were somewhat more satisfied than patients in urban areas. However, financial access left something to be desired. Patients reported having had to pay for several essential services. The use of clinical guidelines, as reported by physicians, was far from universal, in particular among paediatricians. Although obligatory, patient complaint procedures were reported to be generally lacking. Evaluation of patient satisfaction was frequently reported. The recommended job satisfaction interviews with health care workers were reported by half of the respondents.

Coordination of care

Structured cooperation was most frequently intradisciplinary. Regular meetings with medical specialists at the secondary level were rare, but asking advice on a case-by-case basis was frequent. The average referral rate of GPs was very high compared to other countries as well as to paediatricians. GP referral rates varied regionally. The usual finding that urban PC physicians have higher referral rates than those in rural practices was not confirmed in Serbia, where the rates were similar. From the patient survey it turned out that patients generally felt they could choose a doctor and change if desired. Although most patients found communication among the physicians they visit insufficient, they were confident that their GP or paediatrician would receive information about a treatment completed by another physician. Patients were very satisfied with the cooperation between their doctor and the practice nurse. Patients in rural areas were more positive than those in urban areas.

Continuity of care

Clinical records were well kept, but it was difficult to retrieve specific categorical information from the system. The flow of information between primary and secondary care related to patient referrals was good. Referral letters are widely used and medical specialists usually inform PC after specialist treatment has finished. Many PC physicians do not use computers and apparently keep records on paper. Other practice staff subsequently store clinical information in the computer, probably for management and statistical purposes. Computers were rarely used to search information. The use of computers strongly differed among regions. Results from the patient survey (including “heavy users”) suggest a very high PC visit frequency, not just to one’s own physician but also to others. This could indicate an imperfect functioning of the chosen doctor system. Patients were positive about their GPs and their professional skills were well appreciated. Patients were more positive about GPs than they were about paediatricians. Patients in rural areas were generally more positive about their doctors than those in urban areas.

Comprehensiveness of care

PC physicians, especially GPs, were not sufficiently equipped to provide a comprehensive package of preventive, curative and rehabilitative services in either urban or rural practices. However, the availability of laboratory and X-ray facilities (within or outside the practice) was good. Waiting times for results of diagnostic tests could be long, especially for GPs. Waiting time differences were small between urban and rural areas, but wide among regions. As expected, GPs reported a wider range of health problems in the first contact than paediatricians. However, the profile is rather small in international comparison. It seems that, in contrast to paediatricians, GPs lack a clear-cut clinical domain in first contacts. Urban and rural physicians did not differ in their role as first contacts. The GPs’ role in disease treatment was more comprehensive than that of paediatricians. GPs’ treatment profile seemed clearer than their first contact profile, with no differences between urban and rural areas. Involvement of GPs and paediatricians in providing medical technical procedures (e.g., minor surgical procedures) was generally very low, while they were modestly involved in screening and categorical services. Family planning and contraception seemed not to belong to the professional domain of GPs, especially in urban areas. Physicians indicated that medically unnecessary prescriptions were made in a small fraction of cases. A majority of GPs and paediatricians answered they would like to spend more time on prevention.

Table 1: Overview of selected (proxy) indicators by PC function for the regions of Vojvodina, Central Serbia and Belgrade

| Functions | Selected dimensions/proxy indicators | Findings Physicians (N=285) Patients (N=1655) |
|---------------------|--|---|
| Stewardship/ | Department in Ministry of Health specifically dealing with primary care (PC) | Yes (since 2007) |
| Governance | Ministry of Health department specifically dealing with PC | No |
| | % physicians reporting that a patient complaint procedure was in place in practice/unit | 83.0 |
| Financing | Employment status of PC physicians | 100% |
| State employed | % of active physicians in Belarus working in PC | 12.4% |
| | % patients reporting copayments for PC prescriptions | 58.0 |
| Resource generation | % of active physicians in Serbia working in PC | 28.0 |
| | % doctors working in PC who are retrained GPs | 21.6 |
| | Average age of GPs | 49.0 |
| | Average age of paediatricians | 51.0 |
| | Hours GPs spend on professional reading (per month) | 17.5 |
| | Hours paediatricians spend on professional reading (per month) | 15.9 |
| | | 1% |
| | Medical universities with a department of General Practice / Family Medicine | 5.0 |
| | Average number of items of medical equipment available to physicians (from a list of 30 items) | 14.0 |
| | % of physicians reporting no or insufficient access to a microbiological laboratory | GPs: 7.0 Paed.: 11.0 |
| | % of physicians reporting no or insufficient access to a biochemical laboratory | GPs: 1.0 Paed.: 5.0 |
| | % of physicians reporting no or insufficient access to X-ray facility | GPs: 8.0 Paed.: 7.0 |
| | % of physicians with a computer in the centre/practice | GPs: 61.0 Paed.: 57.0 |
| Service delivery | | |
| Service access | % of patients living within 20 minutes travel of GP or paediatrician | 73.0 |
| | Average number of registered patients per GP | 1197.0 |
| | Average number of registered patients per paediatrician | 975.0 |
| | Average number of patient consultations per day per GP | 39.0 |
| | Average number of patient consultations per day per paediatrician | 43.0 |
| | Average number of home visits per week per GP | 4.0 |
| | Average number of home visits per week per paediatrician | 2 |

| Functions | Selected dimensions/proxy indicators | Findings Physicians (N=285) Patients (N=1655) |
|---------------------------------|---|---|
| | Average working hours of GP per week | 35.0 |
| | Average working hours of paediatrician per week | 36.0 |
| | Average length of patient consultations (minutes) | GP: 14.7 Paed.: 14.5 |
| | Reported average contact rate with a GP by GP patients per year | 9.1 |
| | Reported average contact rate with a paediatrician by paediatrician patients per year | 9.1 |
| | % PC physicians offering evening opening at least once per week | 43.0 |
| | % GP & paediatrician patients having a same day consultation on demand | GPs: 77.0 Paed.: 64.0 |
| | Referral rate to specialist secondary services (% of all office and home care contacts) * | By GPs: 12% By paed.: 5.0 |
| | Referral rate to specialist secondary services (% of all office and home care contacts) * | rural: 10.3 urban: 9.9 |
| Coordination | % of PC physicians sharing premises with other PC physicians | 51.0 |
| | % of PC physicians having regular meetings with practice nurses | GPs: 15.0 Paed.: 11.0 |
| | % of PC physicians having regular meetings with midwives | GPs: 19.0 Paed.: 7.0 |
| | % of PC physicians having regular meetings with pharmacists | GPs: 1.0 Paed.: 0.0 |
| | % therapists providing routine antenatal care | 53% |
| Continuity | % physicians keeping medical records routinely | GPs: 92.0 Paed.: 96.0 |
| | % of patients assigned a GP (not chosen) | 5.0 |
| | % of patients assigned a paediatrician (not chosen) | 8.0 |
| | % of patients with their GP for at least 1 year | 78.0 |
| | % of patients with their paediatrician for at least 1 year | 75.0 |
| Comprehensiveness | % of physicians frequently using clinical guidelines | GPs: 61.0 Paed.: 41.0 |
| †= range 1 (never) - 4 (always) | Score for GPs' role in first contact care for a selection of 18 health problems† | 2.1 |
| | Score for paediatricians' role in first contact care for a selection of 18 health problems† | 1.7 |
| | Score for GPs' involvement in the treatment of a selection of 20 diseases† | 3.0 |
| | Score for paediatricians' involvement in the treatment of a selection of 20 diseases† | 2.2 |
| | Score for GPs' involvement in the provision of a selection of 16 preventive and medical-technical procedures† | 1.5 |

| Functions | Selected dimensions/proxy indicators | Findings Physicians (N=285) Patients (N=1655) |
|-----------|---|---|
| | Score for paediatrician or team member involvement in the provision of a selection of 16 preventive and medical-technical procedures† | 1.4 |
| | Coverage of public health activities (based on 12 items = 100%) by GPs on a routine basis | 32.0 |
| | Coverage of public health activities (based on 12 items = 100%) by paediatricians on a routine basis | 32.0 |
| | % physicians involved in cervical cancer screening programme | GPs: 16.0 Paed.: -% |
| | % physicians providing family planning / contraception services | GPs: 11.0 Paed: 32.0 |
| | % GPs providing routine antenatal care | 14.0 |
| | % paediatricians providing routine antenatal care | 42.0 |
| | % physicians involved in TB screening | GPs: 14.0 Paed: 13.0 |
| | % of PC physicians having regular meetings with local authorities | 22.0 |

* Self-referrals not included

Policy recommendations

Governance and regulation

- Coherence among PC services*

Teamwork and other facilitating conditions should be promoted to counteract fragmented provision.

The segmentation of the PC system in separate sections for women, children and adults is an unfavourable condition for coherent care provision. For instance, integration of care provided to members of one family may be more difficult to realize than in systems with family-oriented PC. The survey found little teamwork and few structural links among physicians from the three sections. No change in the current segmented system is foreseeable.
- Distribution of human resources*

Special attention should be paid to a more even distribution of human resources. Short-term measures should be taken to ensure it before new planning mechanisms are developed in the government's human resources strategy.

The distribution of human resources is uneven. In some regions physicians are working for practice populations far above the national norm, while in others there is an oversupply of staff.
- Regional variation*

There should be a policy decision on the acceptable degree of regional variations, and measures of central regulation or coordination should be taken to ensure even quality of, and access to care.

Considerable differences were found among the three regions, for example in referral rates to medical specialists, the use of computers and availability of test results.

- The functioning of chosen doctors
Measures should be taken to promote an effective functioning of the chosen doctor system as a cornerstone of health care reform.
Patients visit other PC physicians than their own chosen doctors, suggesting an imperfect functioning of the system, possibly resulting in duplication and poorly coordinated services.
- Home care
The provision of medical and nursing services in the home should be made available, considering the ageing of the population. Home care should be integrated with PC services, social services and long-term care.
Home care services, for instance for the frail elderly, chronically ill or those needing care after hospital discharge have not been developed yet. International trends toward more community care and shorter hospital stays suggest that home care services might be an effective response to the ageing of the population.

Education and professional development

- Professional PC skills
Further investigation should be undertaken to clarify whether the primary care professionals have the knowledge and skills required for the chosen doctor. If necessary, a CME plan to upgrade current capacity should be developed. More specifically, a list of essential skills should be included to the current CME accreditation.
As a result of the high number of referrals to specialists, the professional skills of PC physicians may have eroded below the level needed to provide good quality chosen doctor services.
- Effective CME
A CME system that is guided by the educational need rather than personal interests or other considerations aside from professional development, should be gradually introduced.
CME accreditation is an important step towards improving its quality. However, physicians and nurses themselves still decide what CME to attend. Often they do not choose subjects for which education is most needed.
- Use of clinical guidelines
Clinical guidelines that are accepted by professionals should be continuously produced and updated. Their use should be monitored, for instance by using them in CME programmes, and making their use part of the annual PC quality assessment.
The survey showed that the use of clinical guidelines is far from universal among PC physicians, especially paediatricians.
- The role of nurses in PC
The role of nurses in PC should be shifted from administrative work to nursing work (e.g., prevention, health information, routine monitoring of chronic patients). Mea-

asures need to be taken to delegate the administration when possible to non-medical workers, or to computerize it.

At present, most nurses are mainly involved in documentation and other paperwork.

Financing and payment

- Patients' payment for services

Investigation of the current copayments needs to be undertaken to examine to what extent they are compatible with the officially maintained principles of access.

Patients reported they had to pay for essential PC services including visits to physicians and prescribed drugs. These financial obstacles may threaten access to services, especially where socially and economically disadvantaged people are concerned.

- Financial incentives for physicians

The planned introduction of capitation payment should be accelerated, and additional financial incentives for improving performance should be considered. The possibility to work as independent contractors to the health insurance system should be given to physicians who would prefer so.

The current salary structure for physicians in PC lacks incentives for good performance.

Service delivery

- The range of PC services

It should be considered whether the present strong reliance on specialist and hospital services is in line with a policy that aims to prioritize PC.

The profile of provided curative services and the involvement in screening by physicians at the PC level was found to be very limited. For instance, GPs had a very limited role as doctors of first contact and rarely provide minor surgery and other medical procedures to their patients. Thus, many relatively simple curative services are provided at the secondary level, as reflected in the high referral rates.

- Clinics for prevention and health education

A critical evaluation of the preventive activities, including health promotion clinics, should be done with a view to the public they reach and their effects.

In PC much attention is paid to health education and prevention, both in individual patient contacts and in special clinics. In the patient survey, however, only very few respondents said their doctor spoke with them about topics of health promotion during such clinics.

- Medical equipment

It should be investigated whether the current low level of medical equipment restricts physicians in their role as chosen doctors. If so, investments should be made to bring the equipment up to the desired level.

Physicians had relatively few items of medical equipment at their disposal, which may restrict their clinical possibilities.

- IT
Measures should be taken to develop and/or implement relevant health information software, introduce computers in PC physicians' offices and make physicians computer-minded.
Computers were sparsely used to support physicians in their clinical work, for instance, for keeping patient records, rapid identification of patient groups at risk or for searching information in expert systems.
- Home visits
The role of PC physicians in caring for patients who are unable to visit the practice should be reconsidered.
Making home visits is unusual among PC physicians. Indeed, home visits are made by separate organizational units. However, treatment by the same physician in the office and in the patient's home can contribute to continuity of care.

I EVALUATING PRIMARY CARE: BACKGROUNDS AND APPLICATION

1.1. The theoretical framework of the PCET

Careful monitoring is required for the fundamental changes taking place in the health care systems of countries in transition. Although strengthening PC services is a priority of health reforms in many countries, in central, eastern and western Europe, the backgrounds of the reforms are not similar. In western Europe, emphasis on PC is a response to rising costs and changing demand resulting from demographic and epidemiological trends. Central and eastern European countries, as well as those formerly part of the Soviet Union, are struggling to improve the performance and cost effectiveness of their entire health systems. In many of these countries, health care reforms have been and continue to be part of profound and comprehensive changes in essential societal functions and values (2).

Evaluations and performance measurements increasingly play a role in health care reforms. Stakeholders need this information to guide their decisions in steering the health system towards better outcomes (3). In the past, reforms were not always based on evidence, and progress was often driven by political arguments or the interests of specific professional groups, rather than by the results of sound evaluations, but now stakeholders – not least governments – are increasingly held accountable for their activities and this requires evidence, for instance on the progress of reforms.

In addition, demographic and epidemiological changes require adaptation on the part of health systems. This requires evaluation of their responsiveness from the patients' perspectives. Such evaluations generate information about access and convenience of services, how patients are treated by health staff, how patients perceive information and communication about their conditions that can impact on their own behaviour and well-being and how their care is managed at the PC level and beyond.

Furthermore, evaluations and performance assessments should be explained within the national contexts. Only then can performance information serve as direct input to policy making and regulation. However, the role of governments goes beyond the direct use of information. The stewardship role also implies that a necessary flow of information be made available to other stakeholders and that the necessary analytical capacity be available (3).

A final major requirement of evaluations and performance assessments is to start from a proper framework for developing measures. Deriving indicators from an accepted framework ensures the relevance of the (proxy) indicators and good coverage of the identified areas. The following sections describe the framework used to develop the PCET.

Primary care evaluation and health systems

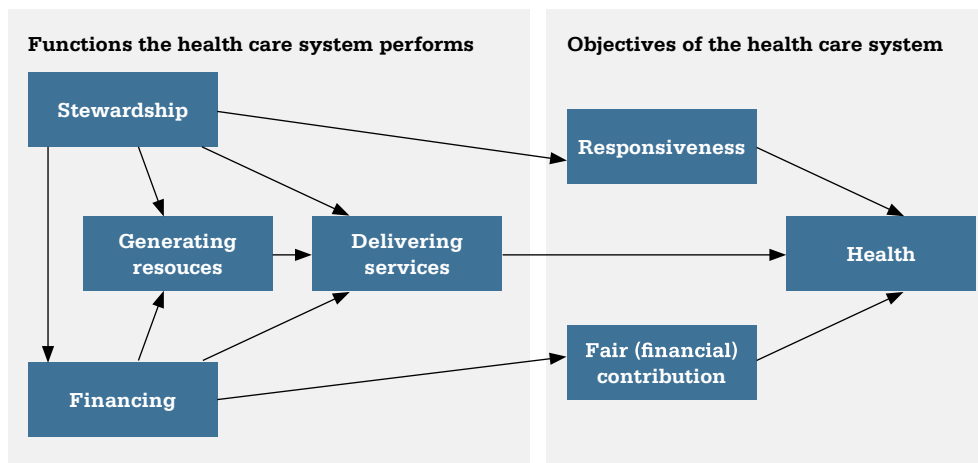
A health system can be defined as a structured set of resources, actors and institutions related to the financing, regulation and provision of health care to a given population. The overall objective of a health system is to optimize the health status of an entire population throughout the life cycle, while taking account of both premature mortality and disability (3). Health systems aim to achieve three fundamental objectives (1,3):

- improved health (e.g., better health status and reduced health inequalities);
- enhanced responsiveness to the expectations of the population, encompassing respect for the individual and client orientation; and
- guaranteed financial fairness (households paying a fair share of the national health bill and receiving protection from financial risk resulting from health care).

The level of attainment of these goals ultimately reflects the performance of the system as a whole. However, as there are variations in both health conditions and health systems among countries, national contexts need to be taken into account. Thus, performance measurement should cover both goal attainment and available resources and processes.

The WHO Health System Performance Framework (Fig.2) indicates that performance is determined by the way in which stewardship, resource generation, financing and service provision are organized (3). Other approaches can be found in the international literature (4,5,6,7), however, they all use related concepts. The four functions can be applied to the whole health system of a country – or to PC only – with specific subcharacteristics for PC.

Figure 1: WHO health system functions and objectives



Stewardship

Stewardship is an overriding function (but broader than regulation), in that it oversees all basic health system functions and has direct and indirect effects on outcomes (1). It encompasses defining the vision and direction of health policy, exerting influence through regulation and advocacy and collecting and using information. It covers three main aspects: a) setting, implementing and monitoring health system rules; b) assuring a level playing field for purchasers, providers and patients; and c) defining strategic

directions for the health system as a whole. Stewardship can be subdivided into six subfunctions: overall system design, performance assessment, priority setting, regulation, intersectoral advocacy and consumer protection (3). In short, stewardship deals with governance, information dissemination, coordination and regulation of the health system at various levels.

Resource generation

Any level of a health system needs a balanced variety of resources to function properly, but they have to be further developed (and expanded) in order to sustain health services over time and across levels and geographical areas. The resources needed encompass physical assets (equipment, facilities), consumable supplies, human resources and information. It is crucial that the quantity and quality of human resources be adequately matched to the demand for services and equitably distributed across the country. Naturally, to ensure quality of care, the skills and knowledge of health providers need to be up-to-date and compatible with developments in technology and evidence-based medicine. Policy development concerning resource planning and a regulatory framework for assuring high quality service provision and consumer protection fall under the stewardship function, but the workforce volume, distribution and professional development are usually included under the resource generation function.

Financing

In general, financing deals with the mobilization, accumulation and allocation of funds to cover the health needs of the people, individually and collectively (8). The financing function in health systems is defined by Murray and Frenk (3) as “the process by which revenues are collected from primary and secondary sources, accumulated in fund pools and allocated to provider activities”. Three subfunctions can be distinguished: revenue collection, fund pooling and purchasing. Revenue collection means the mobilization of funds from primary sources (households, firms) and secondary sources (governments, donor agencies). There are a number of mechanisms through which funds can be mobilized, varying by health systems context, e.g. out-of-pocket payments, voluntary insurance rated by income, voluntary insurance rated by risk, compulsory insurance, general taxes, earmarked taxes, donations from NGOs and transfers from donor agencies. In order to share and reduce health risks, funds can be pooled through various forms of health insurance. Purchasing is the allocation of funds to cover the costs (staff, durables and running costs) of specific health service interventions by health providers (institutional or individual) (3). The way these subfunctions are organized and executed has an impact on the access to health services.

Service delivery

Service provision involves the mix of inputs needed for the production process within a specific organizational setting leading to the delivery of health interventions (3). It relates to preventive, curative and rehabilitative services delivered to individual patients and to services aimed at larger populations (e.g. health education, promotion) through public and private institutions. Providing services is something that the health system does; it is not what the health system is.

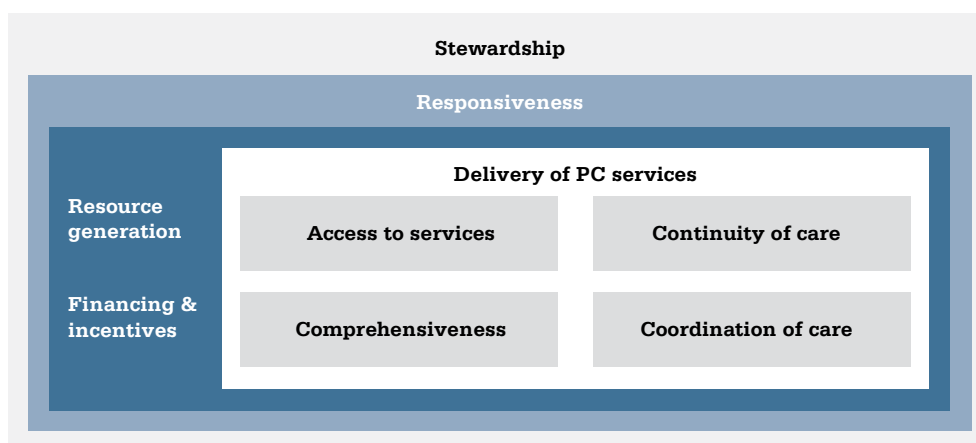
The Primary Care Evaluation Framework

PC characteristics and definitions vary from country to country (see the Annex); however, a comprehensive or well-developed PC system has the following characteristics:

Primary care is that level of a health system that provides entry into the system for all new needs and problems, provides person-focused (not disease-oriented) care over time, provides care for all but very uncommon or unusual conditions, and coordinates or integrates care provided elsewhere or by others. (9)

The Primary Care Evaluation Framework (see figure 2) from which the PCET was developed, encompasses the four functions of a health care system (as mentioned above), combined with the four key characteristics of PC services that are part of service delivery, as derived from the above definition.

Figure 2. Primary Care Evaluation Framework



Key characteristics of a good PC system

- Access

In general, access to health services can be defined as the ease with which health care is obtained (5), or “the patients’ ability to receive care where and when it is needed” (10). Various physical, psychological, sociocultural or financial barriers can restrict accessibility. Included in the PCET scheme are, for instance, geographical limitations, organizational factors such as office hours, distant consultations and timeliness, as well as financial factors such as cost-sharing and copayments.

- Continuity of services

PC interventions should be geared to patients’ needs over a longer period and cover successive episodes. A general definition of continuity is the “follow-up from one visit to the next” (11). WHO provides a more comprehensive definition, which takes into account the possible involvement of various health care providers. It is described as “the ability of relevant services to offer interventions that are either coherent over the short term both within and among teams (cross-sectional continuity), or are an uninterrupted series of contacts over the long term (longitudinal continuity)” (10).

Several levels of continuity can be distinguished (12): informational continuity related to the medical and social history accessible to any health care professional caring for the patient; longitudinal continuity, in a specific locus where a patient customarily receives health care from an organized team of providers in an accessible and familiar environment; and interpersonal continuity, an ongoing personal relationship between

the patient and the care provider (12). Furthermore, Reid et al. (13) add another level, management continuity, the provision of timely and complementary services within a shared management plan. The PCET scheme includes informational, longitudinal and interpersonal continuity of care.

Coordination of delivery

Particularly because PC often serves a gate-keeping function to other levels of care, coordination of services at PC level is an important element in health system responsiveness. The potential for coordination problems is particularly evident in the primary – secondary interface, or between curative care and other health promotion services (14). A general definition of coordination is “a technique of social interaction where various processes are considered simultaneously and their evolution arranged for the optimum benefit of the whole” (8), more specifically:

...a service characteristic resulting in coherent treatment plans for individual patients [where] each plan should have clear goals and necessary and effective interventions, no more and no less. Cross-sectional coordination means the coordination of information and services within an episode of care. Longitudinal coordination refers to the “interlinkages among staff members and agencies over a longer episode of treatment”. (10)

In the PCET scheme, the various dimensions of coordination encompass collaboration within a PC practice, on the same level of PC providers (GPs, community nurses, physiotherapists, etc.) and between PC and other levels of care in the context of consultation and referral systems.

- **Comprehensiveness**

Comprehensiveness can be defined as the extent to which a full range of services is either directly provided by a PC physician or other provider or specifically arranged elsewhere (15). In PC, comprehensiveness encompasses curative, rehabilitative and supportive care, as well as health promotion and disease prevention (14,16). Comprehensiveness of services is not only manifested in the specific range of services provided but also refers to practice conditions, facilities and equipment, and the professional skills of the PC service provider. The community orientation of PC workers also plays a role. All these dimensions have been taken into consideration for the PCET scheme.

The Primary Care Evaluation Scheme

Taking the Primary Care Evaluation Framework (1) as its basis, the Primary Care Evaluation Scheme focuses on specific issues, policies and health care priorities relevant to countries. The scheme consists of measurable topics and items related to essential features and national priorities for change in PC and the facilitating conditions. The evaluation scheme, which in turn forms the basis of the PCET, is structured as follows:

- stewardship
- financing and incentives

- resource generation

- delivery of PC, subdivided into:
 - » accessibility
 - » care continuity
 - » care coordination
 - » service comprehensiveness.

Table 2 shows a number of key dimensions for each PC function. Each dimension has been translated into one or more information items or proxy indicators.

Table 2. Overview of selected functions, dimensions and information items

| Function | Subfunction | Dimension | Selected Items/Proxies |
|---------------------------------|-------------|---------------------------------|---|
| Stewardship | | Policy development | PC policy priorities |
| | | Professional development | (re-) accreditation system for pc |
| | | | Quality assurance mechanisms for pc |
| | | Conditions for the care process | Laws and regulations |
| | | | Human resources planning |
| | | Conditions for responsiveness | Involvement of professionals and patients in policy process |
| | | | Patient rights; complaint procedures |
| Resource generation | | Workforce volume | Numbers and density |
| | | Professional development | Role & organization of professionals |
| | | | PC education |
| | | | Scientific development & quality of care |
| | | Professional morale | Job satisfaction |
| | | Facilities & equipment | Medical equipment |
| | | | Other equipment |
| Financing and incentives | | Financing | PC funding |
| | | Expenditures | PC expenditures |
| | | Incentives for professionals | Entrepreneurship |
| | | | Mode of remuneration |
| | | Financial access for patients | PC Cost sharing/ copayment |

| Function | Subfunction | Dimension | Selected Items/Proxies | |
|-------------------------|---|--|-------------------------------------|---------------------------|
| Delivery of Care | Access to services | Geographical access | Distance to PC practice | |
| | | | Distribution of PC physicians | |
| | | | Organizational access | |
| | | List size | PC provider workload | |
| | | | PC outside office hours | |
| | | | PC home visits | |
| | | | Electronic access | |
| | | | Planning of non-acute consultations | |
| | | | Responsiveness | |
| | | Timeliness of care | Service aspects | |
| | | | Clinics for specific patient groups | |
| | | | Continuity | Informational continuity |
| | Medical records | | | |
| | Longitudinal continuity | Patient lists | | |
| | | Patient habits with first contact visits/referrals | | |
| | | Endurance of patient-provider relationship | | |
| | Interpersonal continuity | Patient-provider relationship | | |
| | | Coordination | Cohesion within PC | PC practice management |
| | Collaboration among GPs/family doctors | | | |
| | Collaboration of physicians with other PC workers | | | |
| | Coordination with other care levels | | Referral system/gate-keeping | |
| | | | Shared care arrangements | |
| | Comprehensiveness | | Practice conditions | Premises, equipment |
| | | | | Service delivery |
| | | Preventive, rehabilitative, educational activities | | |
| | | Disease management | Community orientation | Practice policy |
| | | | | Monitoring and evaluation |
| Community links | | | | |
| Professional skills | | Technical skills | | |

In order to evaluate the complexity of any PC system, information is gathered on different administrative levels and from health providers and patients. Therefore, the PCET consists of three separate questionnaires – for experts (national level), physicians and patients – which cover all identified PC functions, their dimensions and information items, as derived from the scheme. The questionnaires for GPs and patients are pre-structured, with precoded answers. The expert questionnaire has prestructured as well as open-ended questions, and list of statistical data to be provided.

1.2 Overview of the PCET development and pilot testing

PCET development started in February 2007 and was completed in May 2008, when the final instrument became available to WHO for its health system support activities with Member States. The successive stage of development, from desk research to pilot implementation and an international meeting to discuss experiences and results, will be shortly explained. The development process has been described in more detail elsewhere (21,22,23).

- Literature review

As a first step, the researchers at NIVEL conducted a directed literature study on the basis of the WHO performance framework (1), to find ways to implement key PC system functions. Particular attention was paid to indicators and existing performance measurement and evaluation tools and questionnaires. This resulted in a preliminary listing of dimensions and items for the tool.

- First exchange with experts of the WHO Region

The outcomes of the literature study were discussed in an international expert meeting in March 2007. Major objectives of the meeting were to discuss and reach consensus on key concepts and definitions, discuss and validate the provisional set of dimensions, proxy indicators and information items and improve the first version of the scheme (see Table2) in order to develop the questionnaires. First steps were also taken for pilot implementation of the provisional tool.

- Drafting, validating and translating questionnaires

Draft versions of the questionnaires were developed on the basis of the information and feedback from the expert meeting. Comments from the experts on these versions were incorporated in new versions of the three questionnaires. These versions were subsequently tailored to the situation of the two pilot countries, the Russian Federation and Turkey. Terms were adapted accordingly and, on request of health authorities in the two Member States, some additional questions were included on topics related to national PC priorities. The final versions were translated into the respective languages in a check and double-check procedure. The translations were first made into the local language with inputs from a PC expert and then back-translated and compared to the original version.

Two pilot implementations

The provisional tool was pilot tested in two provinces in Turkey and two districts in the Moscow region of the Russian Federation. Under supervision of the WHO Regional Office for Europe and the respective ministries of health, local partners together with

the technical lead of NIVEL organized the details of the fieldwork, including sampling procedures, training of fieldworkers, logistics of data collection and data entry. In both countries meetings were organized with experts to discuss and validate the answers on the national level questionnaires. All data were analysed, conclusions and policy recommendations formulated and a draft report produced – including a section on lessons learned with the pilot implementation (18,19).

Copenhagen consultation meeting

The draft report was then discussed at a review meeting with international experts at the WHO Regional Office for Europe in Copenhagen on 14–15 April 2008, resulting in a revision of the three questionnaires, with the following changes:

- Questions were made more factual, avoiding asking for opinions.
- The sequence of topics and questions was reordered.
- The national level questionnaire was changed into a more comprehensive background document to be prepared by a small team of local experts and subsequently discussed and validated in a focus group directed by WHO and NIVEL.
- The questionnaires for patients and physicians were shortened.
- The language throughout the questionnaires was made more consistent.
- In addition to the results of the surveys other complementary sources of information were to be used, such as available literature, articles, interviews with health care workers and experts and personal observations during site visits.
- For implementation of the tool, countries would be able to add questions related to specific national priority areas (such as TB care and reproductive health services in the case of Belarus).
- The final report would contain a set of proxy indicators.

After revision, the PCET was available for use. An implementation scheme for the information of Member State counterparts was produced.

1.3 Overview of the PCET implementation in Serbia

The PCET was implemented in the framework of the 2008–2009 Biennial Collaborative Agreement (BCA) between the WHO Regional Office for Europe and the Ministry of Health of the Republic of Serbia. Preparation was done during a visit of WHO representatives to Serbia in June 2008. NIVEL, in its capacity as WHO Collaborating Centre, and the National Institute of Public Health in Belgrade named collaborating partners. The project effectively started in May 2009.

From 11–15 May 2009, a NIVEL researcher visited Serbia to inform counterparts – together with staff from the WHO Country Office – of the implementation purpose and activities, and to prepare further methodological and logistic steps, as follows.

- The translated questionnaires were explained and discussed with the project's national working group and the partner National Institute for Public Health.
- Additional questions were formulated to be added to the core of the tool.
- Implementation procedures were discussed with the above-mentioned partner and stakeholders.
- Further planning was discussed with the national coordinator, including identification of target populations of physicians and patients, sampling procedures and fieldwork organization.
- Field visits were made.

A second visit was made from 6–10 September 2009 on further implementation measures, including:

- final fieldwork preparations with local counterparts
- meeting with representatives of facilities
- fieldworker instruction on data collection among physicians and patients
- installation of data entry software and related training
- discussion of the national level questionnaire with experts
- discussion of further planning.

The selected regions and districts

In order to have a good coverage of the country, in close consultation with local partners it was decided to implement the surveys in Vojvodina, Belgrade and Central Serbia.

Vojvodina

Vojvodina is an autonomous province located in the north of the country, with a population of about two million, with various ethnic and cultural backgrounds, predominantly Serbs and Hungarians. Six official languages are used in the province. Three districts were included in the study:

- Novi Sad, the regional capital (pop. c. 370 000), the second largest after Belgrade, and environs;
- Sombor, in extreme northwestern Vojvodina, with around 100 000 inhabitants, half in the city of Sombor; and

- Indija, in southern Vojvodina, with a population of 52 000, half in the city.

Belgrade

The Belgrade area includes the capital and environs, with a total population of 1.6 million. The area is a separate territorial unit consisting of 17 municipalities of varying size, including:

- Stari Grad, the old city of Belgrade, with a population of 55 000; and
- Voždovac, a large area, ranging from industrial to agricultural, 4 km south of downtown Belgrade with a population of around 150 000.

Central Serbia

- Niš district in the southeastern part of Central Serbia and has a population of 380 000. The administrative centre is the city of Niš, an important industrial centre with 250 000 inhabitants. The district outside the city is divided into 6 municipalities.
- Doljevac is one of the municipalities in the Niš district with a population of around 20 000, fewer than 2000 in the village of the same name.
- Smederovo district has a population of around 109 000 and is situated in the north of Central Serbia, bordering the Belgrade area to the west. The city of Smederevo (pop. c. 80 000) is the heart of Serbia's steel industry. In the more rural parts of the districts fruit growing is a major business.

The selected districts and municipalities not only offer good geographical coverage, but also allow comparison of Vojvodina, where decentralization is more advanced, to Central Serbia, where it is in an early stage.

Preparation and implementation of the surveys

Two groups were selected for the physicians' survey: GPs (serving the adult population from the age of 18) and paediatricians. The initial intention of including PC gynaecologists in the survey was not realized since they comprise only 9% of all PC physicians in the country and getting a sufficient number in the study would require almost twice the number of centres to be approached, at prohibitive cost.

Within the selected districts official staff lists were used as the sampling frame. From these lists physicians from both populations were selected by the local counterpart according to a random procedure. In each of the three areas random samples of 25 paediatricians and 75 GPs were to be drawn. So there were 75 respondents among paediatricians and 210 among GPs.

For the patient survey, respondents would be recruited from the practices of 10 paediatricians and 28 GPs in each district. Each of these practices was to be visited by a trained fieldworker whose task was to ask attending patients to fill in a questionnaire. For patients under the age of 15 an accompanying adult would be asked. The fieldworkers' task was to collect 15 completed questionnaires, which would result in 450 respondents among patients of 30 paediatricians and 1260 respondents among patients of 84 GPs (altogether 1710 patients).

Role of fieldworkers

Fieldworkers had a crucial role in the data collection among patients. They recruited and informed the patients and distributed and collected the questionnaires among the patients and physicians. Distribution of questionnaires to physicians working in practices not visited by fieldworkers was done via the management of the respective CHC, and returned in closed envelopes. Fieldworkers were recruited by the local coordinator and instructed by the NIVEL researcher during his second mission, including:

- explanation of the context and objectives of the survey;
- the basic principles and structure of the tool and the type of questions used;
- the specific topics of the questionnaires;
- establishing good rapport with respondents by clear explanation and stressing confidentiality;
- creating a suitable environment for patients to fill in the questionnaire;
- checking readability and completeness of answers; and
- logistics.

Information gathering at the national level

A team of 17 experts contributed to answering the questionnaire, from the following institutions: the Ministry of Health, the National Institute of Public Health, the Regional Institute of Public Health of Vojvodina, the Regional Institute of Public Health of Belgrade, the Department of Social Medicine of the Medical Faculty of the Medical University, the Health Insurance Fund, the Serbian Medical Chamber, the Serbian Nursing Association and the Serbian Agency for Accreditation.

The answers and the collected statistical data were translated into English and sent to WHO, NIVEL and national working group experts, with whom a discussion and validation meeting was organized in Belgrade on 10 September 2009. The meeting aimed to check and consider the answers in a broader perspective and to gather more detailed information where possible. Results and outcomes can be read in chapter 3 of this report.

Data processing, analysis and reporting

Data entry was carried out by the counterpart National Institute of Public Health in Belgrade. A data-entry program was designed by NIVEL, using SPSS Data Entry Station version 3.0.3. Raw data files were sent to the NIVEL research team for processing and analysis. A draft report with results and preliminary recommendations was discussed in a meeting with Serbian and WHO experts in Belgrade on 9 March 2010. On the basis of suggestions and requests for additional information made at this meeting and further peer review at NIVEL, the draft report was revised and finalized in April 2010. This new version was submitted by NIVEL to the WHO Regional Office for Europe for final editing and publication.

Table 3. Key data on the application of the PCET in Serbia

| Elements of the Implementation | Explanation |
|--|---|
| Target groups | <ul style="list-style-type: none"> • PC physicians (GPs and paediatricians) • Patients (visiting PC facilities) • Health care experts (national) |
| Locations | <ul style="list-style-type: none"> • Vojvodina (3 districts) • Belgrade (2 districts) • (Rest of) Central Serbia (3 districts) |
| Type of data collection | <ul style="list-style-type: none"> • PC physicians: survey using prestructured questionnaires (disseminated by field workers and IPH staff) • Patients: survey using prestructured questionnaires (personally handed over by field workers) • Health care experts: mixed approach; questionnaire and meeting for validation and feed back |
| Method of sampling | <ul style="list-style-type: none"> • PC physicians: GPs: random samples in 8 districts; Paediatricians: random samples in 8 districts • Patients: the first 15 patients attending the practice of 84 GPs and 30 Paediatricians • Health care experts: 17, recruited by local partner |
| Planned sample sizes | <ul style="list-style-type: none"> • PC physicians: 285 (210 GPs+75 Paediatricians), as follows: <ul style="list-style-type: none"> » Vojvodina: 70 GPs + 25 Paediatricians » Belgrade: 70 GPs + 25 Paediatricians » Central Serbia: 70 GPs + 25 Paediatricians • Patients 1 710 (with 114 sampled physicians; each 15 patients), as follows <ul style="list-style-type: none"> » Vojvodina: 28 GPs x 15 = 420 patients 10 Paediatricians x 15 = 150 patients » Belgrade: 28 GPs x 15 = 420 patients 10 Paediatricians x 15 = 150 patients » Central Serbia: 28 GPs x 15 = 420 patients 10 Paediatricians x 15 = 150 patients • 17 health care experts:(from various institutes) |
| Response | <ul style="list-style-type: none"> • Physicians 285 (GPs: 210 Paediatricians: 75) • Patients: 1.655 |
| Instructions | <ul style="list-style-type: none"> • Local coordinator: methodology of sampling and recruitment; identification of study populations; lists of GPs and paediatricians; logistics of surveys • Management of CHCs: aim and approach of the study • Field workers: explanation of questions; how to approach and assist respondents; quality aspects • Respondents: introduction/instruction included in the questionnaires; introduction, patient support by fieldworkers |
| Coordination of fieldwork | <ul style="list-style-type: none"> • Local coordinator: overall responsibility • Field workers: information of respondents; correct administration of data collection in their facilities • NIVEL: general supervision during and after field visit |
| Period of data collection (surveys) | September 2009 |
| Analysis & reporting | At NIVEL (Utrecht, Netherlands) |
| Key dates | <ul style="list-style-type: none"> • WHO preparatory visit: June 2008 • First visit NIVEL researcher: 11-15 May 2009 • Second visit NIVEL researcher: 6-10 September 2009 • Expert meeting nat. questionnaire: 10 September 2009 • Data files sent to NIVEL: 3 November 2009 • Draft report available: 5 February 2010 • Expert meeting / workshop in Belgrade on draft report: 9 March 2010 |

2 INTRODUCTION TO SERBIA

2.1 The country²

Figure 3. Map of Serbia



Source: http://en.wikipedia.org/wiki/File:Serbia-CIA_WFB_Map.png

Situation and administration

The Republic of Serbia is a landlocked country between central and southeastern Europe, with borders with Hungary to the north, Romania and Bulgaria to the northeast and east, the Former Yugoslav Republic of Macedonia to the south and Croatia, Bosnia and Herzegovina and Montenegro to the west. Disputes exist concerning the border with Albania and the status of Kosovo.

The Serbian landscape is varied, with fertile plains in the north, limestone ranges and basins in the east and mountains and hills in the southeast, with Mount Midzor as the highest point, at 2169 metres. The country is organized into autonomous provinces, districts, cities and municipalities. Vojvodina, in the north, is an autonomous province consisting of 7 districts, 6 cities and 39 municipalities. The territory of Serbia excluding the autonomous provinces is called Central Serbia, which, however is not an administrative entity and has no government of its own. Central Serbia consists of 17 districts and the capital Belgrade is a district itself. Districts are purely administrative, and do not have councils or other representative organs.

The basic units of local self-government are municipalities and cities. Municipalities usually have at least 10 000 inhabitants and are responsible for public services, have

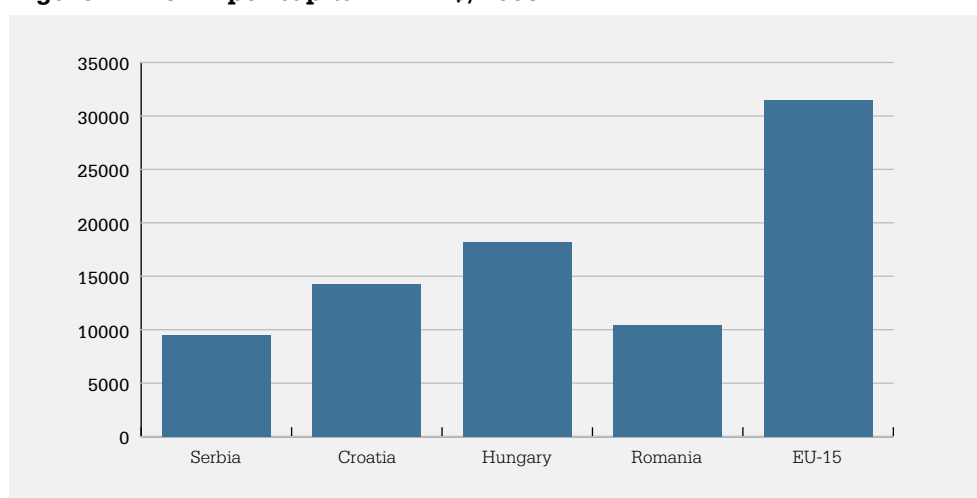
² Sources: Statistical Office Republic of Serbia at: <http://webrzs.statserb.sr.gov.yu/axd/en/index.php> ; Serbia: Country Brief 2008. Washington, World Bank, 2008 (<http://www.worldbank.org.yu/wbsite/external/countries/ecaext/serbia>); Serbia. Wikipedia (<http://en.wikipedia.org/wiki/serbia>); Serbia Country Profile. UNDATA (<http://data.un.org/CountryProfile>).

their own budget and are governed by an elected council. Large cities (with more than 100 000 inhabitants) can be divided in a number of municipalities. In those cases competences are divided between city authorities and municipalities.

Economy

After the turmoil of the 1990s and a period of economic sanctions by the international community, new reform programmes were started after the turn of the century, resulting in economic recovery and increased wealth. Other signs of change are Serbia's rejoining of the World Bank and the European Bank for Reconstruction and Development, and, in particular, an official application for EU membership in December 2009. As Figure 4 shows, productivity in Serbia is lower than in Croatia, Hungary and Romania. The gross domestic product per capita is less than one third that of the EU-15 countries.

Figure 4. GDP per capita in PPP\$, 2006



Source: WHO HFA database at <http://data.euro.who.int/hfad>

In order to increase foreign investments, state institutions need to further improve their performance and be more transparent, which will require legal and judicial reform.

Reduction of poverty and improving the well-being of the most vulnerable groups, especially minorities and rural residents, is another (major) problem that deserves urgent attention, for instance by creating social protection mechanisms and human capacity development. As Serbia has been hit by the economic crisis, like other countries, tackling these problems has become more difficult. The severely declining manufacturing output (down by 12.1% from 2008 to 2009) and exports have caused serious economic problems and are a setback to the positive economic development of the past decade.

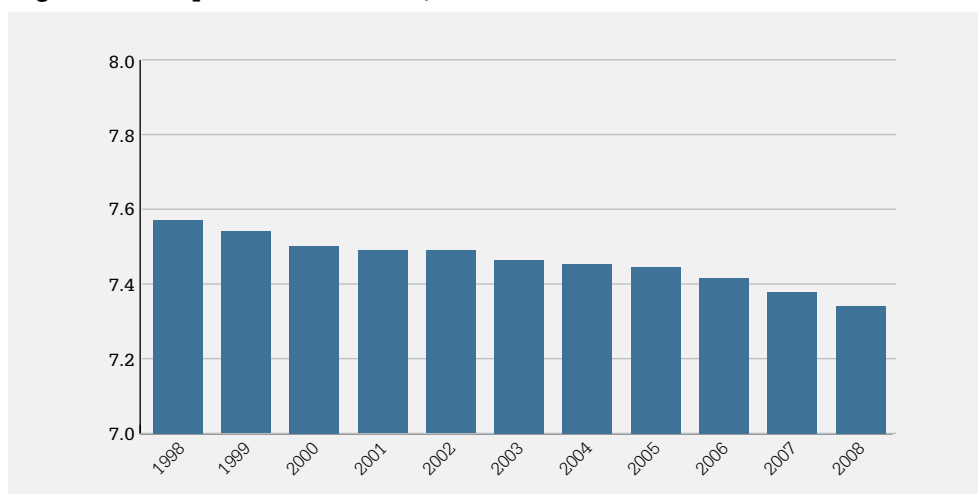
2.2 Population and health³

In 2008, Serbia had a population of 7 350 000 (excluding Kosovo), around one-quarter in Vojvodina, and the remainder in Central Serbia. Over the last decade the Serbian popu-

³ Sources: Statistical Office Republic of Serbia (<http://webzrzs.statserb.sr.gov.yu/axd/en/index.php>); Serbia. Wikipedia (<http://en.wikipedia.org/wiki/serbia>); Health for all database. Copenhagen, WHO Regional Office for Europe (<http://data.euro.who.int/hfad>).

lation has steadily declined (see figure 5), perhaps due to the hostilities, which caused many people to leave the country, and the very low birth rate (see Table 4). There are large numbers of refugees and displaced people in Serbia. The official number of the UNHCR is 327 000, but the actual number is thought to be higher. Among the diverse ethnic groups in the country, there are an estimated 450 000 Roma, many of whom are socially vulnerable. As many refugees and displaced people are expected to stay, the poverty problem will deserve continued attention.

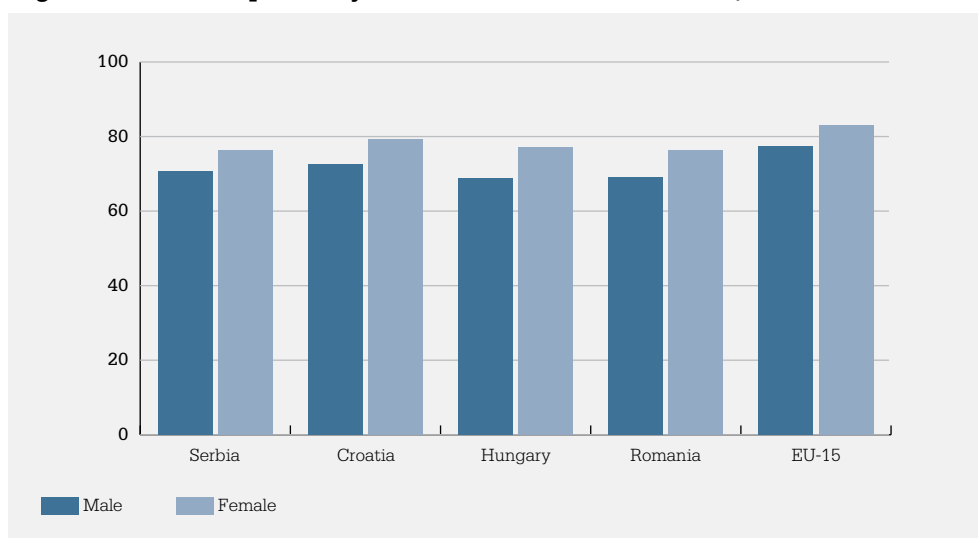
Figure 5. Population of Serbia, 1998–2008



Source: Statistical Office RS (excl. data on Kosovo)

In Table 4 and Figures 6 and 7 a number of key indicators for Serbia have been compared to some neighbouring countries and the EU-15. The life expectancy at birth in Serbia is 70.8 years for men, which is higher than in Hungary and Romania but almost 2 years lower than in Croatia and almost 7 years lower than in the EU-15. Female Serbians have an average life expectancy of 76.2 years, comparable to women in Romania, but lower than in Croatia, Hungary and the EU-15.

Figure 6. Life expectancy at birth in several countries, 2006



Source: WHO HFA database at <http://data.euro.who.int>

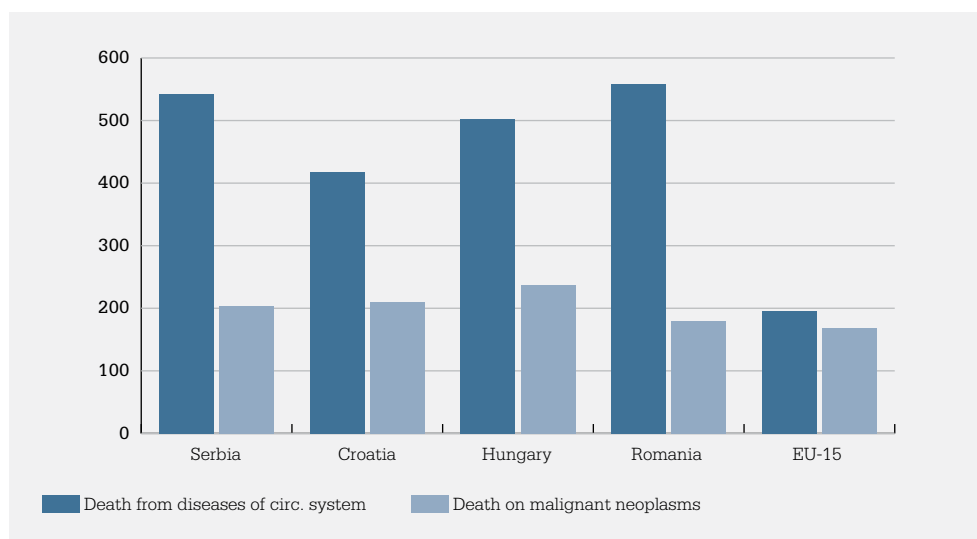
These demographic indicators point to a faster pace of ageing than in the EU-15 countries, where this has become an important policy issue (see 4).

Table 4: Selected demographic, health and life style indicators

| Indicator | Serbia | Croatia | Hungary | Romania | EU-15 |
|---|------------------|----------------------|----------------------|------------------|--|
| Population 0-14 yrs (%) | 15.5 | 15.7 | 15.5 * | 15.2 | 15.9 |
| Population 65+ yrs (%) | 17.2 | 17.0 | 15.7 * | 14.9 | 17.5 |
| Population density (per km ²) | 84 | 79 | 108 | 91 | n.a. |
| Live birth rate (p. 1 000 pop)* | 9.2 | 9.3 | 9.7 | 10.3 | 10.7 |
| Total fertility rate (children per woman) | 1.40 | 1.40 | 1.35 | 1.30 | 1.58 |
| Life expectancy at birth (yrs) | M 70.4 F 76.5 | M 72.6 F 79.4 | M 68.8 * F 77.2 * | M 69.8 F 77.3 | M 77.4 F 83.1 |
| Death rate (p. 1 000 pop.) | 13.9 | 11.4 | 13.5 | 11.8 | 9.3 |
| Maternal deaths (per 100 000 live births) | 12.7 | 9.7 | 8.2 | 13.5 | 5.4 |
| Infant mortality (p. 1 000 live birth, reported) | 7.1 | 5.2 | 6.2 | 10.8 | 3.9 |
| Death from diseases of circulatory system (per 100 000 SDR) | 543 | 418 | 502 | 558 | 196 |
| Death from malignant neoplasms (per 100 000 SDR) | 203 | 210 | 237 | 180 | 169 |
| Death from external cause injury & poisoning (per 100 000 SDR) | 45 | 53 | 68 | 57 | 34 |
| Tuberculosis incidence - official (per 100 000) - estimated | 26.6 n.a. | 20.9 40 | 15.3 17 | 104.9 115 | 9.2 13.0 |
| HIV incidence (per 100 000) | 1.20 | 1.49 | 0.80 | 0.83 | 6.14 |
| Abortions (per 1 000 live births) | 356 | 114 | 449 | 685 | 230 * |
| Regular smokers (% 15+) | M: 31 F: 23 | M: 34 ** F: 22 ** | M: 37 ** F: 25 ** | M: 33 F: 10 | Germany: M: 37 F: 31 Italy: M: 29 F: 17 Spain: M: 32 F: 22 |

WHO HFA database at <http://data.euro.who.int/hfad> (yr: 2006 or later); n.a. = not available
* 2005 or 2004 ** 2003

Figure 7. Deaths from diseases of the circulatory system and malignant neoplasms (SDR per 100 000)



Source: WHO HFA database at <http://data.euro.who.int>

2.3 The health care system

The 1978 WHO Alma Ata Declaration has had a major influence on the shape of the health care system in the former Yugoslavia. Principles like universal access and community-based services became health policy priorities. However, due to economic decline and a decade of conflicts, the quality of public health care system deteriorated in Serbia. New successful reform initiatives have been developed to restructure and strengthen the health care sector.

Financing

Health care in Serbia is mainly financed by mandatory contributions to a social health insurance scheme. The National Health Insurance Fund (HIF) is responsible for financing the system. Mandatory health insurance premiums are levied on salaries of employees (employer and employee pay equal portions) as well as from farmers and the self-employed. Another source of financing is private expenditures for health, mainly out-of-pocket payments for medicines. Much private expenditure is related to medicines. In Serbia out-of-pocket payments for health (as a proportion of the total health expenditure) are relatively high (see figure 8). Collected funds are centrally pooled by the HIF and redistributed in line with regulation for contracting with health institutions. The HIF is obliged to contract all health care services from delivery institutions that are on an official list.

Contracts with the HIF include a work plan developed by the Regional Institute of Public Health. Payments to providers are primarily based on inputs instead of service delivery. Thus, salaries of health care workers currently contain very few incentives for good performance. There are plans to change this system by contracting facilities and by paying health workers within a capitation-based payment scheme.

According to the ongoing process of decentralization in the PC sector, municipalities increasingly own facilities and equipment, and are therefore responsible for capital investments.

Service provision

The HIF guarantees access to a relatively broad package of health services to the entire population. Scope and content of care are legally defined and include preventive, curative, rehabilitative, inpatient and outpatient specialist care, and PC including prescription drugs, home care and medical transport. Despite the initial strong emphasis on PC, the system evolved such that curative services were largely carried out by specialists and in the hospitals. The frequent referrals by PC providers to the secondary and tertiary levels resulted in a loss of PC skills, to the point where not all physicians feel capable of performing the more comprehensive chosen doctor duties.

Resources and utilization

Table 5. Indicators of health care resources and utilization

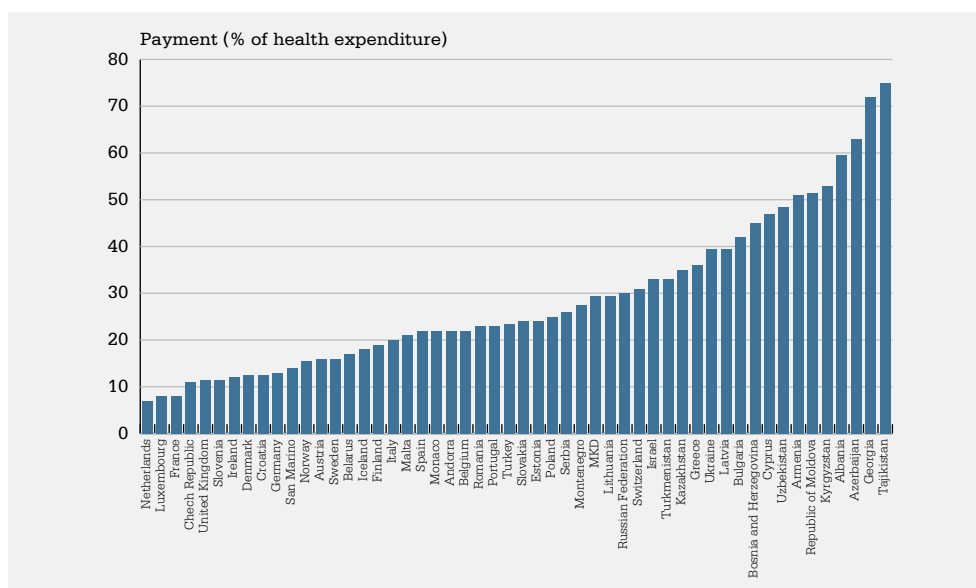
| Indicator | Serbia | Croatia | Hungary | Romania | EU-15 |
|---|--------|---------|---------|---------|--|
| Total health expenditures as % of GDP (WHO est.)* | 8.0 | 7.4 | 7.8 | 5.5 | 9.6 |
| Total health expenditures per capita (in PPP \$)* | 395 | 1.0 | 1.3 | 507 | 2 282 |
| Hospital beds (per 100 000) | 540 | 535 | 713 | 654 | 554 |
| Physicians (per 100 000) | 271 | 259 | 278 | 192 | 338 |
| GPs / District physicians - (per 100 000) | 69 | 65 | 65 | 69 | 102 |
| - as % of all physicians | 25.5 | 25.1 | 23.4 | 35.9 | 30.2 |
| Nurses (per 100 000) | 557 | 524 | 902 | 397 | 805 |
| Pharmacists (per 100 000) | 26 | 57 | 54 | 4 | 81 |
| Dentists (per 100 000) | 33 | 72 | 42 | 20 | 65 |
| Average length of stay (days) | | | | | |
| - all hospitals | 10.0 | 9.9 | 9.1 | 7.6 | 9.4 |
| - acute hospitals | 7.8 | 7.5 | 6.0 | n.a. | 6.5 |
| Acute care hospital admissions (per 100) | 9.4 | 14.6 | 18.5 | n.a. | 16.7 |
| Outpatient contacts per person (per year) | 8.9 | 6.4 | 10.8 | 5.6 | Germany: 7.5 Denmark: 4.2 Holland: 5.6 |

WHO HFA database at <http://data.euro.who.int> (yr: 2007 or 2006)

* 2005

Figure 8 below shows that out-of-pocket payments, which increased due to increasing poverty in the 1990s, resulting in more people, particularly those from socially vulnerable groups, having greater difficulty accessing health care services.

Figure 8. Out-of-pocket payments as % of total health expenditure, 2006



Source: *The European Health Report 2009*. WHO Regional Office for Europe.

Primary care⁴

At the core of PC in Serbia are the CHC located in all cities and municipalities, which may be relatively large structures, including a number of attached ambulatories, pharmacies and institutes. As a result of decentralization, CHCs are increasingly owned and run by municipalities. This decentralization is an important precondition to implementing another financing reform. The new system will be based on contracting facilities, a new payment scheme based on a capitation fee and a clear split between purchaser and provider roles.

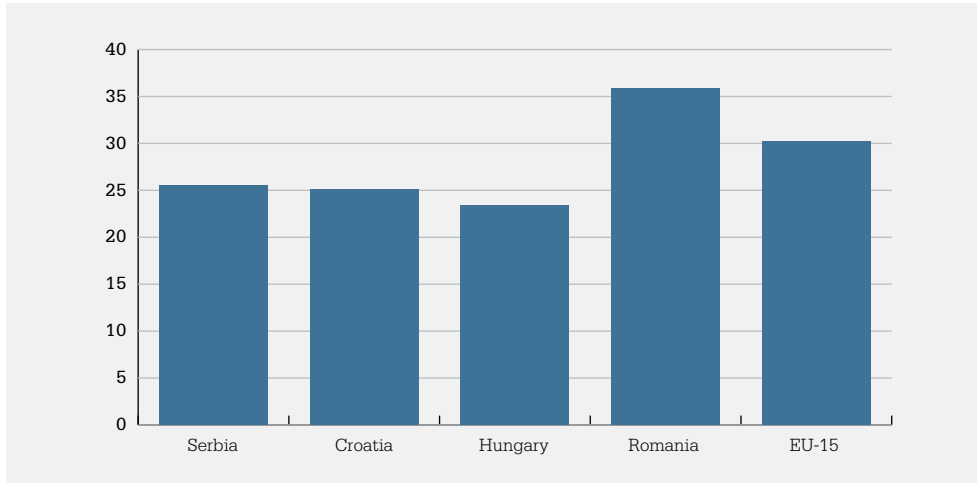
Ambulatories are staffed according to the size and needs of the population they serve, varying from several full-time teams of doctors and nurses, dentists and pharmacists working in shifts to one or two weekly doctor visits in remote ambulatories. According to official norms, citizens should have access to a CHC or ambulatory within 15 minutes travel distance. Services provided at CHCs vary considerably. Core services are: preventive health care, emergency services, general medical services, women's and children's care, home nursing services and diagnostic services (laboratory and imaging). CHCs also provide dental care, occupational medicine, physical therapy, rehabilitation and ambulance services if they are otherwise unavailable in the area. If a hospital is more than 20 kilometres away and the catchment area has more than 20 000 inhabitants, the CHC also provides a number of specialist services, including internal medicine, tuberculosis care (phtysiology), ophthalmology, ENT and psychiatric services.

A core element of the ongoing PC reform is the chosen doctor scheme, which requires people to register with a PC physician of their choice. This can either be a GP, a gynaecologist, a paediatrician or an occupational doctor. At present, well over 75% of the

⁴ Based on the draft working paper, "Better primary health care for us; Policy directions to strengthen the primary health care system in Serbia, from 2010 to 2015". Ministry of Health of the Republic of Serbia / Balkans Primary Health Care Policy Project (CIDA funded). Belgrade, 2009

population has registered with a chosen doctor, who is the doctor of first contact, coordinating care across levels and being accountable for it.

Figure 9. Physicians working in PC as a percentage of all physicians



Source: WHO HFA database at <http://data.euro.who.int> (yr: 2007 or 2006)

3. PRIMARY CARE IN SERBIA: NATIONAL CONTEXT

This chapter will provide an overview of the priorities, regulation and structures relevant to PC in Serbia. Topics will include: national policy and legislation, the financial arrangements, workforce and education of providers, aspects of quality assurance and the role of patients.

Information in the chapter is based on answers provided on questions in the national level questionnaire by a team of experts. The statistical backgrounds were contributed by the National Institute of Public Health. Results will be described according to the health system functions and dimensions used in the Primary Care Evaluation Scheme (see Table 2). This chapter describes the context for the results of the surveys among PC physicians and their patients, to be described in the chapters 4 and 5.

3.1 Stewardship / governance

3.1.1 Policy development

The 1978 WHO Alma Ata Declaration, with its community orientation and focus on intersectoral collaboration, strongly influenced health care in Yugoslavia. Since then, the health care system has gradually lost its position as an international model as a result of the economy, the disintegration of Yugoslavia and a period of hostilities and isolation of the country. In the years after the turn of the century steps were taken to reverse the trend. The 2002 document “Health policy in the Republic of Serbia” focused on the health status of the Serbian population and the health potential of the nation. It advocated fair and equal access to health care for all, particularly vulnerable groups, putting the user into the centre of the system, health system sustainability, transparency and partial decentralization, and it aimed to improve performance, efficiency and quality of services. The document also defined the role of the private sector. In 2002 and 2003 two more policy papers were published: “Vision of the health care system in Serbia” and “Strategy and action plan for health system reform in Serbia by the year 2015”. These documents were later contained in the more comprehensive strategic document “Better health for all in the third millennium”, which has been the basis of the health sector reform since. It prioritized prevention and PC, with the team of chosen doctors at the core, consisting of internist or occupational medicine, specialists for adults, paediatricians, gynaecologists and dentists. Other PC services are emergency services, diagnostic services, some specialist-consultative outpatient services and community nursing.

Timeline of PC policy measures

Between 2002 and 2009 the following policy documents were published:

- 2002: Health policy of the Republic of Serbia;
- 2003: Better health for all in the third millennium;

- 2005. Law on health care protection (Official Gazette, Journal of RS no. 107/2005) (definition of the types of health services and health institutions at primary level; social care; patient rights);
- 2005: Law on Health Insurance (Official Gazette, Journal of RS no.107/2005.) (rights of the insured to health care; responsibilities of chosen doctors);
- 2006: Regulation on detailed conditions for carrying out health activities in health care facilities and other forms of Medical Services (Official Gazette, Journal of RS no. 43/2006) (criteria for staff, space, equipment and drugs in primary level facilities, average number of patients per chosen physician, PC services);
- 2006: Regulation on conditions and internal management of health institutions (Official Gazette of RS no. 43/2006);
- 2007: Rules on health care quality indicators (Official Gazette of RS no 57/2007) (quality indicators, waiting lists)
- 2007: Regulation on detailed conditions for the implementation of continuing education for health workers and health assistants (criteria for continuing education and choice of institutions providing continuing education);
- 2008: Regulation on exercising the right of compulsory health insurance (Official Gazette of RS no 108/2008, 112/2008, 11/2009, 24/2009, 56/2009, 80/2009) (number of patients per chosen doctor, procedure of choice, changing chosen doctors);
- 2009: Decree on the Plan network of health institutions (Official Gazette. Journal of RS no.71/2009) (number, structure, capacity and territorial layout of all state-owned health institutions; health establishments for municipalities with at least 10 000 inhabitants or for two or more municipalities.
- 2009: Regulation on the content and scope of the right to health protection from compulsory health insurance and copayment for 2009 (Official Gazette of RS no. 43/06), (content and scope of rights, including prevention, diagnostics, treatment, rehabilitation, etc.); copayments for certain treatment categories),
- 2009: Regulation on conditions, criteria and standards for the contracting health care providers and to set the level of compensation for their work for 2009 (contractual conditions and criteria of HIF funding);
- 2009: Regulation on the nomenclature of health services at primary level (Official Gazette of RS no 23/2009) (list of health services, personnel and time for PC services).

National programmes and national health strategies

Since 2005 national programmes have been adopted for: cancer, colorectal cancer, breast cancer prevention, prevention and early detection of type two diabetes, prevention of cervical cancer, health of women, children and youth, and dental care. National strategies have been developed for: public health, combating drug abuse, palliative care, quality and safety improvement for patients, youth health and mental health.

Prevention and early detection (screening) play an important role in the execution of national programmes and strategies on the CHC level. The chosen doctor role is dominated by prevention, promotion of healthy lifestyles and health education.

Primary-secondary care split

Since 2005, PC institutions (CHCs) have been separating from secondary care facilities (general hospitals). The old conglomerates including both primary and secondary care functions should have disappeared by 2010. This reform is part of the decentralization of health services under which CHCs are owned and managed by municipalities.

New payment scheme

After two years of preparation the capitation-based payment system is now being implemented. Payment is related to the number of patients registered with a doctor and performance indicators of efficiency and quality of care are used. Teams of doctors and nurses are rewarded for the performance of certain preventive examinations (such as PAP tests with gynaecologists in PC).

Health promotion centres

Since 2006, many CHCs have opened counseling centres for health promotion, primarily intended for employed people, where visitors can have health checks and have their risk for non-communicable diseases assessed.

Human resources planning

As a result of a 2009 regulation, human resource plans are being implemented in publicly owned facilities, aiming to achieve a more rational distribution of staff in line with the official norms and standards. This activity will further rolled out in the coming years.

Licensing of workers

As a result of the project PHC Policy in the Balkans, a scheme on licensing and relicensing of health care workers was initiated on 1 January 2010. Relicensing is dependent on staff CME achievements. During the past two years of preparation, all health workers had to get licensed by producing documentation of their qualifications, experience and working status to the Medical Chamber. Educational programmes have been accredited by the Health Council.

Voluntary accreditation of CHCs

Accreditation of health care facilities is not obligatory in Serbia. However, some pilot CHCs have successfully completed voluntary accreditation. More CHCs are interested, but funding of accreditation seems to be an obstacle. Primary, emergency and occupational medicine services are also subject to initiatives aiming to improve efficiency.

Chosen doctor

By the end of 2009 an estimated 75–80% of the population had registered with a doctor (GP, occupational medicine doctor, paediatrician, gynaecologist or dentist) in the CHC in their home territory. Tasks of chosen doctors are to: organize and implement measures to preserve and improve the health of individuals and families; provide detection and suppression of risk factors; provide diagnosis and timely treatment; provide emergency medical care; refer the patient to an appropriate health institution or a medical special-

ist; coordinate continued treatment; provide home treatment, health care, palliative care, and post-hospital treatment; prescribe medicines; provide mental health care and perform other duties required by law.

3.1.2 Central and local health governance

Primary care at the Ministry

No one section or department at the Ministry of Health has charge of or a coordinating role in PC. In fact, since 2008, there are six sections and departments with partial responsibility for it:

- Organization of Health Services and Health Inspection Section (with one PC reforms coordinator)
- Health Insurance and Health Care Financing Section
- Department of Public Health and Health Care Programme
- Department of Sanitary Surveillance
- European Integration and International Cooperation Section
- Department of Medicines and Medical Devices.

Regional differences in PC

The old regional primary and secondary care conglomerates were different in size and range of services. Decentralization, which should be completed in 2010, will result in priorities and service provision in CHCs increasingly tuned to local needs and circumstances. Consequently, regional PC differences are likely to grow. For the provision of health care, municipalities are supposed to:

- monitor population health
- set and implement priorities
- create conditions for accessibility and uniform pc utilization
- plan and implement environmental protection programmes
- test food, drinking water, sanitation, etc.
- fund construction, maintenance and equipment of health facilities.

Local governments may design their health care programmes for certain categories of people or types of disease, beyond the national programmes. They also have the power to appoint and dismiss directors and members of management and supervisory boards of health institutions. So, municipalities can make a difference in the range and quality of PC services, the quality of premises and transportation and the patient-friendliness of services and accommodations. Other differences among municipalities may be seen in the way vulnerable groups are cared for; how media are used for health promotion and

copayment schemes. The development of municipal health policies will largely depend on local economic conditions.

It should be noted, however, that the financing of health care costs such as salaries, consumables and medicines is not the responsibility of the municipalities, but rather of the HIF (for health services) and the Ministry of Health (for national programmes). Furthermore, municipalities and their CHCs are obviously bound by national rules on financing and criteria for service provision and staffing.

3.1.3 Licensing and accreditation

Physicians

The following are formal licensing requirements for public and private physicians:

- a medical degree
- a six-month postgraduate internship
- passing a professional exam
- permission to work independently to a minimum of half-time
- working in the area for which the license applies.

Chosen doctors (GPs) must renew their license every seven years, according to the following criteria:

- a minimum of 50% of working time in the area for which the license applies
- having been subject to disciplinary procedures
- 24 points annually in accredited CME programmes.

Nurses

Like physicians, nurses are obliged to recertify every seven years, under the same criteria.

CHCs

Accreditation is not obligatory for CHCs. An experimental voluntary accreditation scheme is in place, evaluating:

- clinical quality of work
- protocols and procedures
- good clinical practice guidelines
- work processes
- leadership, management, human resources

- environmental considerations, disaster preparedness, accident and fire protection
- medical documentation.

Criteria used in the voluntary accreditation are uniform and have been established by the Ministry of Health. The accreditation is conducted by the Agency for Accreditation of Health Institutions in Serbia, an independent public agency. Results are reported to the management of the CHC and to the local, regional and national health administration, and are not available to the public. No sanctions or consequences are applicable to CHCs failing to meet minimum criteria.

3.1.4 Conditions for care process

Table 6. Population per full-time PC worker, official norms

| Type of PC physician | Population per full-time employee |
|-----------------------|---|
| GP | 1600 adult patients (1100–2000) |
| Occupational medicine | 1600 adult patients (1100–2000) |
| Gynaecologist | 6500 women 15+ (4500–7500) |
| Paediatrician | 850 pre-school children (500–1000) / 1500 school children (1100–2000) |
| Dentist | 1500 children up to 18 yrs (1000–1700) / 10 000 adult patients (8000–12 000) |

Table 7. Staff shortages in a number of PC professions

| primary care professions | No shortage | Shortage in some regions | Shortage nationwide |
|--------------------------|-------------|--------------------------|---------------------|
| - GPs | | √ | |
| - PC Paediatricians | | √ | |
| - PC Gynaecologists | | √ | |
| - Dentists | √ | | |
| - Pharmacists | √ | | |
| - Community Nurses | √ | | |
| - Physiotherapists | √ | | |

If the average staff norms are applied there is no lack of these workers at the national level. However, a 2007 analysis of staff by districts and CHCs showed that there are large variations in coverage of the various categories of the population by chosen doctors and their (poor) involvement in preventive visiting (see Table 8). Indeed the average availability is around the national norm, but there are wide variations, which means that on the one hand there are CHCs with oversupply of physicians, while on the other hand there are CHCs where physicians have workloads far above the national norm.

Table 8. Availability of PC physicians compared to national norms, and involvement in preventive visiting.

| Population category | Number per doctor / standard (min – max per district) | % doctors Involved in preventive visits (min%-max% per district) | Number of visits per doctor (min-max per district) |
|---------------------|---|--|--|
| Preschool children | 678 / 850 (414 – 1104) | 20% (14%–32%) | 6 995 / 6 000 (4 216 – 8 576) |
| School children | 1 515 / 1 500 (1 069 – 3 935) | 17% (10%–25%) | 6 951 / 6 000 (4 172 – 13 114) |
| Woman | 5 988 / 6 500 (4 467 – 15 146) | 42% (28%–55%) | 4 849 / 6 000 (3 606 – 10 912) |
| Adult population | 1 768 / 1 600 (1 396 – 2 781) | 5% (1%–13%) | 6 616 / 7 200 (4 836 – 8 796) |

Mode of practice

No information was available about the composition of teams, whether monodisciplinarily (the number of physicians per team) or multidisciplinarily (the number of workers of various disciplines on a team).

Primary care gate-keeping

Patients should first visit their chosen doctors before they can see a medical specialist (by referral).

3.1.5 Conditions for responsiveness

The role of NGOs / stakeholders

Since 2002 the Ministry of Health has created mechanisms to involve stakeholders and interest groups systematically in the development of policy documents. It has also encouraged civil society initiatives to formulate ideas and needs and to communicate them to the public. Representatives from the organizations listed below, listed with their relevant activities, are formally part of a working group involved in the drafting of strategic documents and in consensus conferences.

- HIF: health care financing and advising; PC staffing norms;
- Chamber of Health Workers: participation in debates of legislative proposals; licensing;
- Chamber of Health Institutions: consultation on Ministry documents;
- Serbian Medical Society: participating in debate on legislation; organization of expert meetings; contribution to themes set by annual programmes;
- Health Care Trade Unions: consultation on Ministry documents; consensus conferences; representing the interests of health professionals;
- Health Workers' Professional Association: consultation Ministry documents; consensus conferences;

- Standing Conference of Towns and Municipalities: participation in drafting legislation, regulation and national strategies relevant to local governments; organization of public hearings; expert opinion for amendments to laws, regulations and strategies;
- Consumers' and patients' associations, including those for specific diseases and those for health care consumers in general: representing the interests and rights of patients; improvement of conditions for people with special needs; promotion of healthy lifestyles; protection of patient rights; participation in working groups and consensus conferences; and
- Other NGOs relevant to PC, although their scope may be wider, for example, those working with vulnerable groups, such as the Roma population, refugees and displaced people.

Patient rights

Between 2002 and 2007, a series of patients' rights-relevant laws and regulations were implemented: Vision of Health Care Development, Strategies of Health System Reform by 2015 including an action plan (integrated in the 2003 policy paper Better Health for All in the Third Millennium), the Health Care Protection Act of 2005, the Professional Health Workers Act of 2005 and the Regulation on Indicators of Quality Health Care of 2007. In a second period, from 2007, the Ministry of Health has launched two campaigns, You Have the Right (including regional meetings with rights advocates, press conferences, dissemination of information in all health facilities) and Health is Spreading with a Smile, promoting communication between patients and health workers. Since 2007, the Ministry has been more systematically monitoring aspects of patient rights in health care facilities.

Legislation and regulation

Important aspects of patients' rights have been addressed in the Health Care Protection Act of 2000, including access to care according to need, resources and equal access, rights and obligations related to compulsory health insurance, patient information, free choice (including choice of doctor), confidentiality of information, self-determination and informed consent, access to medical records, complaints, liability and compensation and information on health protection. The Act also defined patient duties, including: participation in protecting, preserving and improving their health, informing health workers about their health, adhering to prescribed treatment and respecting the house rules of health facilities.

Patient choice

Patients are assigned to the CHC in the area where they are living. Within the CHC they can choose to register with any GP or other eligible physician. This freedom of choice, which applies from age 18, is guaranteed by law as far as possible. In rural areas choice can be limited by the small number of doctors working in the ambulatory; in such situations patients may also choose a doctor from the central facility of the CHC. Children until the age of 6 years are supposed to be treated by paediatricians from the child health services, while those between 7 and 18 fall under paediatricians from the Institution of School Health. In smaller CHCs, services for children and youth (0-18) are allowed to be organized in one unit. Children up to age 6 may only have a paediatrician as the chosen doctor; those 7-18 may choose a paediatrician or a GP.

Access to specialist services

Except in emergencies, access to medical specialists at the secondary or tertiary level is only by referral from a chosen doctor). Specialists usually develop a treatment plan, while suggested medication is prescribed by the chosen doctor, who also conducts the follow-up treatment. Often specialists continue to see the patient for monitoring and control. In particular cases (for instance HIV or TB) the division of roles can be different with possible involvement of other physicians. Treating specialists have to report to the patient's chosen doctor once per month.

Patient complaints

The procedure for submitting complaints has been established by the Health Care Protection Act, and is obligatory for every health care facility, including CHCs. Even if complaints are communicated orally they need to be recorded in the facility's files. Written complaints can be delivered either to a health worker or to the "protector of patient rights" in any health institution. Written complaints must be answered within eight days. Patients can also deliver a complaint directly to the Ministry inspectors. Finally, each municipality and town has an Ombudsman to whom perceived violations of human rights may be reported.

Patient organizations

As mentioned above, there are many national and regional organizations defending the interests of patients, either those with a specific disease or general users of health care services.

Ombudsman

The Citizens' Protector (or Ombudsman) was established in 2007, to oversee and enhance the protection of human and minority rights, and to monitor fairness and legality of the work of the public administration (including the health services). The Ombudsman is elected in the parliament.

3.2 Resource generation

3.2.1 PC workforce

Table 9. Numbers of professionals working in PC

| PHC providers (public facilities) | Number (in 2008) |
|------------------------------------|------------------|
| - GPs / internists | 4 348 |
| - PHC paediatricians | 1 068 |
| - PHC gynaecologist | 461 |
| - GPs+paed+gynaec. in PHC | 5 877 |
| - Doctors of occupational medicine | n.a. |
| - PHC nurses | 13 361 |
| - PHC midwives | 860 |

The total number of active physicians was 20 638 (2008), nurses 41 144 (2007), midwives 2 425 (2007).

The main groups of physicians working in CHCs and ambulatories (GPs, internists, paediatricians and gynaecologists) together made up 28% of all physicians in 2008. According to the WHO Health for all (HFA) database 25.5% of all physicians were working in PC in 2007 (see Table 5). The number of active nurses in PC amounted to 33.1% of the total number of nurses in Serbia in 2007 and the 860 midwives comprised up 35.5% of the total number. No data were available on the composition of the PC teams.

3.2.2 Professional development

Professional organizations

GPs, paediatricians and gynaecologists are organized as indicated below.

GPs:

- General Medicine Section of the Serbian Medical Society (SMS) (1000 members)
- General Medicine Section of the SMS - Vojvodina
- PHC Committee of the Regional Chamber of Physicians Vojvodina

Paediatricians:

- Paediatrics Section of the SMS (500 members)
- Serbian Society of Paediatrics

Gynaecologists:

- Gynaecology Section of the SMS (300 members)
- Serbian Society of Gynaecologists

All organizations mentioned are reported to be involved in professional development (e.g. guideline development); medical education and scientific activities.

Professional journals:

The journal *General Medicine* has about 500 subscriptions. In addition, PC physicians can submit papers to other professional journals, such as *Serbian Archives of Medicine*, *Doctor* or *The Doctors Voice*, the SMS newsletter.

Medical education

Faculties of medicine are found at the universities of Kragujevac, Nis, Novi Sad, Belgrade, and the U.S. Medical School, Belgrade. Four of these institutions offer postgraduate programmes in general medicine / GP. Table 10 provides an overview of the duration of the programmes.

Table 10. Postgraduate training

| Location | Pro-fessors in GP | Duration of GP postgraduate course (months in PC) | Duration of Paed postgraduate course (months in PC) | Duration of Gynaec postgraduate course (months in PC) |
|------------|-------------------|---|---|---|
| Nis | 2 | 3 yrs (13) | 4 yrs (6) | 4 yrs (4) |
| Novi Sad | NA | 3 yrs (13) | 4 yrs (6) | 4 yrs (4) |
| Kragujevac | 1 | 3 yrs (13) | 4 yrs (6) | 4 yrs (4) |
| Belgrade | 6 | 3 yrs (13) | 4 yrs (6) | 4 yrs (4) |

In the 2007–2008 academic year, 10.5% of medical graduates chose to enrol in a postgraduate GP programme (79 of 750), far below the 21% of all doctors working as PC GPs (see Table 9). It has not been reported whether this proportion is increasing or decreasing. For learning practical skills, part of the postgraduate programme is spent a primary care setting, usually under the supervision of a mentor. This period takes 13 months for GPs to be; 6 months for future paediatricians; and 4 months for those becoming gynaecologists (see Table 10).

3.2.3 Quality assurance

The quality of (primary) health care services in Serbia is extensively monitored at various levels with clinical and other indicators. Internal controls in the CHCs, practice inspection by supervisors and external clinical auditing are the most common. Periodic testing of physicians' and nurses' knowledge and skills is never or rarely done.

Health institutions are obliged to develop annual plans for internal professional monitoring. One third of the CHCs are involved in external monitoring. The SMS has developed skills testing on an experimental basis, which has also been used to identify educational needs of physicians in CHCs. Mayors are responsible for monitoring the performance of chosen doctors and their teams. Furthermore there are regular checks of medical documentation. In case of irregularities or complaints the Health Inspectorate can apply external control mechanisms. The licensing scheme for medical professionals was restructured after the establishment of the Health Council in 2009. From 1 January 2010 license renewal depends on having collected a minimum number of points for accredited CME activities.

Indicators for physicians

The following process and outcome measures were reported to be routinely used by the Ministry of Health for monitoring PC physicians:

- patient contacts per year
- prescriptions (per 100 visits)
- referrals for laboratory tests (per 100 visits)
- referrals for X-rays (per 100 visits)
- referrals for ultrasound examination (per 100 visits)

- referrals for specialist consultation (per 100 visits)
- percentage of preventive contacts (of all contacts)
- coverage of influenza vaccination among people over 65.

The following outcome indicators are recommended by the Ministry to be used at de-central level to monitor PC:

- coverage of influenza vaccination among patients with chronic diseases
- percentage smokers among patients with coronary heart disease (CHD) and stop smoking advice in past 12 months
- percentage patients with CHD with cholesterol record in past 12 months
- percentage patients with hypertension with blood pressure record in past 12 months
- percentage patients with hypertension with record of 140/90 or lower in past 12 months
- percentage women (20 to 65 yrs) with examination for cervical cancer
- percentage children (under 18 yrs) with acute upper respiratory tract infection with antibiotics prescribed at first visit
- percentage first contacts with undefined diagnosis.

Separate sets of mandatory and recommended quality indicators have been developed for medical specialists.

Indicators for institutions

Quality improvement in each health care institution, including CHCs, is coordinated by a commission that develops a quality plan, initiates activities and reports about them. The work of the commissions is thoroughly regulated by a set of mandatory quality indicators:

Patient safety

- set procedures for adverse events registration
- set procedures for adverse drug effects the registration

Information dissemination

- information on health care services under compulsory health insurance
- information about private payments and exemptions
- complaint/suggestion boxes

- listing of the name, office number and working hours of the protector of patients' rights
- percentage of complaints/appeals that have been resolved
- listing of chosen doctors, working hours and other details
- patient satisfaction surveys
- analysis of the satisfaction surveys and continuous quality improvement activities

Employees' satisfaction and keeping up-to-date

- employee satisfaction surveys
- analysis of these surveys and improvement activities
- educational plan for all employees
- workshops, educational meetings and seminars
- indication of staff attendance to relevant courses, seminars etc.

This system of quality indicators has been operational nationwide since 2004 and was updated in 2007. A national quality commission has been continuously improving and extending the indicators. At the annual national conference, an award is given to the facility scoring highest on the current set of indicators.

Clinical guidelines

Standards for good clinical practice (or clinical guidelines) have been produced in a project funded by the European Agency for Reconstruction (EAR). The guidelines are intended to be used by clinicians both in hospitals and PC. After this project, an expert committee started to develop evidence-based guidelines specifically for use in PC. In addition to leading national experts, PC practitioners should be involved in the drafting process. At present 25 guidelines have been published on medical topics under the programme for rationalization and drug administration, with development of diagnostic and therapeutic protocols and patient education. The production of each guideline has been in the hands of a working group with relevant medical specialists, including GPs. They have been promoted and all are available on the Ministry of Health website, and have been distributed free to the CHCs. Physicians are not obliged to follow the guidelines. Recommendations made in the guidelines have been used in drafting strategic documents, such as the scope and content of health services, national programmes, etc.

No national guidelines for nurses have been developed yet. In general, technical literature for nurses is sparsely available. Some guidelines have been developed in the context of projects, for instance on palliative care and working in the community.

3.3 Financing

3.3.1 PC financing and expenditures

For most people copayments are necessary for PC drugs and consultations with the chosen doctor. Only certain categories of the population, specified in laws and regulations, are exempted (for instance, disadvantaged groups and people suffering from specific chronic conditions). As noted in section 2.3, out-of-pocket payments as a proportion of total health expenditure are high.

Almost one quarter (24.6%) of the entire health budget is spent on PC, 19.1% in CHCs alone. CHCs are funded mostly (83.8%) by the HIF. Local and central government contribute 4.4% and 0.2% is from donations. Another 11.6% is earned by provision of additional – usually private – services, rental of ambulances and offices, etc. On the expenditure side 70.5% is spent on salaries, 14.5% on procurement of goods and services and 15% on drugs, equipment and other costs.

3.3.2 Financial incentives

Payment mechanisms

The calculation of health workers' salaries is regulated by the Labour Act and the "Regulation on coefficients for calculation and payment of salaries of public employees". In general, salaries are established by application of an education coefficient, which can be increased by a degree of expertise (e.g. specialist, primarius) or academic degrees (Master, PhD). In addition, work experience counts for 0.4% per year of experience. Furthermore, there are supplements for shift work, weekend duty, overtime and field work (e.g., home visits).

The planned introduction of capitation-based PC funding requires a change in the Labour Act. The capitation formula contains the following four elements: the number of registered patients, the degree of rationality, efficiency and preventive services. In rural areas a correction coefficient is applied to the number of registered patients. In preparation for the new funding scheme, the "Rules on the conditions, criteria and standards for the conclusion of contracts with providers of health services" was amended in 2009, with incentives added for doctor and nurse teams to stimulate registration of patients with a chosen doctor.

Income levels

Gross salaries of physicians working at the PC level and at the secondary care level in Serbia are listed in Table 11. GP salaries are equal to those of PC paediatricians, whereas the salaries of secondary care specialists are 35% higher than those of their PC colleagues. Differences in salaries of PC and secondary care specialists arise because of the slightly higher coefficient of qualification in secondary health care, and some differences result from additional payment for night shifts and working on Saturdays and Sundays.

Table 11. Average gross annual salaries of physicians

| Medical professionals | Gross salary per year* (in Euros) |
|--|--------------------------------------|
| GP; chosen PC doctor | 7 368 |
| PC Paediatrician | 7 368 |
| Gynaecologist/obstetrician (secondary) | 10 000 |
| Paediatrician (secondary) | 10 000 |
| Internist (secondary) | 10 000 |
| Cardiologist (secondary) | 10 526 |

* On average at age 40

3.4 PC service delivery

3.4.1 National data on utilization and provision of services

Table 12. Key indicators of utilization of PC services

| Indicators | Rate |
|---|-------|
| Number of PC patient contacts per 1000 population per year* | 4 000 |
| Number of PC referrals to medical specialists per 1000 patient contacts** | 217 |
| Number of hospital admissions from primary care per 1000 patient contacts | 135 |
| Number of PC drug prescriptions per 1000 patient contacts | 1 566 |

* This is part of outpatient contacts.

** As reported by the Ministry of Health.

The survey among physicians also asked about contact frequencies and number of referrals (see Chapter 4).

Almost 22% of all contacts results in a referral to a medical specialist and 13.5% result in hospital admissions.

4. GP AND PAEDIATRICIAN RESPONSES

This chapter contains the results of the survey among GPs and paediatricians working in CHCs in the regions of Vojvodina, Belgrade and Central Serbia, covering workload and use of time, service availability and access, quality of care, use of clinical information, coordination and cooperation, available medical equipment and clinical task profiles.

4.1 Respondents' characteristics

A total of 285 PC physicians responded: 96 in Vojvodina; 95 in Central Serbia and 94 in the Belgrade area (see Table 13). In all three regions around three quarters of the respondents were GPs (Vojvodina: 74%, Central Serbia 74%, Belgrade 73%) and one quarter PC paediatricians. Overall 79% of the physicians worked in urban CHCs, but obviously this percentage was higher in the Belgrade area (96%) than in Vojvodina (72%) and Central Serbia (68%).

Table 13: PC GPs and paediatricians

| Physicians | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|----------------|------------------|-----------|-----------------------|-----------|-----------------|----------|---------------|------------|
| | urban | rural | urban | rural | urban | rural | Abs. | % |
| GPs | 50 | 21 | 44 | 26 | 65 | 4 | 210 | 74 |
| Paediatricians | 19 | 6 | 21 | 4 | 25 | - | 75 | 26 |
| TOTAL | 69 | 27 | 65 | 30 | 90 | 4 | 285 | 100 |

In Serbia primary medical care is predominantly provided by women, consequently 89% of the respondents were women. The gender distribution is equal for the GPs and the paediatricians.

Table 14. Gender of urban and rural physicians

| Physicians | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|----------------|------------------|-----------|-----------------------|-----------|-----------------|----------|---------------|------------|
| | urban | rural | urban | rural | urban | rural | Abs. | % |
| GPs | | | | | | | | |
| • Female | 42 | 16 | 40 | 23 | 60 | 3 | 184 | 65.0 |
| • Male | 7 | 5 | 3 | 3 | 5 | 1 | 24 | 8.5 |
| Paediatricians | | | | | | | | |
| • Female | 16 | 6 | 17 | 3 | 25 | - | 67 | 23.7 |
| • Male | 3 | - | 4 | 1 | - | - | 8 | 2.8 |
| TOTAL | 68 | 27 | 64 | 30 | 90 | 4 | 283 | 100 |

A number of key characteristics of the physicians and their practices in the three regions are provided in Table 15. Only six physicians answered to have completed a retraining programme. Although in line with the Serbian PC system with separate chosen doctors for adults and children, some respondents working in rural ambulatories without paediatricians served a mixed population of adults and children. In Belgrade almost two-thirds of the respondents are older than 50 years; in Vojvodina about half and in Central Serbia well over one-third. Paediatricians on average are somewhat older than GPs.

Table 15. Summary of characteristics of responding physicians, by region

| Physicians | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | |
|--|------------------|--------|---------|-----------------------|--------|---------|-----------------|--------|---------|
| | Abs. | % | Valid N | urban | rural | Valid N | urban | rural | Valid N |
| Male physicians | 15 | 15.6 | 95 | 11 | 11.6 | 94 | 6 | 6.4 | 94 |
| Physicians completing retraining programme | 3 | 3.1 | 93 | 1 | 1.1 | 91 | 2 | 2.1 | 87 |
| Physicians serving adults and children | 13 | 13.5 | 96 | 7 | 7.4 | 95 | 3 | 3.2 | 94 |
| Physicians under age 50 | 49 | 51.0 | 96 | 35 | 36.8 | 93 | 60 | 63.8 | 92 |
| Physicians average age | | | | | | | | | |
| • GPs | Urban | Rural* | | Urban | Rural* | | Urban | Rural* | |
| • Paediatricians | 49.8 | 46.7 | | 49.8 | 46.0 | | 49.8 | 45.8 | |
| | 51.3 | 48.0 | | 51.3 | 46.5 | | 51.3 | - | |
| Average years working as | | | | | | | | | |
| • GP | 17.8 | | | 15.2 | | | 19.5 | | |
| • Paediatricians | 17.4 | | | 14.3 | | | 22.0 | | |
| *Including small towns and rural areas | | | | | | | | | |

4.2 Accessibility of care

4.2.1 Organizational access

Workload

The average number of patients registered with GPs is almost the same in the three regions, around 1200, well below the national norm of 1600. The average number of children reported by paediatricians is closer to the national norm (1100–1200). Although these numbers do not suggest staff shortages, respondent do report them, as seen on the bottom line of the table.

Table 16: GPs' and paediatricians' workload and use of time, by region

| Physicians | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--------------------------------------|---------------------|--------------------|--------------------------|--------------------|--------------------|--------------------|------------------|--------------------|
| | Mean | Valid N | Mean | Valid N | Mean | Valid N | Mean | Valid N |
| List size (patients) | | | | | | | | |
| • GPs | 1 207 | 68 | 1 181 | 64 | 1 205 | 56 | 1 197 | 188 |
| • Paediatricians | 1 171 | 21 | 845 | 21 | 916 | 23 | 975 | 65 |
| Patient consultations per day | | | | | | | | |
| • GPs | 41 | 70 | 43 | 70 | 34 | 69 | 39 | 209 |
| • Paediatricians | 44 | 24 | 45 | 25 | 40 | 25 | 43 | 74 |
| Home visits per week | | | | | | | | |
| • GPs | 5 | 70 | 3 | 61 | 4 | 59 | 4 | 190 |
| • Paediatricians | 3 | 22 | 1 | 23 | 1 | 19 | 2 | 64 |
| Working hours per week | | | | | | | | |
| • GPs | 36 | 70 | 35 | 65 | 35 | 60 | 35 | 195 |
| • Paediatricians | 32 | 25 | 38 | 25 | 38 | 20 | 36 | 70 |
| Working hours per month | | | | | | | | |
| • GPs | 15 | 66 | 20 | 66 | 17 | 63 | 18 | 195 |
| • Paediatricians | 17 | 24 | 17 | 24 | 14 | 21 | 16 | 69 |
| Hours following courses per month | | | | | | | | |
| • GPs | 6 | 62 | 8 | 45 | 5 | 51 | 6 | 158 |
| • Paediatricians | 5 | 21 | 4 | 17 | 6 | 10 | 5 | 48 |
| | Abs. | Valid N | Abs. | Valid N | Abs. | Valid N | Abs. | Valid N |
| Reporting staff shortages | | | | | | | | |
| • GPs | 23 | 68 | 41 | 69 | 23 | 66 | 87 | 203 |
| • Paediatricians | 8 | 25 | 15 | 25 | 13 | 23 | 36 | 73 |

The same aspects of workload are presented in Table 17, but broken down by level of urbanization. Unlike in many other countries, differences between rural and urban practice are small for most indicators. Rural physicians have only slightly more patients than the urban, make two more home visits and barely work more hours per week.

Table 17. Urban and rural physicians' workload and use of time, by region

| Aspects of workload | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|-----------------------------------|------------------|----------------|-----------------------|----------------|-----------------|----------------|---------------|----------------|
| | Mean | Valid N | Mean | Valid N | Mean | Valid N | Mean | Valid N |
| List size (patients) | | | | | | | | |
| • urban physicians | 1 161 | 63 | 1 101 | 59 | 1 101 | 75 | 1 120 | 197 |
| • rural physicians | 1 289 | 26 | 1 093 | 26 | 1 488 | 4 | 1 212 | 56 |
| Patient consultations per day | | | | | | | | |
| • urban physicians | 41 | 68 | 45 | 65 | 36 | 90 | 40 | 223 |
| • rural physicians | 42 | 26 | 40 | 30 | 31 | 4 | 40 | 60 |
| Home visits per week | | | | | | | | |
| • urban physicians | 3 | 66 | 2 | 57 | 3 | 74 | 3 | 197 |
| • rural physicians | 7 | 26 | 3 | 27 | 7 | 4 | 5 | 57 |
| Working hours per week | | | | | | | | |
| • urban physicians | 33.5 | 68 | 36.9 | 61 | 35.5 | 77 | 35.2 | 206 |
| • rural physicians | 39.0 | 27 | 33.0 | 29 | 37.3 | 3 | 36.0 | 59 |
| Working hours per month | | | | | | | | |
| • urban physicians | 13.3 | 63 | 19.5 | 62 | 15.7 | 80 | 16.1 | 205 |
| • rural physicians | 21.2 | 27 | 19.7 | 28 | 18.3 | 4 | 20.4 | 59 |
| Hours following courses per month | | | | | | | | |
| • urban physicians | 6.3 | 58 | 7.8 | 41 | 5.0 | 58 | 6.2 | 157 |
| • rural physicians | 4.6 | 25 | 4.8 | 21 | 5.7 | 5 | 4.7 | 49 |
| | Abs. | Valid N | Abs. | Valid N | Abs. | Valid N | Abs. | Valid N |
| Reporting staff shortages | | | | | | | | |
| • urban physicians | 26 | 67 | 41 | 64 | 35 | 85 | 102 | 216 |
| • rural physicians | 5 | 26 | 15 | 30 | 1 | 4 | 21 | 60 |

Service availability and access

In Vojvodina and Central Serbia opening hours in the evening are reported by a majority of respondents, but in the Belgrade region such evening services seem to be rarely available. Opening during a weekend day (at least once per month) is widely practised in all three regions. If practices are closed, a majority of physicians report that a telephone number is available for patients.

Table 18. Practice access indicators

| Access | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Same day visits are possible | 87.5 | 96 | 88 | 93 | 95 | 93 | 89.9 | 282 |
| Evening opening at least once per week | 60.4 | 96 | 64 | 94 | 5 | 92 | 43.4 | 282 |
| Weekend day opening at least once per month | 82.3 | 96 | 76 | 95 | 86 | 94 | 81.1 | 285 |
| Phone number for patients when practice is closed | 78.1 | 95 | 54 | 94 | 51 | 94 | 60.8 | 283 |
| Clinics or sessions in use for special patient groups | | | | | | | | |
| • diabetes patients | 68 | 83 | 43 | 69 | 23 | 73 | 44.8 | 225 |
| • hypertensive patients | 62 | 83 | 27 | 69 | 22 | 73 | 37.1 | 225 |
| • family planning information | 30 | 83 | 30 | 69 | 26 | 72 | 28.3 | 224 |
| • pregnant women | 42 | 83 | 44 | 69 | 51 | 72 | 45.5 | 224 |
| • the elderly | 37 | 83 | 17 | 69 | 14 | 71 | 22.4 | 223 |
| • adolescents | 41 | 83 | 31 | 69 | 55 | 72 | 42.0 | 224 |
| • children with developmental problems | 37 | 83 | 30 | 69 | 44 | 72 | 36.4 | 224 |
| • parental paediatric counselling | 51 | 83 | 53 | 69 | 47 | 72 | 50.0 | 224 |
| No clinics or sessions for special patient groups | 10 | 93 | 22 | 90 | 10 | 88 | 14.0 | 271 |
| Practice situated 5 km or more from nearest general hospital | 47 | 96 | 50 | 95 | 63 | 94 | 52.8 | 285 |

4.2.2 Responsiveness

Table 19 shows how often quality improvement measures are used, according to respondents.

Although complaint procedures are obligatory, 19% of GPs and 12% of paediatricians indicated they do not have them. Furthermore, only 50–60% of physicians indicated that the recommended job satisfaction interviews are conducted in their CHCs.

Table 19. Use of clinical guidelines, complaint procedure and job satisfaction evaluations

| Aspects of workload | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Using clinical guidelines | | | | | | | | |
| • GPs | | | | | | | | |
| » frequently | 54 | 70 | 70 | 69 | 59 | 66 | 61 | 205 |
| » occasionally or seldom/never | 45 | 70 | 29 | 69 | 36 | 66 | 37 | 205 |
| • Paediatricians | | | | | | | | |
| » frequently | 64 | 25 | 20 | 23 | 40 | 24 | 41 | 72 |
| » occasionally or seldom/never | 36 | 25 | 72 | 23 | 56 | 24 | 55 | 72 |
| Having a procedure for dealing with complaints | | | | | | | | |
| • GPs | 82 | 70 | 79 | 69 | 81 | 69 | 81 | 208 |
| • Paediatricians | 84 | 25 | 92 | 25 | 88 | 24 | 88 | 74 |
| Using evaluation methods | | | | | | | | |
| • investigation of patient satisfaction | | | | | | | | |
| » GPs | 82 | 68 | 60 | 68 | 58 | 64 | 67 | 200 |
| » Paediatricians | 96 | 25 | 92 | 25 | 68 | 25 | 85 | 75 |
| • interviewing community reps about satisfaction with the centre/practice | | | | | | | | |
| » GPs | 38 | 67 | 27 | 64 | 19 | 55 | 28 | 186 |
| » Paediatricians | 56 | 22 | 32 | 25 | 16 | 18 | 35 | 65 |
| • interviewing GPs/ Paediatricians and nurses about their job satisfaction | | | | | | | | |
| » GPs | 63 | 67 | 43 | 65 | 55 | 65 | 54 | 197 |
| » Paediatricians | 76 | 22 | 56 | 24 | 44 | 21 | 59 | 67 |

4.3 Continuity of care

4.3.1 Informational continuity

Keeping records of all clinical information on patients, an important condition for coordination and continuity of care, is daily routine for almost all physicians in the three regions (see Table 20). However, the retrieval of specific information from the information system, for instance for preventive monitoring, was reported to be difficult. The identification of patient groups on the basis of a shared diagnosis, health risk or just age may enable efficient outreach activities, yet only 22% of GPs and 36% of paediatricians were able to easily generate such lists. In Vojvodina, however, half of paediatricians answered they could easily identify such patient categories.

Cooperation between primary and secondary care can strongly benefit from information that accompanies patients when they are referred to medical specialists and return after this treatment. Almost all respondents indicated using referral letters for most patients.

The flow of information from medical specialists to GPs and paediatricians is slightly less favourable. Around 80% report they always receive this information after specialist treatment is completed. In Belgrade this was lower than in both other regions, however.

The roughly 40% indication of lack of computer use does not necessarily mean there is no computer in the practice; there may be one that is used by other personnel. In Belgrade not using a computer is exceptional, while in Central Serbia it is more or less the rule. Those using a computer rarely use it for searching information. If the use of computers by other practice staff is considered, it appears that storing patients' medical record is the most frequently mentioned application. In these situations handwritten patient records are probably entered into the computer later. Computer files may be used for statistical and management purposes, while the physicians may just rely on their paper records.

Table 20. Availability and use of clinical information

| Aspects of workload | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Keeping patients' medical records routinely for all contacts | | | | | | | | |
| • GPs | 99 | 71 | 90 | 69 | 88 | 68 | 92 | 208 |
| • Paediatricians | 96 | 25 | 92 | 25 | 100 | 25 | 96 | 75 |
| Easy to generate a list of patients by diagnosis or health risk | | | | | | | | |
| • GPs | 96 | 70 | 89 | 70 | 93 | 69 | 92 | 209 |
| • Paediatricians | 96 | 25 | 100 | 25 | 100 | 25 | 99 | 75 |
| Always receive information from medical specialists within reasonable time after completed treatment | | | | | | | | |
| • GPs | 90 | 71 | 87 | 70 | 67 | 69 | 81 | 210 |
| • Paediatricians | 88 | 25 | 80 | 25 | 68 | 25 | 79 | 75 |
| Use the computer for: | | | | | | | | |
| • Booking appointments | | | | | | | | |
| » GPs | 16 | 69 | - | 68 | 7 | 69 | 8 | 206 |
| » Paediatricians | 20 | 25 | - | 25 | 4 | 25 | 8 | 75 |
| » Other staff in GPs' practice | 34 | 71 | - | 67 | 20 | 65 | 18 | 203 |
| » Other staff in Paediatricians' practice | 44 | 25 | - | 25 | 17 | 24 | 20 | 74 |
| • Financial administration | | | | | | | | |
| » GPs | 11 | 69 | 4 | 68 | - | 68 | 5 | 205 |
| » Paediatricians | 8 | 25 | - | 25 | - | 25 | 3 | 75 |
| » Other staff in GPs' practice | 44 | 70 | 13 | 67 | 17 | 65 | 25 | 202 |
| » Other staff in Paediatricians' practice | 56 | 25 | 24 | 25 | 17 | 24 | 32 | 74 |

| Aspects of workload | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|---|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| • Prescriptions | | | | | | | | |
| » GPs | 42 | 69 | 4 | 68 | 88 | 69 | 45 | 206 |
| » Paediatricians | 48 | 25 | - | 25 | 96 | 25 | 48 | 75 |
| » Other staff in GPs' practice | 11 | 70 | 5 | 67 | 48 | 65 | 21 | 202 |
| » Other staff in Paediatricians' practice | 28 | 25 | 4 | 25 | 63 | 24 | 31 | 74 |
| • Keeping medical records | | | | | | | | |
| » GPs | 48 | 69 | 7 | 68 | 81 | 69 | 45 | 206 |
| » Paediatricians | 56 | 25 | 8 | 25 | 96 | 25 | 53 | 75 |
| » Other staff in GPs' practice | 59 | 70 | 61 | 67 | 77 | 65 | 65 | 202 |
| » Other staff in Paediatricians' practice | 68 | 25 | 80 | 25 | 88 | 24 | 78 | 74 |
| • Writing referral letters | | | | | | | | |
| » GPs | 38 | 69 | 3 | 68 | 58 | 69 | 33 | 206 |
| » Paediatricians | 48 | 25 | - | 25 | 84 | 25 | 44 | 75 |
| » Other staff in GPs' practice | 10 | 70 | 3 | 67 | 39 | 65 | 17 | 202 |
| » Other staff in Paediatricians' practice | 28 | 25 | - | 25 | 63 | 24 | 30 | 74 |
| • Searching information | | | | | | | | |
| » GPs | 4 | 69 | 1 | 68 | 12 | 69 | 6 | 206 |
| » Paediatricians | - | 25 | - | 25 | 8 | 25 | 3 | 75 |
| » Other staff in GPs' practice | 1 | 70 | 5 | 67 | 9 | 65 | 5 | 202 |
| » Other staff in Paediatricians' practice | 4 | 25 | 1 | 25 | 8 | 24 | 4 | 74 |
| • Not using a computer | | | | | | | | |
| » GPs | 31 | 69 | 79 | 68 | 6 | 69 | 39 | 206 |
| » Paediatricians | 40 | 25 | 88 | 25 | - | 25 | 43 | 75 |
| » Other staff in GPs' practice | 1 | 71 | 27 | 67 | - | 65 | 9 | 203 |
| » Other staff in Paediatricians' practice | 4 | 25 | 4 | 25 | - | 24 | 3 | 74 |

4.4 Coordination of care

4.4.1 Cohesion within PC

Respondents most frequently answer that they work with other GPs (83%) and to a much lesser extent with paediatricians (49%). Although PC gynaecologists also act as chosen doctors, only 22% responded that they had worked with a gynaecologist in the same unit. Dentists (stomatologists) are mentioned by 40% of respondents.

The other medical specialists mentioned in the table are mentioned much less frequent. In Vojvodina more respondents answer to work with medical specialists in the same building, which suggest that CHCs in Vojvodina are broader.

Table 21. Other medical professionals working in the same unit as respondent

| Working in the same building | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|---------------------------------|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| GPs | 89 | 94 | 81 | 94 | 79 | 93 | 83 | 281 |
| PC paediatricians | 49 | 92 | 50 | 93 | 49 | 94 | 49 | 279 |
| PC gynaecologists | 26 | 92 | 15 | 94 | 26 | 93 | 22 | 279 |
| Internists | 20 | 91 | 15 | 94 | 11 | 92 | 15 | 277 |
| Surgeons | 1 | 87 | 12 | 94 | 2 | 90 | 5 | 271 |
| Neurologists | 19 | 89 | 13 | 94 | 9 | 92 | 14 | 275 |
| Dermatologists | 18 | 91 | 14 | 94 | 0 | 89 | 11 | 274 |
| ENT specialists | 18 | 91 | 12 | 94 | 11 | 92 | 13 | 277 |
| Ophthalmologists | 25 | 92 | 11 | 93 | 12 | 91 | 16 | 276 |
| Radiologists | 17 | 91 | 13 | 94 | 11 | 92 | 13 | 277 |
| TB specialists (phtysiologists) | 10 | 89 | 3 | 92 | 4 | 92 | 6 | 273 |
| Psychiatrists | 16 | 89 | 12 | 93 | 9 | 92 | 12 | 274 |
| Pharmacists | 18 | 90 | 21 | 94 | 6 | 90 | 15 | 274 |
| Stomatologists (dentists) | 57 | 93 | 38 | 93 | 25 | 93 | 40 | 279 |
| Practice nurses | 51 | 96 | 41 | 94 | 43 | 85 | 45 | 275 |
| Community nurses | 79 | 95 | 48 | 94 | 60 | 84 | 62 | 273 |
| Midwives / birth assistants | 31 | 95 | 7 | 94 | 45 | 83 | 28 | 272 |
| Social workers | 20 | 95 | 25 | 94 | 20 | 83 | 22 | 272 |
| Psychologists | 31 | 95 | 20 | 94 | 30 | 83 | 27 | 272 |
| Physiotherapists | 26 | 95 | 21 | 94 | 32 | 83 | 26 | 272 |
| Laboratory technicians | 67 | 96 | 46 | 94 | 48 | 83 | 54 | 273 |
| X-ray technicians | 26 | 95 | 21 | 94 | 32 | 83 | 26 | 272 |
| Others | 73 | 95 | 54 | 94 | 48 | 82 | 58 | 271 |

Table 22 shows respondents' frequency of fact-to-face meetings with medical colleagues, which are more frequently reported in Vojvodina than in the other regions. The data suggest a low level of structured cooperation and teamwork, both within PC and between primary and secondary care. It seems that organized information exchange among chosen doctors is not well developed and most doctors have no regular meeting with nurses. There are very few signs of structured cooperation between medical doctors across levels of care.

Table 22. Face-to-face meeting with other PC workers

| Meet face-to-face at least monthly with: | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| (Other) GPs | 83 | 69 | 61 | 68 | 64 | 68 | 70 | 205 |
| • GPs | 12 | 20 | 8 | 22 | 8 | 18 | 9 | 60 |
| (Other) PC paediatricians | 11 | 53 | 1 | 55 | - | 43 | 4 | 151 |
| • GPs | 84 | 25 | 68 | 23 | 40 | 25 | 64 | 73 |
| PC Gynaecologists | 4 | 53 | 1 | 54 | - | 42 | 2 | 149 |
| • GPs | 4 | 20 | 8 | 21 | 4 | 17 | 5 | 58 |
| Secondary paediatricians | 1 | 53 | 1 | 55 | - | 42 | 1 | 150 |
| • GPs | 52 | 23 | 12 | 20 | 20 | 19 | 28 | 62 |
| Secondary gynaecologists | 3 | 53 | 1 | 56 | - | 42 | 2 | 151 |
| • GPs | - | 20 | - | 20 | - | 16 | - | 56 |
| Internists | 11 | 54 | 21 | 57 | 10 | 44 | 14 | 155 |
| • GPs | 4 | 19 | 12 | 21 | - | 17 | 5 | 57 |
| Surgeons | 6 | 51 | 3 | 53 | 3 | 41 | 4 | 145 |
| • GPs | 4 | 19 | 16 | 21 | 4 | 18 | 8 | 58 |
| Neurologists | 9 | 52 | 3 | 53 | 6 | 41 | 6 | 146 |
| • GPs | 4 | 19 | 8 | 20 | - | 17 | 4 | 56 |
| Dematologists | 1 | 52 | 6 | 54 | 1 | 41 | 3 | 147 |
| • GPs | 8 | 18 | 20 | 21 | - | 17 | 9 | 56 |
| ENT specialists | 1 | 52 | 4 | 54 | 3 | 42 | 3 | 148 |
| • GPs | 8 | 19 | 16 | 20 | 4 | 18 | 9 | 57 |
| Ophthalmologists | 1 | 52 | 6 | 54 | 6 | 42 | 4 | 148 |
| • GPs | 12 | 19 | 12 | 21 | 4 | 18 | 9 | 58 |
| Radiologists | 1 | 52 | 9 | 53 | 6 | 42 | 5 | 147 |
| • GPs | 12 | 19 | 4 | 20 | - | 17 | 5 | 56 |
| TB specialists | 1 | 51 | 10 | 53 | 3 | 42 | 5 | 146 |
| • GPs | 8 | 19 | 12 | 21 | 4 | 18 | 8 | 58 |
| Psychiatrists | 6 | 52 | 9 | 56 | 3 | 42 | 6 | 150 |
| • GPs | 4 | 19 | 8 | 21 | 4 | 18 | 5 | 58 |
| Pharmacists | 16 | 53 | 11 | 54 | 3 | 42 | 10 | 149 |
| • GPs | 20 | 19 | 4 | 20 | 4 | 18 | 9 | 57 |
| Stomatologists (dentist) | 10 | 52 | 7 | 53 | 1 | 42 | 6 | 147 |
| • GPs | 20 | 19 | 12 | 20 | 4 | 18 | 12 | 57 |

| Meet face-to-face at least monthly with: | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Psychologists | | | | | | | | |
| • GPs | 1 | 51 | 1 | 51 | 1 | 41 | 1 | 144 |
| • Paediatricians | 8 | 19 | 8 | 20 | 4 | 18 | 7 | 57 |
| Physiotherapists | | | | | | | | |
| • GPs | 3 | 53 | 7 | 51 | 6 | 42 | 5 | 144 |
| • Paediatricians | 12 | 19 | 8 | 20 | 4 | 18 | 8 | 57 |
| Practice nurses | | | | | | | | |
| • GPs | 21 | 53 | 11 | 52 | 13 | 46 | 15 | 151 |
| • Paediatricians | 20 | 20 | 4 | 20 | 8 | 18 | 11 | 58 |
| Community nurses | | | | | | | | |
| • GPs | 34 | 55 | 14 | 52 | 15 | 44 | 21 | 151 |
| • Paediatricians | 28 | 20 | 8 | 21 | 12 | 19 | 16 | 60 |
| Midwife / Birth assistants | | | | | | | | |
| • GPs | 14 | 51 | 6 | 53 | 7 | 41 | 9 | 145 |
| • Paediatricians | 16 | 20 | - | 20 | 4 | 18 | 7 | 58 |
| Pharmacists | | | | | | | | |
| • GPs | - | 9 | 1 | 23 | 3 | 15 | 1 | 47 |
| • Paediatricians | - | 3 | - | 8 | - | 5 | - | 16 |

4.4.2 Contact with other care levels and with the community

Although regular meetings between GPs and paediatricians, on the one hand, and medical specialists on the other hand are rare, they do meet on a case-by-case basis (see Table 24).

A large majority of GPs indicate seeking advice from an internist, surgeon, neurologist, dermatologist, ENT specialist or ophthalmologist. In contrast, however, very few GPs ask advice from paediatricians or gynaecologists at the secondary level. In contrast to GPs, most paediatricians ask advice from secondary paediatricians and few from internists. Like GPs, only a minority of paediatricians sought advice from secondary gynaecologists.

Table 23. Consultation with medical specialists

| Frequently or sometimes asking advice from: | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|---|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Secondary paediatricians | | | | | | | | |
| • GPs | 25 | 56 | 18 | 50 | 12 | 42 | 19 | 148 |
| • Paediatricians | 75 | 24 | 96 | 24 | 96 | 24 | 89 | 72 |
| Secondary gynaecologists | | | | | | | | |
| • GPs | 42 | 57 | 39 | 51 | 26 | 43 | 36 | 151 |
| • Paediatricians | 57 | 21 | 24 | 21 | 63 | 16 | 47 | 58 |
| Internists | | | | | | | | |
| • GPs | 96 | 70 | 88 | 69 | 99 | 68 | 94 | 207 |
| • Paediatricians | 21 | 19 | 32 | 19 | 25 | 16 | 26 | 54 |
| Surgeons | | | | | | | | |
| • GPs | 83 | 69 | 91 | 67 | 92 | 64 | 89 | 200 |
| • Paediatricians | 100 | 24 | 96 | 22 | 83 | 23 | 93 | 69 |
| Neurologists | | | | | | | | |
| • GPs | 88 | 69 | 91 | 69 | 93 | 67 | 91 | 205 |
| • Paediatricians | 91 | 23 | 78 | 23 | 74 | 19 | 82 | 65 |
| Dermatologists | | | | | | | | |
| • GPs | 82 | 68 | 85 | 68 | 77 | 61 | 82 | 197 |
| • Paediatricians | 96 | 25 | 88 | 24 | 70 | 20 | 86 | 69 |
| ENT-specialists | | | | | | | | |
| • GPs | 86 | 69 | 87 | 67 | 91 | 66 | 88 | 202 |
| • Paediatricians | 100 | 25 | 92 | 24 | 88 | 24 | 93 | 73 |
| Ophthalmologists | | | | | | | | |
| • GPs | 87 | 69 | 87 | 69 | 92 | 66 | 89 | 204 |
| • Paediatricians | 96 | 25 | 92 | 24 | 87 | 23 | 92 | 72 |

Table 24. Patients referred to medical specialists during the previous 4 weeks, by region

| Patients referred to a: | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|---|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | Mean (range) | Valid N | Mean (range) | Valid N | Mean (range) | Valid N | Mean (range) | Valid N |
| Secondary paediatrician | 32 (0-27) | 62 | 3.9 (0-40) | 65 | 2.4 (0-30) | 39 | 3.3 (0-40) | 166 |
| Secondary gynaecologist | 3.8 (0-30) | 61 | 0.8 (0-6) | 56 | 1.0 (0-10) | 37 | 2.0 (0-30) | 154 |
| Internist | 16.3 (0-88) | 64 | 25.4 (0-88) | 70 | 15.5 (0-80) | 46 | 19.7 (0-88) | 180 |
| Surgeon | 10.6 (0-60) | 70 | 9.6 (0-60) | 83 | 6.5 (0-30) | 49 | 9.2 (0-60) | 202 |
| Neurologist | 8.9 (0-70) | 74 | 14.2 (0-70) | 80 | 6.8 (0-40) | 47 | 10.5 (0-70) | 201 |
| Dermatologist | 5.9 (0-51) | 75 | 8.6 (0-40) | 79 | 3.9 (0-20) | 46 | 6.5 (0-51) | 200 |
| ENT-specialist | 6.5 (0-26) | 77 | 9.3 (0-70) | 83 | 9.1 (0-36) | 50 | 8.3 (0-70) | 210 |
| Ophthalmologist | 6.0 (0-35) | 76 | 13.7 (0-90) | 81 | 6.8 (0-30) | 51 | 9.2 (0-90) | 208 |
| Total referrals per 4 weeks | 74.1 | | 103.5 | | 61.3 | | 81.7 | |
| Referrals as % of all office contacts and home visits | | | | | | | | |
| • GPs | 10.11 | | 14.65 | | 10.96 | | 12.40 | |
| • Paediatricians | 4.83 | | 5.04 | | 3.89 | | 4.67 | |

The average referral rate (referrals as a percentage of all patient contacts in the office and during home visits) of GPs is more than 2.5 times higher than that of paediatricians, and the regions strongly differ in this respect. Although missing values suggest caution, it seems reasonable to say that the referral rate of GPs is very high in international comparison. The officially provided referral rate from primary to secondary care – 217 per 1000 patient contacts (see Table 12 in chapter 3) – is even higher than that found here, but the survey's rate of 12.4 is very high.

Table 25. Patients referred to medical specialists during the previous 4 weeks, by urbanization

| Patients referred to a: | Urban (N=224) | | Rural (N=61) | | Total (N=285) | |
|---|---------------|---------|--------------|---------|---------------|---------|
| | Mean (range) | Valid N | Mean (range) | Valid N | Mean (range) | Valid N |
| Secondary paediatrician | 3.4 (0-40) | 123 | 2.9 (0-20) | 43 | 3.3 (0-40) | 166 |
| Secondary gynaecologist | 1.5 (0-25) | 116 | 3.6 (0-30) | 38 | 2.0 (0-30) | 154 |
| Internist | 16.9 (0-88) | 133 | 27.5 (0-85) | 47 | 19.7 (0-88) | 180 |
| Surgeon | 8.9 (0-60) | 151 | 9.9 (0-30) | 51 | 9.2 (0-60) | 202 |
| Neurologist | 9.1 (0-70) | 150 | 14.7 (0-70) | 51 | 10.5 (0-70) | 201 |
| Dermatologist | 6.4 (0-51) | 147 | 6.8 (0-40) | 53 | 6.5 (0-51) | 200 |
| ENT-specialist | 8.4 (0-40) | 155 | 7.9 (0-70) | 55 | 8.3 (0-70) | 210 |
| Ophthalmologist | 8.8 (0-90) | 153 | 10.2 (0-80) | 55 | 9.2 (0-90) | 208 |
| Total referrals per 4 weeks | 80.7 | | 84.9 | | 81.7 | |
| Referrals as % of all office contacts and home visits | 9.89 | | 10.29 | | 9.98 | |

The finding here is in contrast to what is usually found in other countries, namely that referral rates in urban areas are higher.

Only a minority of the respondents indicate that there are structured contacts with community (see Table 26).

Table 26. Community contacts

| Type connection: | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Regular meetings with local authorities | 28 | 90 | 21 | 87 | 12 | 86 | 20 | 263 |
| Regular meetings with community / social workers | 18 | 87 | 8 | 80 | 5 | 79 | 11 | 246 |
| Community representative on the CHC board | 26 | 89 | 21 | 86 | 17 | 84 | 22 | 259 |

4.5 Comprehensiveness of care

4.5.1 Practice conditions

GPs and paediatricians were asked whether information materials such as leaflets or posters had been displayed or made available in the waiting room of their CHC or ambulatory. Materials on cardiovascular diseases, healthy diet and smoking cessation were available in the waiting rooms of at least three quarters of the respondents, while materials about social services were least available

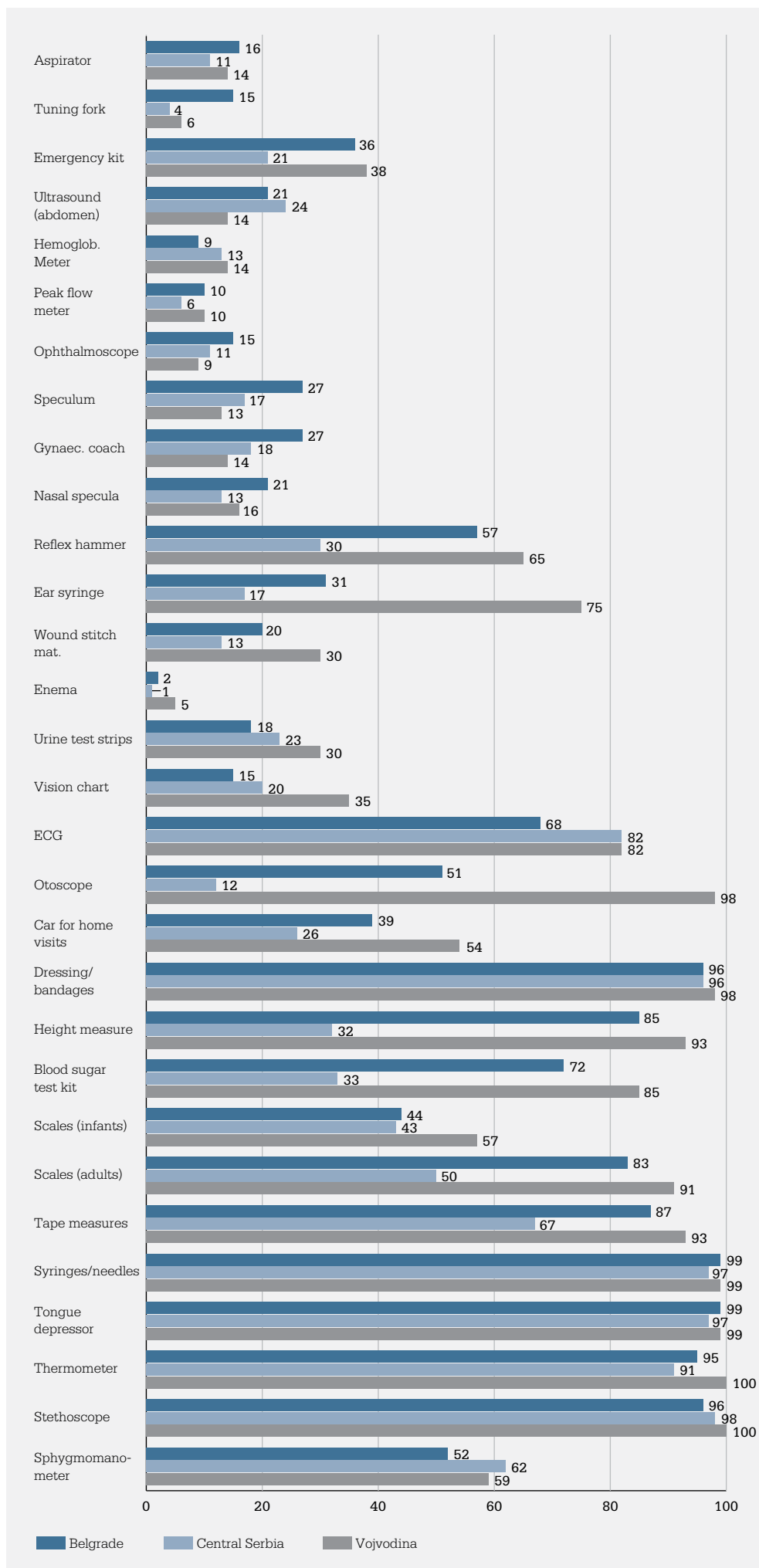
Table 27. Information for patients in the waiting room

| Subject of information materials | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|-----------------------------------|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Cardiovascular disease risks | 81 | 88 | 74 | 92 | 72 | 81 | 76 | 261 |
| Healthy diet | 91 | 93 | 76 | 91 | 85 | 90 | 84 | 274 |
| Smoking cessation | 83 | 85 | 74 | 92 | 77 | 84 | 78 | 261 |
| Obesity | 74 | 84 | 67 | 88 | 66 | 77 | 69 | 249 |
| Diabetes | 76 | 85 | 66 | 89 | 63 | 76 | 68 | 250 |
| Sexually transmitted diseases | 56 | 83 | 43 | 87 | 37 | 75 | 46 | 245 |
| Vaccinations | 69 | 84 | 56 | 89 | 56 | 80 | 60 | 253 |
| Contraception | 33 | 71 | 20 | 74 | 19 | 60 | 24 | 205 |
| Self treatment of cold / coughing | 38 | 72 | 34 | 77 | 21 | 58 | 31 | 207 |
| Social services | 35 | 72 | 16 | 73 | 15 | 57 | 22 | 202 |

4.5.2 Medical equipment

Figure 10 and Tables 28 and 29 summarize the state of medical equipment in the CHCs and ambulatories and by region and by urbanization. Overall, an average of 14 items were available from the list of 30 (46%). These results suggest that the equipment that physicians, and in particular GPs, have at their disposal is not compatible with a comprehensive package of preventive, curative and rehabilitative PC tasks. The sharp contrast among the regions with respect to several items also points to opportunities for improvement.

Table 28. Medical equipment available to physicians, by region



| Number of items of equipment | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|---|------------------|------------|-----------------------|------------|-----------------|------------|---------------|------------|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| 15 or less | 53 | 55 | 79 | 83 | 72 | 77 | 204 | 72 |
| 16 – 20 | 32 | 33 | 2 | 2 | 8 | 9 | 42 | 15 |
| 21 – 25 | 5 | 6 | 10 | 11 | 7 | 7 | 22 | 8 |
| 26 – 30 | 6 | 6 | 4 | 4 | 7 | 7 | 17 | 5 |
| TOTAL | 96 | 100 | 95 | 100 | 94 | 100 | 285 | 100 |
| Average number of items per physician (from list of 30) | | | | | | | | |
| • GPs | 15.2 | | 10.4 | | 13.7 | | 13.1 | |
| • Paed | 17.8 | | 15.3 | | 15.1 | | 16.1 | |
| • Total | 15.9 | | 11.7 | | 14.1 | | 13.8 | |

Table 29. Medical equipment available to physicians, by urbanization

| Number of items of equipment | Urban (N=224) | | Rural (N=61) | | Total (N=285) | |
|---|---------------|------------|--------------|------------|---------------|------------|
| | Abs. | % | Abs. | % | Abs. | % |
| 15 or less | 164 | 73 | 40 | 66 | 204 | 72 |
| 16 – 20 | 28 | 13 | 14 | 23 | 42 | 15 |
| 21 – 25 | 15 | 7 | 7 | 11 | 22 | 8 |
| 26 – 30 | 17 | 7 | - | - | 17 | 5 |
| TOTAL | 224 | 100 | 61 | 100 | 285 | 100 |
| Average number of items per physician (from list of 30) | 14.0 | | 13.4 | | 13.8 | |

Figure 10. Available equipment (% of physicians)

Responses on the availability of microbiological, biochemical and X-ray facilities are presented in tables 30 and 31. Both microbiological and biochemical laboratory facilities are fully available to a large majority of respondents, the former more often outside the practice building, while the opposite is true for the latter. In the Belgrade area laboratory facilities are more often within the practice than in both other regions. X-ray facilities are reported to be fully available by a large majority of respondents.

Table 30. Physician access to laboratory and X-ray facilities, by region

| Type of facility and mode of access | Vojvodina Region (N=96) | | Central Serbia Region (N=95) | | Belgrade Region (N=94) | | Total (N=285) | |
|---|-------------------------|----------------|------------------------------|----------------|------------------------|----------------|---------------|----------------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Microbiological laboratory: | | | | | | | | |
| • Full, in practice | | | | | | | | |
| » GPs | 21 | 68 | 22 | 68 | 43 | 63 | 28 | 199 |
| » Paediatricians | 29 | 24 | 16 | 25 | 46 | 24 | 30 | 73 |
| • Full, outside practice | | | | | | | | |
| » GPs | 71 | 68 | 74 | 68 | 51 | 63 | 65 | 199 |
| » Paediatricians | 63 | 24 | 72 | 25 | 42 | 24 | 59 | 73 |
| • N.a. / insufficient | | | | | | | | |
| » GPs | 8 | 68 | 4 | 68 | 6 | 36 | 7 | 199 |
| » Paediatricians | 8 | 24 | 12 | 25 | 12 | 24 | 11 | 73 |
| Biochemical laboratory | | | | | | | | |
| • Full, in practice | | | | | | | | |
| » GPs | 66 | 68 | 56 | 70 | 75 | 67 | 65 | 205 |
| » Paediatricians | 84 | 24 | 64 | 25 | 72 | 25 | 74 | 75 |
| • Full, outside practice | | | | | | | | |
| » GPs | 32 | 68 | 43 | 70 | 25 | 67 | 34 | 205 |
| » Paediatricians | 12 | 24 | 32 | 25 | 20 | 25 | 21 | 75 |
| • N.a. / insufficient | | | | | | | | |
| » GPs | 2 | 68 | 1 | 70 | 0 | 67 | 1 | 205 |
| » Paediatricians | 4 | 24 | 4 | 25 | 8 | 25 | 5 | 75 |
| X-ray | | | | | | | | |
| • Full, in practice | | | | | | | | |
| » GPs | 39 | 69 | 40 | 70 | 66 | 67 | 48 | 206 |
| » Paediatricians | 60 | 25 | 64 | 25 | 48 | 25 | 57 | 75 |
| • Full, outside practice | | | | | | | | |
| » GPs | 52 | 69 | 46 | 70 | 33 | 67 | 44 | 206 |
| » Paediatricians | 28 | 25 | 32 | 25 | 48 | 25 | 36 | 75 |
| • N.a. / insufficient | | | | | | | | |
| » GPs | 9 | 69 | 14 | 70 | 1 | 67 | 8 | 206 |
| » Paediatricians | 12 | 25 | 4 | 25 | 4 | 25 | 7 | 75 |
| | Mean | Valid N | Mean | Valid N | Mean | Valid N | Mean | Valid N |
| Average wait for laboratory results (days): | | | | | | | | |
| • GPs | 2.2 | 68 | 5.8 | 69 | 3.7 | 65 | 3.9 | 202 |
| • Paediatricians | 1.6 | 25 | 1.1 | 24 | 1.7 | 23 | 1.5 | 72 |
| Average wait for X-ray results (days): | | | | | | | | |
| • GPs | 9.6 | 61 | 8.0 | 62 | 4.6 | 64 | 7.4 | 187 |
| • Paediatricians | 1.3 | 24 | 1.1 | 23 | 1.3 | 20 | 1.3 | 67 |

As shown below, physicians in urban practices more often have their own facilities than physicians in rural practices and microbiological laboratory access is more often reported as insufficient or unavailable in rural practices.

Table 31. Physician access to laboratory and X-ray facilities, by urbanization

| Type of facility and mode of access | Urban (N=224) | | Rural (N=61) | | Total (N=285) | |
|---|---------------|----------------|--------------|----------------|---------------|----------------|
| | % | Valid N | % | Valid N | % | Valid N |
| Microbiological laboratory | | | | | | |
| • Full, in practice | 34 | 211 | 12 | 61 | 29 | 272 |
| • Full, outside practice | 60 | 211 | 77 | 61 | 64 | 272 |
| • N.a. / insufficient | 6 | 211 | 11 | 61 | 7 | 272 |
| Biochemical laboratory | | | | | | |
| • Full, in practice | 73 | 219 | 49 | 61 | 68 | 280 |
| • Full, outside practice | 25 | 219 | 49 | 61 | 30 | 280 |
| • N.a. / insufficient | 2 | 219 | 2 | 61 | 2 | 280 |
| X-ray | | | | | | |
| • Full, in practice | 55 | 220 | 33 | 61 | 51 | 281 |
| • Full, outside practice | 36 | 220 | 62 | 61 | 41 | 281 |
| • N.a. / insufficient | 9 | 220 | 5 | 61 | 8 | 281 |
| | Mean | Valid N | Mean | Valid N | Mean | Valid N |
| TOTAL | 224 | 100 | 61 | 100 | 285 | 100 |
| Average wait for laboratory results (days): | | | | | | |
| • GPs | 4.0 | 153 | 3.7 | 49 | 3.9 | 202 |
| • Paediatricians | 1.4 | 62 | 2.1 | 10 | 1.5 | 72 |
| Average wait for X-ray results (days): | | | | | | |
| • GPs | 7.9 | 140 | 5.6 | 47 | 7.4 | 187 |
| • Paediatricians | 1.2 | 58 | 1.6 | 9 | 1.3 | 67 |

4.5.3 Service delivery

Three categories will be distinguished in the physicians' clinical task profiles:

- physicians' first contact roles
- provision of medical technical procedures to their patients and
- treatment and follow-up of diseases.

Details of the methodology of this study were described in Chapter 1.

First contact roles

Tasks related to the first contact role were measured with 18 items on a variety of problems of men, women and children. Physicians could indicate whether their patients would bring up these problems either "(almost) always", "usually", "occasionally", "seldom/never" or "do not know". Tables 32 and 33 provide results. Percentages refer to physicians

who estimated that they would always or usually be the doctor of first contact, and the percentage in brackets refers to the category “occasionally”.

The overall summary scores for GPs and paediatricians on the bottom line in Table 32 show that GPs report seeing a wider range of health problems in the first contact than paediatricians. This is a consequence of the list of health problems, which are partly typical for children, but also contain problems of women and adults. On the typical problems related to children, paediatricians score very high and GPs extremely low. The position of paediatricians as the first contact is more clear-cut than that of GPs. None of the listed health problems is unanimously reported by GPs as normally presented to them in the first contact. These results suggest that GPs lack a clear domain in the first contact. The summary score of 2.06 is very low compared to GPs in other countries. If the typical paediatric items are excluded the score would be 2.4, which is still low. If regions are compared, GPs in Vojvodina have a more comprehensive role in the first contact than GPs in the other regions.

Table 33 shows that paediatricians in urban and rural practice have identical roles in dealing with patients who have a first contact with a health problem. GPs in urban CHCs, however, see a wider spectrum of health problems in the first contact than their rural colleagues. This is unlike results usually found among GPs in other countries.

Table 32. Physicians' first contact role, by region

| Physician perceived to be the first contact in case of: | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | | Total (N=285) | | |
|---|------------------|-------------|---------|-----------------------|-------------|---------|-----------------|-------------|---------|---------------|-------------|----------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Child with rash | 16 (9) | 100 (-) | 59 / 25 | 7 (13) | 100 (-) | 60 / 25 | 3 (4) | 96 (4) | 55 / 25 | 9 (9) | 99 (1) | 174 / 75 |
| Child with severe cough | 17 (6) | 100 (-) | 59 / 25 | 6 (13) | 100 (-) | 59 / 25 | 1 (7) | 100 (-) | 54 / 25 | 8 (9) | 100 (-) | 172 / 75 |
| Child age 7 with enuresis | 10 (6) | 88 (4) | 59 / 25 | 4 (6) | 84(12) | 59 / 24 | - (-) | 76(16) | 52 / 24 | 5 (4) | 82(11) | 170 / 73 |
| Child age 8 with hearing problem | 7 (4) | 80 (8) | 59 / 25 | 4 (3) | 76(20) | 58 / 24 | - (-) | 48(20) | 50 / 18 | 4 (2) | 68(16) | 167 / 67 |
| Woman age 18 asking for oral contraception | 4 (18) | - (24) | 59 / 20 | 5 (11) | 12 (8) | 60 / 19 | - (9) | 4 (20) | 52 / 14 | 3 (13) | 5 (17) | 171 / 53 |
| Woman age 20 for confirmation of pregnancy | 8 (10) | - (-) | 61 / 20 | 7 (9) | - (-) | 60 / 18 | - (6) | - (4) | 53 / 13 | 5 (8) | - (1) | 174 / 51 |
| Woman age 35 with irregular menstruation | 20 (19) | - (-) | 65 / 19 | 11(34) | - (-) | 56 / 18 | - (29) | - (-) | 55 / 12 | 11(31) | - (-) | 176 / 49 |
| Woman age 50 with lump in the breast | 74 (18) | - (-) | 68 / 19 | 70(24) | - (-) | 69 / 18 | 64(22) | - (-) | 65 / 12 | 70(21) | - (-) | 202 / 49 |
| Woman age 60 with polyuria | 79 (14) | - (-) | 68 / 19 | 71(19) | - (-) | 67 / 18 | 72(13) | - (-) | 63 / 13 | 74(15) | - (-) | 198 / 50 |
| Anxious man age 45 | 76 (16) | - (-) | 69 / 19 | 71(14) | - (-) | 67 / 18 | 83(10) | - (-) | 64 / 11 | 77(13) | - (-) | 200 / 48 |
| Man age 28 with a first convulsion | 44 (16) | - (-) | 67 / 19 | 34(21) | - (-) | 65 / 18 | 35(19) | - (-) | 62 / 12 | 38(19) | - (-) | 194 / 49 |
| Physically abused child | 7 (9) | 48 (24) | 59 / 22 | - (4) | 36 (8) | 57 / 23 | 1 (3) | 32(20) | 55 / 19 | 3 (5) | 39(17) | 171 / 64 |
| Couple with relationship problems | 14 (21) | 4 (-) | 64 / 18 | 9 (23) | - (12) | 55 / 19 | 15(26) | - (-) | 54 / 13 | 12(23) | 1 (4) | 173 / 50 |
| Man with suicidal inclination | 31 (31) | - (-) | 67 / 18 | 14(34) | - (-) | 63 / 19 | 20(36) | - (-) | 61 / 12 | 22(34) | - (-) | 191 / 49 |
| Woman age 35 with psychosocial problem related to work | 55 (30) | - (-) | 67 / 18 | 49(37) | - (-) | 66 / 19 | 67(28) | - (4) | 65 / 13 | 57(31) | - (1) | 198 / 50 |
| Man age 32 with sexual problems | 38 (25) | - (4) | 67 / 19 | 24(29) | - (-) | 65 / 19 | 23(48) | - (-) | 61 / 12 | 29(34) | - (1) | 193 / 50 |
| Man age 52 with alcohol addiction problems | 51 (31) | - (-) | 68 / 19 | 37(49) | - (-) | 68 / 19 | 48(42) | - (-) | 66 / 12 | 45(41) | - (-) | 202 / 50 |
| Man with symptoms of TB | 54 (21) | - (4) | 68 / 19 | 27(27) | - (-) | 67 / 19 | 44(25) | - (-) | 65 / 12 | 42(24) | 1 (1) | 200 / 50 |
| TOTAL SCORE First contact** | 2.21 | 1.75 | | 1.97 | 1.74 | | 2.00 | 1.69 | | 2.06 | 1.73 | |

* Note: percentages are sum of the answers "(almost) always" and "usually"; percentages in brackets refer to "occasionally" being the doctor of first contact.

** For the calculation of the score, answers have been weighted as follows: seldom/never = 1; occasionally = 2; usually = 3; (almost) always = 4.

Table 33. Physicians' first contact role, by urbanization

| Physician perceived to be the first contact in case of: | Urban (N=224) | | | Rural (N=61) | | | Total (N=285) | | |
|---|-----------------|-------------|----------|--------------|-------------|---------|---------------|-------------|----------|
| | % GPs * | % Paed. * | Valid N | % GPs * | % Paed. * | Valid N | % GPs * | % Paed. * | Valid N |
| | Child with rash | 3 (6) | 98 (2) | 126 / 65 | 26 (20) | 100 (-) | 48 / 10 | 9 (9) | 99 (1) |
| Child with severe cough | 1 (6) | 100 (-) | 124 / 65 | 29 (16) | 100 (-) | 48 / 10 | 8 (9) | 100 (-) | 172 / 75 |
| Child age 7 with enuresis | 1 (-) | 82 (11) | 122 / 63 | 18 (16) | 90 (10) | 48 / 10 | 5 (4) | 82 (11) | 170 / 73 |
| Child age 8 with hearing problem | 1 (-) | 66 (17) | 119 / 57 | 14 (10) | 80 (10) | 48 / 10 | 4 (2) | 68 (16) | 167 / 67 |
| Woman age 18 asking for oral contraception | - (7) | 6 (15) | 122 / 45 | 14 (31) | - (30) | 49 / 8 | 3 (13) | 5 (17) | 171 / 53 |
| Woman age 20 for confirmation of pregnancy | 1 (7) | - (2) | 125 / 43 | 20 (12) | - (-) | 49 / 8 | 5 (8) | - (1) | 174 / 51 |
| Woman age 35 with irregular menstruation | 4 (30) | - (-) | 127 / 41 | 29 (33) | - (-) | 49 / 8 | 11 (31) | - (-) | 176 / 49 |
| Woman age 50 with lump in the breast | 69 (20) | - (-) | 151 / 41 | 73 (26) | - (-) | 51 / 8 | 70 (21) | - (-) | 202 / 49 |
| Woman age 60 with polyuria | 74 (15) | - (-) | 148 / 42 | 77 (16) | - (-) | 50 / 8 | 74 (15) | - (-) | 198 / 50 |
| Anxious man age 45 | 80 (11) | - (-) | 150 / 40 | 67 (22) | - (-) | 50 / 8 | 77 (13) | - (-) | 200 / 48 |
| Man age 28 with a first convulsion | 40 (17) | - (-) | 144 / 41 | 30 (24) | - (-) | 50 / 8 | 38 (19) | - (-) | 194 / 49 |
| Physically abused child | 1 (4) | 40 (17) | 123 / 55 | 10 (8) | 30 (20) | 48 / 9 | 3 (5) | 39 (17) | 171 / 64 |
| Couple with relationship problems | 13 (19) | - (5) | 126 / 42 | 10 (37) | 10 (-) | 47 / 8 | 12 (23) | 1 (4) | 173 / 50 |
| Man with suicidal inclination | 25 (31) | - (-) | 143 / 41 | 12 (41) | - (-) | 48 / 8 | 22 (34) | - (-) | 191 / 49 |
| Woman age 35 with psychosocial problem related to work | 59 (28) | - (2) | 148 / 42 | 49 (43) | - (-) | 50 / 8 | 57 (31) | - (1) | 198 / 50 |
| Man age 32 with sexual problems | 29 (34) | - (2) | 144 / 42 | 28 (33) | - (-) | 49 / 8 | 29 (34) | - (1) | 193 / 50 |
| Man age 52 with alcohol addiction problems | 48 (37) | - (-) | 152 / 42 | 36 (53) | - (-) | 50 / 8 | 45 (41) | - (-) | 202 / 50 |
| Man with symptoms of TB | 44 (23) | - (2) | 150 / 42 | 34 (29) | - (-) | 50 / 8 | 42 (24) | 1 (1) | 200 / 50 |
| TOTAL SCORE First contact** | 2.01 | 1.73 | | 1.73 | 1.71 | | 2.06 | 1.73 | |

* Note: percentages are sum of the answers "(almost) always" and "usually"; percentages in brackets refer to "occasionally" being the doctor of first contact.
 ** For the calculation of the score, answers have been weighted as follows: seldom/never = 1; occasionally = 2; usually = 3; (almost) always = 4.

Involvement of PC physicians in the treatment of diseases

In tables 34 and 35 results are presented on the involvement of GPs and paediatricians in the treatment of a list of 20 diseases. Physicians could indicate whether they would treat a patient from their practice with a diagnosis either “(almost) always”, “usually”, “occasionally”, “seldom/never” or “do not know”. The percentages refer to physicians who estimated that they always or usually be the doctor to treat this patient. The percentages in brackets refer to the category “occasionally”

The overall summary scores for GPs and paediatricians on the bottom line in Table 35 show that GPs report to be more involved in the treatment of patients with these diagnoses than paediatricians. The treatment profile of GPs seems to be clearer than the first contact profile. From the list of 20 diagnoses there are 9 where at least three quarters of GPs say they are always or usually the treating physician. There is no diagnosis listed with fewer than 20% of GPs responding that they would always or usually treat it. The profile of paediatricians is narrower. Against 3 diagnoses covered by 80 to 90% there are 6 which are reported to be outside the domain of paediatricians, explaining their lower summary score. From the breakdown to urban and rural practice (see Table 35), it appears that the involvement in treatment tasks is not related to working in a city or in the countryside.

Table 34. Physician involvement in treatment and follow up of diseases, by region

| Condition: | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | | Total (N=285) | | |
|--------------------------------------|------------------|-------------|---------|-----------------------|-------------|---------|-----------------|-------------|---------|---------------|-------------|---------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Hypothyroidism | 75 (10) | 60 (20) | 68/22 | 63 (26) | 40 (28) | 67/22 | 68 (17) | 24 (4) | 64/16 | 69 (18) | 41 (17) | 199/60 |
| Chronic bronchitis | 94 (4) | 100 (-) | 70/25 | 93 (3) | 88 (4) | 68/24 | 96 (3) | 76 (8) | 68/22 | 94 (3) | 88 (4) | 206/71 |
| Hordeolum (stye) | 79 (16) | 88 (8) | 70/24 | 71 (19) | 76 (12) | 66/24 | 74 (23) | 72 (4) | 68/21 | 75 (19) | 79 (8) | 204/69 |
| Peptic ulcer | 93 (4) | 48 (20) | 70/22 | 89 (6) | 36 (32) | 67/23 | 90 (90) | 24 (8) | 68/17 | 91 (6) | 36 (20) | 205/62 |
| Herniated disc lesion | 82 (16) | 8 (16) | 70/20 | 81 (10) | 20 (4) | 66/22 | 88 (9) | 12 (4) | 68/17 | 84 (11) | 13 (8) | 204/59 |
| Acute cerebro-vascular accident | 78 (14) | - (4) | 70/19 | 56 (27) | 8 (4) | 65/21 | 57 (26) | - (4) | 66/16 | 63 (22) | 3 (4) | 201/56 |
| Congestive heart failure | 76 (18) | 4 (12) | 68/19 | 77 (13) | 16 (12) | 65/21 | 70 (22) | 8 (4) | 67/15 | 74 (18) | 9 (9) | 200/55 |
| Pneumonia | 96 (3) | 96 (-) | 70/24 | 89 (6) | 88 (4) | 67/24 | 93 (6) | 76 (8) | 68/22 | 92 (5) | 87 (4) | 205/70 |
| Peritonsillar abscess | 73 (17) | 84 (4) | 70/23 | 47 (6) | 68 (16) | 66/22 | 67 (17) | 56 (16) | 67/21 | 62 (23) | 69 (12) | 203/66 |
| Ulcerative colitis | 61 (23) | 28 (16) | 70/21 | 40 (27) | 32 (44) | 66/21 | 49 (28) | 24 (12) | 68/15 | 50 (26) | 28 (24) | 204/57 |
| Salpingitis | 30 (28) | 16 (12) | 67/19 | 14 (29) | 8 (36) | 58/21 | 15 (16) | 4 (20) | 61/14 | 20 (24) | 9 (23) | 186/54 |
| Concussion | 40 (31) | 44 (16) | 67/20 | 23 (27) | 32 (36) | 62/21 | 26 (30) | 32 (4) | 64/15 | 30 (30) | 36 (19) | 193/56 |
| Parkinson's disease | 69 (14) | - (4) | 70/19 | 63 (16) | - (-) | 65/21 | 61 (15) | 4 (-) | 68/14 | 64 (15) | 1 (1) | 203/54 |
| Uncomplicated diabetes (type II) | 92 (7) | 20 (8) | 70/20 | 93 (1) | 16 (16) | 67/21 | 93 (4) | 12 (-) | 67/15 | 92 (4) | 16 (8) | 204/56 |
| Rheumatoid arthritis | 80 (3) | 44 (12) | 70/21 | 82 (9) | 64 (12) | 66/23 | 81 (12) | 20 (12) | 68/17 | 81 (11) | 43 (12) | 204/61 |
| Depression | 85 (13) | 20 (12) | 70/19 | 79 (14) | 20 (48) | 67/22 | 77 (13) | 12 (12) | 67/15 | 80 (13) | 17 (24) | 204/56 |
| Myocardial infarction | 70 (20) | - (4) | 70/19 | 74 (14) | - (-) | 66/21 | 62 (26) | - (4) | 67/15 | 69 (20) | - (3) | 203/55 |
| Follow up TB care | 49 (24) | 28 (8) | 69/19 | 39 (26) | 44 (-) | 62/22 | 42 (15) | 12 (8) | 64/15 | 43 (21) | 38 (5) | 195/57 |
| Problems of menopause | 52 (24) | 4 (-) | 68/19 | 43 (26) | 8 (8) | 63/21 | 39 (33) | - (-) | 64/14 | 45 (28) | 4 (3) | 195/54 |
| Amenorrhoea | 35 (28) | 28 (8) | 68/20 | 29 (23) | 20 (32) | 59/22 | 23 (22) | 16 (12) | 63/15 | 29 (24) | 21 (17) | 190/57 |
| TOTAL SCORE Treatment tasks** | 3.14 | 2.24 | | 2.91 | 2.26 | | 2.94 | 1.99 | | 3.00 | 2.18 | |

* Note: percentages are sum of the answers "(almost) always" and "usually"; percentages in brackets refer to "occasionally" being the doctor of first contact.
 ** For the calculation of the score, answers have been weighted as follows: seldom/never = 1; occasionally = 2; usually = 3; (almost) always = 4.

Table 35. Physician involvement in treatment and follow up of diseases, by urbanization

| Condition: | Urban (N=224) | | | Rural (N=61) | | | Total (N=285) | | |
|--------------------------------------|---------------|-------------|---------|--------------|-------------|---------|---------------|-------------|---------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Hyperthyroidism | 71 (15) | 43 (14) | 150/51 | 61 (26) | 30 (40) | 49/9 | 69 (18) | 41 (17) | 199/60 |
| Chronic bronchitis | 94 (3) | 88 (5) | 156/61 | 94 (4) | 90 (-) | 50/10 | 94 (3) | 88 (4) | 206/71 |
| Hordeolum (stye) | 75 (20) | 77 (8) | 155/59 | 75 (18) | 90 (10) | 49/10 | 75 (19) | 79 (8) | 204/69 |
| Peptic ulcer | 91 (6) | 37 (17) | 156/53 | 88 (8) | 30 (40) | 49/9 | 91 (6) | 36 (20) | 205/62 |
| Herniated disc lesion | 84 (12) | 12 (9) | 156/51 | 84 (10) | 20 (-) | 48/8 | 84 (11) | 13 (8) | 204/59 |
| Acute cerebro-vascular accident | 64 (21) | 3 (3) | 152/48 | 63 (28) | - (10) | 49/8 | 63 (22) | 3 (4) | 201/56 |
| Congestive heart failure | 76 (15) | 9 (11) | 151/47 | 69 (26) | 10 (-) | 49/8 | 74 (18) | 9 (9) | 200/55 |
| Pneumonia | 95 (3) | 85 (5) | 156/60 | 84 (12) | 100 (-) | 49/10 | 92 (5) | 87 (4) | 205/70 |
| Peritonsillar abscess | 64 (23) | 68 (14) | 154/58 | 59 (26) | 80 (-) | 49/8 | 62 (23) | 69 (12) | 203/66 |
| Ulcerative colitis | 54 (23) | 26 (25) | 155/49 | 39 (33) | 40 (20) | 48/8 | 50 (26) | 28 (24) | 204/57 |
| Salpingitis | 16 (22) | 9 (21) | 138/46 | 29 (31) | 10 (30) | 48/8 | 20 (24) | 9 (23) | 186/54 |
| Concussion | 29 (29) | 37 (15) | 145/48 | 31 (31) | 30 (40) | 48/8 | 30 (30) | 36 (19) | 193/56 |
| Parkinson's disease | 65 (13) | 2 (-) | 155/46 | 61 (22) | - (10) | 48/8 | 64 (15) | 1 (1) | 203/54 |
| Uncomplicated diabetes (type II) | 92 (5) | 14 (9) | 155/48 | 94 (2) | 30 (-) | 49/8 | 92 (4) | 16 (8) | 204/56 |
| Rheumatoid arthritis | 79 (13) | 40 (14) | 156/47 | 86 (4) | 60 (-) | 48/9 | 81 (11) | 43 (12) | 204/61 |
| Depression | 79 (15) | 17 (26) | 155/47 | 84 (10) | 20 (10) | 49/9 | 80 (13) | 17 (24) | 204/56 |
| Myocardial infarction | 69 (18) | - (2) | 155/47 | 69 (26) | - (10) | 48/8 | 69 (20) | - (3) | 203/55 |
| Follow up TB care | 42 (21) | 28 (6) | 147/49 | 49 (22) | 30 (-) | 48/8 | 43 (21) | 28 (5) | 195/57 |
| Problems of menopause | 44 (28) | 5 (3) | 147/46 | 47 (26) | - (-) | 48/8 | 45 (28) | 4 (3) | 195/54 |
| Amenorrhoea | 26 (25) | 20 (17) | 142/49 | 37 (22) | 30 (20) | 48/8 | 29 (24) | 21 (17) | 190/57 |
| TOTAL SCORE Treatment tasks** | 3.00 | 2.16 | | 3.01 | 2.29 | | 3.00 | 2.18 | |

* Note: percentages are sum of the answers "(almost) always" and "usually"; percentages in brackets refer to "occasionally" being the doctor of first contact.

** For the calculation of the score, answers have been weighted as follows: seldom/never = 1; occasionally = 2; usually = 3; (almost) always = 4.

Preventive and medical technical procedures provided in PC

Involvement in the provision of medical procedures to patients (such as minor surgery) was measured with 16 items. Physicians could indicate whether they would provide the procedure “(almost) always”, “usually”, “occasionally”, “seldom/never” or “do not know”. The percentages in tables 36 and 37 refer to physicians who said that they would always or usually provide the procedure. The percentages in brackets refer to the category “occasionally”. At a glance, Table 36 shows that these clinical tasks are outside the core of the professional domain of Serbian GPs and paediatricians. The very low summary scores on the bottom line of the table need little further explanation.

In contrast to the previous tasks, these procedural tasks show parallel profiles for GPs and paediatricians, who are marginally involved in the listed procedures, but in those where they are involved they are both involved. This general picture applies to all three regions and to both urban and rural areas (see Table 37).

Table 36. Physician involvement in medical-technical procedures, by region

| Procedure | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | | Total (N=285) | | |
|--|------------------|-------------|---------|-----------------------|-------------|---------|-----------------|-------------|---------|---------------|-------------|---------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Wedge resection of ingrown toenail | 18 | 12 | 71/25 | 1 | 29 | 70/24 | 6 | 5 | 69/22 | 9 | 6 | 210/71 |
| Removal of sebaceous cyst from scalp | 11 | 4 | 71/25 | 1 | 4 | 69/24 | 3 | - | 69/22 | 5 | 1 | 209/71 |
| Wound suturing | 33 | 29 | 69/24 | 3 | - | 66/24 | 16 | 10 | 67/20 | 18 | 13 | 202/68 |
| Excision of warts | 7 | - | 69/24 | 2 | - | 66/24 | 5 | - | 65/20 | 5 | - | 200/67 |
| IUD insertion | 1 | - | 69/21 | 5 | - | 66/24 | 3 | - | 63/16 | 3 | - | 198/61 |
| Removal of rusty spot from cornea | 4 | - | 69/23 | 2 | - | 66/24 | 2 | - | 66/19 | 3 | - | 201/66 |
| Fundoscopy | 1 | - | 69/23 | 2 | - | 66/24 | 2 | - | 67/20 | 2 | - | 202/67 |
| Joint injection | 10 | - | 69/21 | 5 | - | 66/24 | 6 | - | 66/18 | 7 | - | 201/63 |
| Maxillary (sinus) puncture | 2 | - | 68/21 | 9 | - | 65/23 | 2 | - | 65/18 | 1 | - | 198/62 |
| Myringotomy of eardrum (paracentesis) | 2 | - | 68/22 | - | - | 66/24 | 2 | - | 65/18 | 1 | - | 199/64 |
| Applying plaster cast | 1 | - | 69/22 | 2 | - | 66/24 | 5 | - | 63/20 | 3 | - | 198/66 |
| Strapping an ankle | 28 | 23 | 68/22 | 19 | 17 | 67/24 | 34 | 15 | 64/20 | 27 | 23 | 199/66 |
| Cryotherapy (warts) | 4 | - | 68/22 | 6 | - | 63/23 | 10 | - | 60/18 | 7 | - | 191/63 |
| Setting up intravenous infusion | 91 | 57 | 69/23 | 86 | 29 | 66/24 | 86 | 74 | 64/19 | 88 | 52 | 199/66 |
| Immunization for flu or tetanus | 99 | 100 | 69/24 | 88 | 83 | 67/24 | 96 | 96 | 66/25 | 97 | 93 | 202/73 |
| Allergy vaccinations | 36 | 4 | 67/24 | 42 | 25 | 67/24 | 28 | 16 | 64/19 | 35 | 15 | 198/67 |
| TOTAL SCORE Medical procedures / prevention * | 1.56 | 1.44 | | 1.50 | 1.40 | | 1.50 | 1.39 | | 1.52 | 1.41 | |

* For the calculation of the score, answers have been weighted as follows: usually done by medical specialist = 1; usually done by other PHC doctor = 2; usually done by practice staff = 3; usually done by myself = 4

Table 37. Physician involvement in medical-technical procedures, by urbanization

| Procedure | Urban (N=224) | | | Rural (N=64) | | | Total (N=285) | | |
|---|---------------|-------------|---------|--------------|-------------|---------|---------------|-------------|---------|
| | % GPs * | % Paed. * | Valid N | % GPs * | % Paed. * | Valid N | % GPs * | % Paed. * | Valid N |
| Wedge resection of ingrown toenail | 8 | 5 | 159/61 | 12 | 10 | 51/10 | 9 | 6 | 210/71 |
| Removal of sebaceous cyst from hairy scalp | 5 | 2 | 159/61 | 6 | - | 50/10 | 5 | 1 | 209/71 |
| Wound suturing | 15 | 10 | 153/58 | 27 | 30 | 49/10 | 18 | 13 | 202/68 |
| Excision of warts | 5 | - | 151/58 | 4 | - | 49/9 | 5 | - | 200/67 |
| IUD insertion | 2 | - | 149/53 | 6 | - | 49/8 | 3 | - | 198/61 |
| Removal of rusty spot from cornea | 1 | - | 152/57 | 6 | - | 49/9 | 3 | - | 201/66 |
| Fundoscopy | 1 | - | 153/58 | 2 | - | 49/9 | 2 | - | 202/67 |
| Joint injection | 7 | - | 152/54 | 8 | - | 49/9 | 7 | - | 201/63 |
| Maxillary (sinus) puncture | 1 | - | 150/53 | - | - | 48/9 | 1 | - | 198/62 |
| Myringotomy of eardrum (paracentesis) | 1 | - | 150/55 | - | - | 49/9 | 1 | - | 199/64 |
| Applying plaster cast | 3 | - | 149/57 | - | - | 49/9 | 3 | - | 198/66 |
| Strapping an ankle | 23 | 23 | 150/57 | 41 | 22 | 49/9 | 27 | 23 | 199/66 |
| Cryotherapy (warts) | 8 | - | 145/54 | 4 | - | 46/9 | 7 | - | 191/63 |
| Setting up intravenous infusion | 88 | 46 | 151/57 | 88 | 89 | 48/9 | 88 | 52 | 199/66 |
| Immunization for flu or tetanus | 95 | 92 | 154/64 | 92 | 100 | 48/9 | 97 | 93 | 202/73 |
| Allergy vaccinations | 35 | 14 | 150/58 | 38 | 22 | 48/9 | 35 | 15 | 198/67 |
| TOTAL SCORE Medical procedures /prevention * | 1.51 | 1.40 | | 1.55 | 1.52 | | 1.52 | 1.41 | |

* For the calculation of the score, answers have been weighted as follows: usually done by medical specialist = 1; usually done by other PHC doctor = 2; usually done by practice staff = 3; usually done by myself = 4

Table 38. Physician involvement in activities for specific groups

| Activity | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | | Total (N=285) | | |
|--|------------------|--------------|---------|-----------------------|--------------|---------|-----------------|--------------|---------|---------------|--------------|---------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Screening for STDs | 13 | 8 | 66/22 | 11 | 8 | 64/24 | 9 | 12 | 60/19 | 11 | 9 | 190/65 |
| Screening for HIV / AIDS | 14 | 8 | 66/22 | 14 | 4 | 64/24 | 13 | 16 | 60/18 | 14 | 9 | 190/64 |
| TB Screening | 17 | 16 | 65/22 | 13 | 20 | 63/23 | 12 | 4 | 58/17 | 14 | 13 | 186/62 |
| Influenza vaccination programme for high-risk groups | 89 | 72 | 68/24 | 66 | 56 | 67/24 | 90 | 72 | 67/21 | 81 | 67 | 202/69 |
| Rehabilitative care | 32 | 20 | 66/21 | 20 | 40 | 62/23 | 39 | 16 | 59/16 | 31 | 25 | 187/60 |
| School health care | 16 | 80 | 62/24 | 7 | 68 | 61/24 | - | 60 | 50/22 | 8 | 69 | 173/70 |
| Cervical cancer screening | 21 | - | 66/21 | 16 | - | 62/23 | 10 | - | 54/18 | 16 | - | 182/62 |
| Breast cancer screening | 55 | - | 67/21 | 37 | - | 64/23 | 55 | - | 60/18 | 49 | - | 191/62 |
| Colon carcinoma screening | 87 | - | 70/21 | 56 | - | 65/22 | 83 | - | 66/18 | 75 | - | 201/61 |
| Anaemia screening | 69 | 88 | 68/25 | 56 | 88 | 65/24 | 64 | 60 | 63/21 | 63 | 79 | 196/70 |
| Screening infants for hip deformation | 10 | 64 | 65/25 | 1 | 64 | 59/24 | 80 | 40 | 55/20 | 4 | 56 | 179/69 |
| Screening for hearing and vision deficiencies | 28 | 60 | 67/23 | 20 | 72 | 60/24 | 22 | 36 | 58/19 | 23 | 56 | 185/66 |
| TOTAL coverage for Spec. groups | 37.6% | 34.7% | | 26.4% | 35.0% | | 39.8% | 26.3% | | 32.4% | 31.9% | |

Two additional questions dealt with the physicians' perception of unnecessary drug prescriptions and their opinion about the balance in their work between curative and preventive tasks. Results are presented in tables 38 and 39.

Table 39. Estimation of medically unnecessary prescriptions

| | Vojvodina (N=96) | | Central Serbia (N=95) | | Belgrade (N=94) | | Total (N=285) | |
|--|------------------|---------|-----------------------|---------|-----------------|---------|---------------|---------|
| | % | Valid N | % | Valid N | % | Valid N | % | Valid N |
| Estimated % of patient contacts in which medically unnecessary prescriptions are made: | | | | | | | | |
| • GPs | 6.2 | 63 | 6.4 | 58 | 7.6 | 53 | 6.7 | 174 |
| • Paediatricians | 3.7 | 23 | 5.1 | 22 | 5.4 | 16 | 4.6 | 61 |

Results in Table 39 show that most GPs and paediatricians are not satisfied with the balance between curative and preventive tasks in their work. They would like to pay more attention to prevention and health education.

Table 39. Balance between curative and preventive tasks

| Opinion | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | | Total (N=285) | | |
|--|------------------|----------|---------|-----------------------|----------|---------|-----------------|----------|---------|---------------|----------|----------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| I would like to spend more time on prevention and health education. | 63 | 44 | 68 / 23 | 54 | 64 | 68 / 25 | 74 | 75 | 65 / 24 | 64 | 61 | 201 / 72 |
| I would like to spend more time on curative tasks. | 10 | - | 68 / 23 | 15 | 4 | 68 / 25 | 5 | - | 65 / 24 | 10 | 1 | 201 / 72 |
| I am satisfied with the current balance between curative and preventive tasks. | 27 | 56 | 68 / 23 | 31 | 32 | 68 / 25 | 21 | 25 | 65 / 24 | 26 | 38 | 201 / 72 |

Mother and child care /reproductive health

Results for mother and child health (MCH) and reproductive health (RH) are presented in Table 40. Immunization for children up to age 18 and paediatric surveillance are normal tasks of all paediatricians. Nevertheless about one out of six GPs also report to provide these services.

GPs in rural areas are much more involved in all four tasks (Table 40). Rural paediatricians are also more involved than urban colleagues, but only in family planning / contraception and routine antenatal care.

Table 40. Physicians providing services to all or most mothers and children, by region

| Service | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | | Total (N=285) | | |
|--|------------------|----------|---------|-----------------------|----------|---------|-----------------|----------|---------|---------------|----------|---------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Family planning and contraception | 14 | 42 | 65/19 | 11 | 29 | 64/24 | 8 | 24 | 52/17 | 11 | 32 | 181/60 |
| Routine antenatal care | 19 | 40 | 64/20 | 11 | 38 | 62/24 | 12 | 50 | 49/16 | 14 | 42 | 175/60 |
| Normal immunizations of children under age 18 | 26 | 100 | 66/25 | 8 | 96 | 61/24 | 10 | 100 | 49/24 | 15 | 99 | 176/73 |
| Routine paediatric surveillance (under age 18) | 30 | 100 | 66/25 | 16 | 96 | 62/25 | 10 | 100 | 49/23 | 18 | 99 | 177/73 |

Table 41. Physicians providing services to all or most mothers and children, by urbanization

| Service | Urban (N=224) | | | Rural (N=61) | | | Total (N=285) | | |
|--|---------------|----------|---------|--------------|----------|---------|---------------|----------|---------|
| | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N | % GPs* | % Paed.* | Valid N |
| Family planning and contraception | 9 | 33 | 132/51 | 16 | 78 | 49/9 | 11 | 32 | 181/60 |
| Routine antenatal care | 9 | 43 | 129/51 | 28 | 67 | 46/9 | 14 | 42 | 175/60 |
| Normal immunizations of children under age 18 | 9 | 100 | 128/63 | 33 | 90 | 48/10 | 15 | 99 | 176/73 |
| Routine paediatric surveillance (under age 18) | 11 | 100 | 129/63 | 38 | 90 | 48/10 | 18 | 99 | 177/73 |

5. PATIENT RESPONSES ABOUT PC

The survey among patients was carried out in the practices of some of the physicians who participated in the physicians' survey. Field workers visited the practices and systematically asked every attending patient for his or her cooperation, until the target of 15 completed questionnaires was achieved. In this way it was ensured that the information gained from the patient survey applied to the same practices as the information from the survey among physicians. Further explanation of the approach can be found in Chapter 1. In the description of the results reference has been made to the health systems functions of the framework explained in Chapter 1.

5.1 Respondents' characteristics

The patient survey had responses from 1655 patients: 549 from Vojvodina, 580 from Central Serbia and 526 from the Belgrade region. As usual among health service patients, females were a majority. Almost two thirds of the questionnaires were completed by women; there were small differences among the regions in age distribution.

Table 42. Gender distribution of patients, urbanization

| | Vojvodina (N=96) | | | Central Serbia (N=95) | | | Belgrade (N=94) | | |
|--------------|---------------------|---------------------|----------------------|--------------------------|---------------------|----------------------|---------------------|---------------|----------------------|
| | Urban | Rural* | Total | Urban | Rural* | Total | Urban | Rural* | Total |
| | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) |
| Male | 140 (34) | 48 (36) | 188 (34) | 129 (36) | 95 (42) | 224 (39) | 170 (34) | 15 (52) | 185 (35) |
| Femlae | 277 (66) | 84 (64) | 361 (66) | 226 (64) | 130 (58) | 356 (61) | 327 (66) | 14 (48) | 341 (65) |
| Total | 417 (76) | 132 (24) | 549 (100) | 355 (61) | 225 (39) | 580 (100) | 497 (94) | 29 (6) | 526 (100) |

* Including small towns and rural areas.

Table 43. Patients' age, occupation and living situation

| Patients' background | Urban (N=224) | | Rural (N=61) | | Total (N=285) | |
|--------------------------------|------------------|------------|-----------------|------------|------------------|------------|
| | Abs. | % | Abs. | % | Abs. | % |
| Age | | | | | | |
| • up to 20 yrs | 26 | 5 | 34 | 6 | 21 | 4 |
| • 21 – 30 | 52 | 10 | 64 | 11 | 44 | 9 |
| • 31 – 40 | 119 | 22 | 458 | 27 | 118 | 23 |
| • 41 – 50 | 118 | 22 | 95 | 16 | 84 | 17 |
| • 51 – 60 | 93 | 17 | 102 | 18 | 96 | 19 |
| • Over 60 | 137 | 24 | 124 | 22 | 147 | 28 |
| Total | 539 | 100 | 577 | 100 | 510 | 100 |
| Occupation | | | | | | |
| • in school | 36 | 7 | 34 | 6 | 30 | 6 |
| • unemployed | 66 | 12 | 104 | 17 | 48 | 9 |
| • unable to work (disability) | 2 | 0 | 9 | 2 | 6 | 1 |
| • looking after family | 30 | 6 | 42 | 7 | 15 | 3 |
| • employee | 247 | 45 | 229 | 39 | 261 | 49 |
| • self-employed | 22 | 4 | 26 | 5 | 10 | 1 |
| • retired | 137 | 25 | 128 | 22 | 153 | 29 |
| • other | 10 | 1 | 10 | 2 | 9 | 2 |
| Total | 550 | 100 | 582 | 100 | 532 | 100 |
| Living situation | | | | | | |
| • alone | 58 | 11 | 44 | 8 | 63 | 11 |
| • with parents | 62 | 11 | 65 | 11 | 56 | 11 |
| • with husband / wife | 90 | 16 | 77 | 13 | 85 | 16 |
| • with family (incl. children) | 283 | 51 | 331 | 57 | 255 | 48 |
| • with children | 38 | 7 | 53 | 9 | 57 | 11 |
| • other | 21 | 4 | 16 | 2 | 16 | 3 |
| Total | 552 | 100 | 586 | 100 | 532 | 100 |

5.2 Accessibility of care

5.2.1 Financial access

Table 44. Services for which copayment from patients is required

| Type of service | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | |
|---|----------------------|----|---------------------------|----|---------------------|----|
| | Abs. | % | Abs. | % | Abs. | % |
| Visit to your doctor | 277 | 50 | 230 | 39 | 247 | 46 |
| Medicines or injections prescribed by your doctor | 364 | 65 | 309 | 53 | 315 | 58 |
| A visit to a specialist after referral by your doctor | 283 | 51 | 246 | 42 | 261 | 48 |
| Home visit by your doctor | 159 | 29 | 80 | 14 | 98 | 18 |
| Regular check up of baby or young child | 29 | 5 | 29 | 5 | 16 | 3 |

Except for one, for all PC services listed in Table 44 required payment by substantial proportions of respondents, indicating financial barriers for many people accessing essential PC services, as 11% of the respondents delayed or avoided a visit to the doctor in the past twelve months for this reason (see Table 45).

Table 45. Patients reporting financial barriers to PC access, past 12 months

| Decision taken in past year | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | |
|---|-------------------|----|------------------------|----|------------------|----|
| | Abs. | % | Abs. | % | Abs. | % |
| Not to visit or delay a visit because I could not pay for the medicines | 56 | 10 | 66 | 11 | 59 | 11 |

5.2.2 Geographical access and responsiveness

In this section results will be presented for CHC or ambulatory services, in the categories of attainability and accessibility, opening hours and convenience and patient-friendliness. As Figure 11 and Table 46 show, on average, at least two-thirds of the respondents answer they can reach their doctor and pharmacy within 20 minutes travelling time. The reported travel times to the dentist are longer than to the doctor and the pharmacy, but still half of the respondents could reach the dentist within 20 minutes. Hospitals are usually farther away. Around 20% can reach a hospital within 20 minutes.

Figure 11. Patients with under 20 minutes travel time

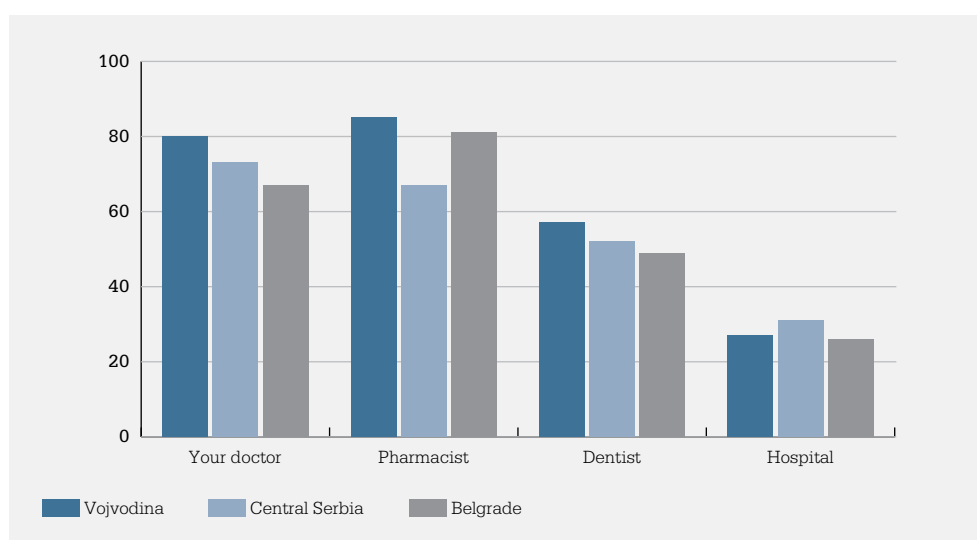


Table 46. Patients' travel time to PC providers

| Provider and distance | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | |
|-----------------------|----------------------|------------|---------------------------|------------|---------------------|------------|
| | Abs. | % | Abs. | % | Abs. | % |
| Your doctor | | | | | | |
| • up to 20 minutes | 446 | 80 | 426 | 73 | 359 | 67 |
| • 20-40 minutes | 96 | 17 | 126 | 22 | 122 | 23 |
| • 40-60 minutes | 9 | 2 | 19 | 3 | 39 | 7 |
| • more than 1 hour | 1 | 0 | 8 | 2 | 16 | 3 |
| • don't know | 3 | 1 | 1 | 0 | 1 | 0 |
| Total | 555 | 100 | 580 | 100 | 537 | 100 |
| Pharmacist | | | | | | |
| • up to 20 minutes | 440 | 85 | 369 | 67 | 396 | 81 |
| • 20-40 minutes | 69 | 13 | 133 | 24 | 65 | 13 |
| • 40-60 minutes | 5 | 1 | 37 | 7 | 17 | 4 |
| • more than 1 hour | - | - | 13 | 2 | 7 | 1 |
| • don't know | 3 | 1 | 1 | 0 | 2 | 1 |
| Total | 517 | 100 | 553 | 100 | 487 | 100 |
| Dentist | | | | | | |
| • up to 20 minutes | 287 | 57 | 283 | 52 | 232 | 49 |
| • 20-40 minutes | 138 | 28 | 157 | 29 | 140 | 30 |
| • 40-60 minutes | 23 | 4 | 61 | 11 | 43 | 9 |
| • more than 1 hour | 20 | 4 | 29 | 6 | 27 | 6 |
| • don't know | 34 | 7 | 12 | 2 | 27 | 6 |
| Total | 502 | 100 | 542 | 100 | 469 | 100 |
| Hospital | | | | | | |
| • up to 20 minutes | 135 | 27 | 176 | 31 | 126 | 26 |
| • 20-40 minutes | 214 | 42 | 229 | 41 | 197 | 41 |
| • 40-60 minutes | 104 | 20 | 102 | 19 | 103 | 21 |
| • more than 1 hour | 45 | 9 | 36 | 7 | 46 | 9 |
| • don't know | 12 | 2 | 8 | 2 | 13 | 3 |
| Total | 510 | 100 | 551 | 100 | 485 | 100 |

Table 47 shows the respondents' perceived quality of their PC facility, including accessibility and convenience, treatment by practice staff and opening hours and availability of service providers. Possible answers were: "Yes, I agree", "I agree somewhat", "I do not agree", and "I don't know". Percentages in the table refer to the number answering "Yes, I agree".

Table 47: The perceived practice quality, by region

| Patients agreeing with following statements: | Vojvodina Region (N=549) | | Central Serbia Region (N=580) | | Belgrade Region (N=526) | | Total (N=1655) | |
|--|--------------------------|----|-------------------------------|----|-------------------------|----|----------------|----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| I can easily reach the practice by public transport. | 368 | 66 | 435 | 74 | 422 | 78 | 1225 | 73 |
| The practice/centre is well accessible for disabled and people with wheel-chairs. | 231 | 42 | 367 | 63 | 207 | 38 | 805 | 48 |
| The waiting room for patients is convenient. | 366 | 66 | 342 | 58 | 312 | 58 | 1020 | 61 |
| My CHC has a website. | 168 | 30 | 152 | 26 | 152 | 28 | 472 | 28 |
| At my practice there is a complaint mail box that I can use to submit a complaint if I am not satisfied. | 357 | 64 | 483 | 82 | 300 | 56 | 1140 | 68 |
| When the practice is open and I want to visit a doctor urgently it is possible to have the visit the same day. | 438 | 79 | 450 | 77 | 384 | 71 | 1272 | 76 |
| During opening hours it is easy to get a doctor on the telephone for advice. | 299 | 54 | 291 | 50 | 258 | 48 | 848 | 50 |
| When I visit the practice there is always at least one doctor available. | 391 | 70 | 425 | 73 | 378 | 70 | 1194 | 71 |
| When the practice is closed there is a telephone number to call when I get sick. | 287 | 52 | 251 | 43 | 260 | 48 | 798 | 48 |
| At my practice it is possible to visit a GP on Saturdays or Sundays. | 274 | 49 | 351 | 60 | 272 | 51 | 897 | 53 |
| At my practice it is possible to visit a paediatrician on Saturdays or Sundays. | 117 | 21 | 284 | 49 | 182 | 34 | 583 | 35 |
| At my practice it is possible to visit a gynaecologist on Saturdays or Sundays. | 41 | 7 | 152 | 26 | 66 | 12 | 259 | 15 |
| At my practice it is possible to visit a GP after 19:00 (at least once per week). | 223 | 40 | 297 | 51 | 40 | 7 | 560 | 33 |
| At my practice it is possible to visit a gynaecologist after 19:00 (at least once per week). | 94 | 17 | 220 | 38 | 26 | 5 | 340 | 20 |
| At my practice it is possible to visit a paediatrician after 19:00 (at least once per week). | 128 | 23 | 250 | 43 | 29 | 5 | 407 | 24 |
| I am satisfied about current opening hours of the practice. | 442 | 80 | 479 | 82 | 414 | 77 | 1335 | 79 |
| Staff at the reception desk are kind and helpful. | 403 | 73 | 415 | 71 | 356 | 66 | 1174 | 70 |
| Making an appointment with my doctor takes too much time. | 79 | 14 | 80 | 14 | 46 | 9 | 205 | 12 |
| I need to wait too long in the waiting room to see the doctor. | 100 | 18 | 98 | 17 | 119 | 22 | 317 | 19 |

Table 48 presents the same results by urban and rural areas. On most of the items rural respondents are somewhat more positive than the urban, in contrast to results from various other countries where appreciation of patients in rural facilities is usually lower than that in urban facilities.

Table 48. The perceived quality of the practice, by urbanization

| Patients agreeing with following statements: | Urban (N=1269) | | Rural (N=386) | | Total (N=1655) | |
|--|-------------------|----|------------------|----|-------------------|----|
| | Abs. | % | Abs. | % | Abs. | % |
| I can easily reach the practice by public transport. | 934 | 73 | 291 | 74 | 1225 | 73 |
| The practice/centre is very accessible for disabled and people with wheelchairs. | 601 | 47 | 204 | 52 | 805 | 48 |
| The waiting room for patients is convenient. | 766 | 59 | 254 | 65 | 1020 | 61 |
| My CHC has a website. | 357 | 28 | 115 | 29 | 472 | 28 |
| At my practice there is a complaint mail box that I can use to submit a complaint if I am not satisfied. | 845 | 66 | 295 | 75 | 1140 | 68 |
| When the practice is open and I want to visit a doctor urgently it is possible to have the visit the same day. | 956 | 74 | 316 | 81 | 1272 | 76 |
| During opening hours it is easy to get a doctor on the telephone for advice. | 617 | 48 | 231 | 59 | 848 | 50 |
| When I visit the practice there is always at least one doctor available. | 904 | 70 | 290 | 74 | 1194 | 71 |
| When the practice is closed there is a telephone number to call when I get sick. | 596 | 46 | 202 | 52 | 798 | 48 |
| At my practice it is possible to visit a GP on Saturdays or Sundays . | 663 | 51 | 234 | 60 | 897 | 53 |
| At my practice it is possible to visit a paediatrician on Saturdays or Sundays. | 455 | 35 | 128 | 33 | 583 | 35 |
| At my practice it is possible to visit a gynaecologist on Saturdays or Sundays. | 162 | 13 | 97 | 25 | 259 | 15 |
| At my practice it is possible to visit a GP after 19:00 (at least once per week). | 368 | 29 | 192 | 49 | 560 | 33 |
| At my practice it is possible to visit a gynaecologist after 19:00 (at least once per week). | 243 | 19 | 97 | 25 | 340 | 20 |
| At my practice it is possible to visit a paediatrician after 19:00 (at least once per week). | 286 | 22 | 121 | 31 | 407 | 24 |
| I am satisfied about current opening hours of the practice. | 1028 | 80 | 307 | 78 | 1335 | 79 |
| Staff at the reception desk are kind and helpful. | 869 | 67 | 305 | 78 | 1174 | 70 |
| Making an appointment with my doctor takes too much time. | 146 | 11 | 59 | 15 | 205 | 12 |
| I need to wait too long in the waiting room to see the doctor. | 260 | 20 | 57 | 15 | 317 | 19 |

5.3 Continuity of care

5.3.1 Longitudinal and interpersonal continuity

Table 49 presents the results of the reported number of visits by respondents to various PC physicians and PC nurses. As respondents are not representative of the national population, frequencies in this table cannot be compared to the national average, for instance, as mentioned in Table 12 in Chapter 3. It is most likely that rare visitors to CHCs are under-represented. Furthermore, some patients have reported visits to more than one chosen doctor, which may be due to the scheme's novelty.

Although these visit data need to be interpreted with care, they seem to clarify some observations. First, taking all visits to chosen and other PC doctors into account, the visit frequency of our respondents seems to be very high. Furthermore, in addition to chosen doctors, respondents see various other PC physicians, so the position of chosen doctors seems to be far from exclusive.

Table 49. Patients' frequency of visits to their own and other PC physicians during the previous 12 months

| Visit frequency past 12 months | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|---|-------------------|-----|------------------------|-----|------------------|-----|----------------|-----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| My GP (chosen doctor) | | | | | | | | |
| • 1-3 visits | 124 | 27 | 126 | 26 | 140 | 30 | 390 | 28 |
| • 4-6 visits | 117 | 25 | 97 | 20 | 95 | 21 | 309 | 22 |
| • 7-9 visit | 26 | 6 | 26 | 5 | 40 | 9 | 92 | 7 |
| • 10 or more visits | 190 | 42 | 232 | 49 | 183 | 40 | 605 | 43 |
| Total respondents | 457 | 100 | 481 | 100 | 458 | 100 | 1396 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 8.7 | | 10.2 | | 8.3 | | 9.1 | |
| • Paediatrician patients | 4.0 | | 3.0 | | 4.0 | | 3.6 | |
| Other GP | | | | | | | | |
| Total respondents | 64 | 100 | 96 | 100 | 114 | 100 | 274 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 3.2 | | 4.5 | | 4.1 | | 4.0 | |
| • Paediatrician patients | 4.1 | | 2.8 | | 2.4 | | 2.9 | |
| My PC paediatr. (chosen doctor) | | | | | | | | |
| • 1-3 visits | 29 | 27 | 31 | 18 | 16 | 18 | 76 | 21 |
| • 4-6 visits | 31 | 29 | 56 | 32 | 27 | 31 | 114 | 31 |
| • 7-9 visit | 11 | 10 | 18 | 10 | 12 | 13 | 41 | 11 |
| • 10 or more visits | 37 | 34 | 68 | 40 | 33 | 38 | 138 | 37 |
| Total respondents | 108 | 100 | 173 | 100 | 88 | 100 | 369 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 5.5 | | 4.7 | | 6.4 | | 5.5 | |
| • Paediatrician patients | 9.0 | | 9.8 | | 7.9 | | 9.1 | |
| Other PC paediatrician | | | | | | | | |
| Total respondents | 36 | 100 | 45 | 100 | 43 | 100 | 124 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 1.3 | | 1.5 | | 3.3 | | 2.6 | |
| • Paediatrician patients | 3.9 | | 3.3 | | 3.4 | | 3.5 | |
| PC gynaecologist (chosen doctor) | | | | | | | | |
| Total respondents | 136 | 100 | 159 | 100 | 178 | 100 | 473 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 2.2 | | 2.4 | | 2.6 | | 2.4 | |
| • Paediatrician patients | 2.3 | | 2.7 | | 2.2 | | 2.4 | |
| Other PC gynaecologist | | | | | | | | |
| Total respondents | 11 | 100 | 11 | 100 | 22 | 100 | 44 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 1.9 | | 2.0 | | 1.7 | | 1.8 | |
| • Paediatrician patients | 1.0 | | 2.0 | | 4.0 | | 2.5 | |
| Occupational doctor (chosen) | | | | | | | | |
| Total respondents | 19 | 100 | 15 | 100 | 15 | 100 | 49 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 6.3 | | 2.3 | | 2.0 | | 3.5 | |
| • Paediatrician patients | 3.9 | | 2.3 | | 1.8 | | 3.0 | |
| Other occupational doctor | | | | | | | | |
| Total respondents | 21 | 100 | 21 | 100 | 24 | 100 | 66 | 100 |
| Average annual visit frequency | | | | | | | | |
| • GP patients | 4.2 | | 4.4 | | 3.4 | | 4.0 | |
| • Paediatrician patients | 1.9 | | 1.0 | | 2.6 | | 2.1 | |

Table 50. Patients' frequency of visits to private PC physicians (outside CHC) and nurses during the previous 12 months

| Visit frequency past 12 months | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|--|-------------------|-----|------------------------|-----|------------------|-----|----------------|-----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| Private doctor (outside CHC) | | | | | | | | |
| • no visits | 388 | 70 | 443 | 79 | 360 | 68 | 1191 | 72 |
| • 1-3 visits | 136 | 25 | 101 | 18 | 139 | 26 | 376 | 23 |
| • 4 or more visits | 29 | 5 | 18 | 3 | 36 | 6 | 83 | 5 |
| Total respondents | 553 | 100 | 562 | 100 | 535 | 100 | 1650 | 100 |
| Average annual visit frequency with private doctor | | | | | | | | |
| • GP patients | 0.7 | | 0.5 | | 0.9 | | 0.7 | |
| • Paediatrician patients | 1.1 | | 0.6 | | 0.9 | | 0.8 | |
| Nurse | | | | | | | | |
| • no visits | 390 | 71 | 443 | 79 | 410 | 77 | 1243 | 75 |
| • 1-3 visits | 90 | 16 | 79 | 14 | 78 | 15 | 247 | 15 |
| • 4-6 visits | 29 | 5 | 19 | 3 | 25 | 5 | 73 | 5 |
| • 7-9 visit | 8 | 2 | 2 | 0 | 8 | 1 | 18 | 1 |
| • 10-12 visits | 16 | 3 | 13 | 2 | 6 | 1 | 35 | 2 |
| • 13 or more visits | 19 | 3 | 5 | 1 | 8 | 1 | 32 | 2 |
| Total respondents | 552 | 100 | 561 | 100 | 535 | 100 | 1648 | 100 |
| Average annual visit frequency with nurse | | | | | | | | |
| • GP patients | 1.9 | | 1.0 | | 1.1 | | 1.4 | |
| • Paediatrician patients | 0.8 | | 0.4 | | 0.7 | | 0.6 | |

The next group of tables concern perceived functioning of the PC physician in the personal relationship with the patients. Important aspects in this evaluation are doctor-patient communication, patients' perception of the doctor's competence and their trust and confidence in the doctor. Tables 51 and 52 first show results on conditions for continuity and subsequently patients' evaluation of their doctor.

Table 51. Patient experiences with doctors, by region

| Criteria | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|--|-------------------|----|------------------------|----|------------------|----|----------------|----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| Length of time being a patient with my current doctor | | | | | | | | |
| less than one year | | | | | | | | |
| • GP patients | 65 | 16 | 95 | 23 | 69 | 18 | 229 | 19 |
| • Paed. patients | 27 | 19 | 22 | 13 | 15 | 11 | 64 | 15 |
| 1 – 3 years | | | | | | | | |
| • GP patients | 215 | 52 | 151 | 37 | 107 | 27 | 473 | 39 |
| • Paed. patients | 61 | 44 | 83 | 49 | 40 | 30 | 184 | 41 |
| more than 3 years | | | | | | | | |
| • GP patients | 126 | 30 | 141 | 34 | 209 | 53 | 476 | 39 |
| • Paed. patients | 34 | 24 | 52 | 31 | 64 | 48 | 150 | 34 |
| I don't know | | | | | | | | |
| • GP patients | 7 | 2 | 26 | 6 | 9 | 2 | 42 | 3 |
| • Paed. patients | 18 | 13 | 11 | 7 | 14 | 11 | 43 | 10 |
| I see the same doctor at each visit | | | | | | | | |
| • GP patients | 321 | 80 | 309 | 76 | 294 | 76 | 924 | 77 |
| • Paed. patients | 98 | 75 | 93 | 56 | 86 | 65 | 277 | 64 |
| Estimated duration of a consultation | | | | | | | | |
| Up to 5 minutes | | | | | | | | |
| • GP patients | 14 | 3 | 13 | 4 | 14 | 5 | 41 | 4 |
| • Paed. patients | 9 | 8 | 5 | 4 | 11 | 9 | 25 | 7 |
| 6-10 minutes | | | | | | | | |
| • GP patients | 102 | 28 | 110 | 30 | 101 | 30 | 313 | 29 |
| • Paed. patients | 35 | 30 | 50 | 35 | 43 | 37 | 128 | 34 |
| 11 - 15 minutes | | | | | | | | |
| • GP patients | 165 | 45 | 180 | 48 | 145 | 43 | 490 | 46 |
| • Paed. Patients | 48 | 41 | 50 | 35 | 38 | 33 | 136 | 36 |
| more than 15 minutes | | | | | | | | |
| • GP patients | 89 | 24 | 67 | 18 | 75 | 22 | 231 | 22 |
| • Paed. patients | 25 | 21 | 38 | 27 | 25 | 21 | 88 | 23 |
| I see the same doctor at each visit | | | | | | | | |
| • GP patients | 15.0 | | 14.5 | | 14.5 | | 14.7 | |
| • Paed. patients | 14.2 | | 15.1 | | 14.1 | | 14.5 | |
| Estimated time between making an appointment and visiting my doctor | | | | | | | | |
| the visit is the same day | | | | | | | | |
| • GP patients | 188 | 47 | 153 | 37 | 147 | 37 | 488 | 40 |
| • Paed. patients | 45 | 34 | 86 | 51 | 58 | 46 | 189 | 44 |
| I have to wait 1 day | | | | | | | | |
| • GP patients | 95 | 24 | 117 | 29 | 101 | 26 | 313 | 26 |
| • Paed. patients | 15 | 11 | 30 | 18 | 16 | 13 | 61 | 14 |
| 2-3 days | | | | | | | | |
| • GP patients | 61 | 14 | 92 | 22 | 60 | 15 | 213 | 18 |
| • Paed. patients | 16 | 12 | 14 | 8 | 14 | 11 | 44 | 10 |
| more than 3 days | | | | | | | | |
| • GP patients | 36 | 9 | 25 | 6 | 10 | 3 | 71 | 6 |
| • Paed. patients | 19 | 14 | 8 | 5 | 8 | 6 | 35 | 8 |
| I never make appointments | | | | | | | | |
| • GP patients | 14 | 4 | 11 | 3 | 67 | 17 | 92 | 7 |
| • Paed. patients | 24 | 18 | 19 | 11 | 16 | 12 | 59 | 14 |
| I don't know | | | | | | | | |
| • GP patients | 9 | 2 | 13 | 3 | 8 | 2 | 30 | 3 |
| • Paed. patients | 14 | 11 | 12 | 7 | 15 | 12 | 41 | 10 |

| Criteria | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|--|----------------------|----|------------------------------|----|---------------------|----|-------------------|----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| My doctor knows my personal situation | | | | | | | | |
| • GP patients | 294 | 73 | 309 | 76 | 273 | 71 | 876 | 73 |
| • Paed. patients | 52 | 40 | 86 | 52 | 65 | 50 | 203 | 48 |
| My doctor knows the problems and illnesses that I had in the past (from my medical records) | | | | | | | | |
| • GP patients | 374 | 94 | 365 | 89 | 336 | 86 | 1075 | 90 |
| • Paed. patients | 100 | 76 | 133 | 80 | 99 | 76 | 332 | 78 |
| My doctor takes sufficient time to talk to me | | | | | | | | |
| • GP patients | 364 | 90 | 346 | 85 | 320 | 82 | 1030 | 86 |
| • Paed. patients | 99 | 76 | 124 | 73 | 90 | 69 | 313 | 73 |
| My doctor listens well to me | | | | | | | | |
| • GP patients | 386 | 96 | 376 | 92 | 351 | 90 | 1113 | 93 |
| • Paed. patients | 113 | 85 | 142 | 85 | 105 | 81 | 360 | 84 |
| My doctor not just deals with medical problems but can also help with personal problems and worries | | | | | | | | |
| • GP patients | 232 | 59 | 244 | 62 | 196 | 53 | 672 | 58 |
| • Paed. patients | 38 | 30 | 63 | 39 | 34 | 26 | 135 | 32 |
| My doctor gives clear explanation about my illnesses and prescribed medicines | | | | | | | | |
| • GP patients | 385 | 95 | 375 | 92 | 351 | 91 | 1111 | 93 |
| • Paed. patients | 201 | 77 | 138 | 82 | 94 | 72 | 334 | 78 |
| My doctor would visit me at home if I would ask for it | | | | | | | | |
| • GP patients | 334 | 83 | 237 | 59 | 188 | 50 | 759 | 64 |
| • Paed. patients | 48 | 37 | 52 | 31 | 17 | 13 | 117 | 27 |
| After a visit to my doctor I feel able to cope better with my health problem / illness | | | | | | | | |
| • GP patients | 352 | 87 | 337 | 82 | 291 | 76 | 980 | 82 |
| • Paed. patients | 79 | 61 | 120 | 71 | 72 | 55 | 271 | 63 |
| When I have a new health problem, I go to my doctor before going to a medical specialist | | | | | | | | |
| • GP patients | 389 | 96 | 386 | 94 | 347 | 89 | 1122 | 93 |
| • Paed. patients | 123 | 93 | 152 | 90 | 109 | 83 | 384 | 89 |
| My practice has sufficient medical equipment | | | | | | | | |
| • GP patients | 199 | 51 | 175 | 44 | 129 | 36 | 503 | 44 |
| • Paed. patients | 42 | 33 | 89 | 53 | 49 | 38 | 180 | 43 |

More than 80% of the patients of both GPs and paediatricians have been registered with their current doctor for more than one year. In general, the agreement of patients of paediatricians with the positive attributes is somewhat lower than with GPs, but 89% would first go to their own paediatrician before seeing a specialist. Patients were considerably less positive about the paediatrician knowing their personal situation, helping with personal problems or making home visits.

The relative appreciation of urban and rural respondents for their doctors is shown in Table 52, with consistent differences between them. Respondents from rural areas more often report that they can make same-day appointments and that the duration of consultations is longer. They are also generally more positive about their doctors. In rural areas many more respondents think that their paediatrician would make a home visit if requested, and they more often think their paediatrician has sufficient medical equipment.

Table 52. Patients' experiences with their doctor, by urbanization

| Statements | Urban (N=1269) | | Rural (N=386) | | Total (N=1655) | |
|--|-------------------|----|------------------|----|-------------------|----|
| | Abs. | % | Abs. | % | Abs. | % |
| Length of time being a patient with my current doctor | | | | | | |
| less than one year | | | | | | |
| • GP patients | 172 | 20 | 57 | 17 | 229 | 19 |
| • Paed. patients | 57 | 15 | 7 | 14 | 64 | 15 |
| 1 – 3 years | | | | | | |
| • GP patients | 335 | 38 | 138 | 41 | 473 | 39 |
| • Paed. patients | 165 | 42 | 19 | 39 | 184 | 41 |
| more than 3 years | | | | | | |
| • GP patients | 347 | 39 | 129 | 38 | 476 | 39 |
| • Paed. patients | 130 | 33 | 20 | 41 | 150 | 34 |
| I don't know | | | | | | |
| • GP patients | 26 | 3 | 16 | 5 | 42 | 3 |
| • Paed. patients | 40 | 10 | 3 | 6 | 43 | 10 |
| I see the same doctor at each visit | | | | | | |
| • GP patients | 650 | 76 | 274 | 81 | 924 | 77 |
| • Paed. patients | 243 | 63 | 34 | 72 | 277 | 64 |
| Estimated duration of a consultation | | | | | | |
| up to 5 minutes | | | | | | |
| • GP patients | 31 | 4 | 10 | 3 | 41 | 4 |
| • Paed. patients | 22 | 7 | 3 | 7 | 25 | 7 |
| 6-10 minutes | | | | | | |
| • GP patients | 226 | 29 | 87 | 28 | 313 | 29 |
| • Paed. Patients | 121 | 36 | 7 | 16 | 128 | 34 |
| 11 - 15 minutes | | | | | | |
| • GP patients | 351 | 46 | 139 | 46 | 490 | 46 |
| • Paed. patients | 125 | 37 | 11 | 26 | 136 | 36 |
| more than 15 minutes | | | | | | |
| • GP patients | 162 | 21 | 69 | 23 | 231 | 22 |
| • Paed. patients | 66 | 20 | 22 | 51 | 88 | 23 |

| Statements | Urban (N=1269) | | Rural (N=386) | | Total (N=1655) | |
|--|-------------------|----|------------------|----|-------------------|----|
| | Abs. | % | Abs. | % | Abs. | % |
| My doctor knows my personal situation (e.g. work or home situation) | | | | | | |
| • GP patients | 618 | 72 | 258 | 77 | 876 | 73 |
| • Paed. patients | 173 | 46 | 30 | 64 | 203 | 48 |
| My doctor knows the problems and illnesses that I had in the past (from my medical records) | | | | | | |
| • GP patients | 770 | 89 | 305 | 90 | 1075 | 90 |
| • Paed. patients | 289 | 76 | 43 | 90 | 332 | 78 |
| My doctor takes sufficient time to talk to me | | | | | | |
| • GP patients | 723 | 84 | 307 | 91 | 1030 | 86 |
| • Paed. patients | 271 | 71 | 42 | 91 | 313 | 73 |
| My doctor listens well to me | | | | | | |
| • GP patients | 790 | 92 | 323 | 95 | 1113 | 93 |
| • Paed. patients | 315 | 82 | 45 | 96 | 360 | 84 |
| My doctor not just deals with medical problems but can also help with personal problems and worries | | | | | | |
| • GP patients | 455 | 55 | 217 | 66 | 672 | 58 |
| • Paed. patients | 113 | 30 | 22 | 49 | 135 | 32 |
| My doctor gives clear explanation about my illnesses and prescribed medicines | | | | | | |
| • GP patients | 787 | 91 | 324 | 96 | 1111 | 93 |
| • Paed. patients | 294 | 77 | 40 | 83 | 334 | 78 |
| My doctor would visit me at home if I would ask for it | | | | | | |
| • GP patients | 502 | 59 | 257 | 75 | 759 | 64 |
| • Paed. patients | 78 | 20 | 39 | 83 | 117 | 27 |
| After a visit to my doctor I feel able to cope better with my health problem / illness | | | | | | |
| • GP patients | 688 | 80 | 292 | 86 | 980 | 82 |
| • Paed. patients | 232 | 61 | 39 | 83 | 271 | 63 |
| When I have a new health problem, I go to my doctor before going to a medical specialist | | | | | | |
| • GP patients | 802 | 93 | 320 | 94 | 1122 | 93 |
| • Paed. patients | 339 | 88 | 45 | 96 | 384 | 89 |
| My practice has sufficient medical equipment | | | | | | |
| • GP patients | 354 | 44 | 149 | 45 | 503 | 44 |
| • Paed. patients | 154 | 41 | 26 | 57 | 180 | 43 |

Table 53. Patients' perception of physicians' initiative in promoting healthy behaviour

| Physicians' health promotion during normal visits and preventive clinics | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|--|-------------------|----|------------------------|----|------------------|----|----------------|----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| Eating healthy | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 357 | 89 | 373 | 92 | 327 | 85 | 1057 | 89 |
| • Paed. patients | 97 | 72 | 144 | 88 | 92 | 68 | 333 | 77 |
| Preventive clinics | | | | | | | | |
| • GP patients | 14 | 4 | 5 | 1 | 14 | 4 | 33 | 3 |
| • Paed. patients | 7 | 5 | 4 | 2 | 10 | 7 | 21 | 5 |
| Physical exercise | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 329 | 86 | 342 | 87 | 286 | 80 | 957 | 85 |
| • Paed. patients | 88 | 68 | 127 | 80 | 82 | 66 | 297 | 72 |
| Preventive clinics | | | | | | | | |
| • GP patients | 19 | 5 | 8 | 2 | 19 | 5 | 46 | 4 |
| • Paed. patients | 9 | 7 | 7 | 4 | 1 | 8 | 26 | 6 |
| Use of alcohol | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 166 | 46 | 221 | 58 | 137 | 42 | 524 | 49 |
| • Paed. patients | 34 | 29 | 67 | 41 | 27 | 23 | 128 | 32 |
| Preventive clinics | | | | | | | | |
| • GP patients | 14 | 4 | 10 | 3 | 23 | 7 | 47 | 4 |
| • Paed. patients | 7 | 6 | 9 | 6 | 8 | 7 | 24 | 6 |
| Reduce or stop smoking | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 192 | 53 | 252 | 66 | 178 | 53 | 622 | 58 |
| • Paed. patients | 42 | 37 | 84 | 51 | 45 | 37 | 171 | 43 |
| Preventive clinics | | | | | | | | |
| • GP patients | 21 | 6 | 11 | 3 | 22 | 7 | 54 | 5 |
| • Paed. patients | 9 | 8 | 10 | 6 | 11 | 9 | 30 | 8 |
| Avoiding stress | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 288 | 77 | 338 | 87 | 256 | 75 | 882 | 80 |
| • Paed. patients | 47 | 41 | 90 | 57 | 53 | 44 | 190 | 48 |
| Preventive clinics | | | | | | | | |
| • GP patients | 19 | 5 | 9 | 2 | 12 | 4 | 40 | 4 |
| • Paed. patients | 7 | 6 | 3 | 2 | 13 | 11 | 23 | 6 |
| Safe sex | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 102 | 33 | 176 | 49 | 100 | 35 | 378 | 39 |
| • Paed. patients | 35 | 30 | 57 | 38 | 29 | 26 | 121 | 32 |
| Preventive clinics | | | | | | | | |
| • GP patients | 15 | 5 | 12 | 3 | 17 | 6 | 44 | 5 |
| • Paed. patients | 10 | 9 | 10 | 7 | 13 | 12 | 33 | 9 |
| Dangers of illicit drugs | | | | | | | | |
| Normal visits | | | | | | | | |
| • GP patients | 103 | 31 | 189 | 51 | 104 | 34 | 396 | 39 |
| • Paed. patients | 33 | 29 | 59 | 38 | 24 | 21 | 116 | 30 |
| Preventive clinics | | | | | | | | |
| • GP patients | 15 | 5 | 7 | 2 | 11 | 4 | 33 | 3 |
| • Paed. patients | 9 | 8 | 9 | 6 | 9 | 8 | 27 | 7 |

According to these results, both GPs and paediatricians almost exclusively talk about health maintenance during normal visits, and rarely attend preventive clinics.

5.4 Coordination of care and choice of provider

Table 54. Patients' freedom to choose and change their PC physician

| Option | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|---|-------------------|---|------------------------|----|------------------|----|----------------|---|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| Patients assigned to their doctor | | | | | | | | |
| • GP patients | 7 | 2 | 31 | 8 | 24 | 6 | 62 | 5 |
| • Paed. patients | 6 | 4 | 15 | 9 | 14 | 10 | 35 | 8 |
| Patients unable to change to another doctor | | | | | | | | |
| • GP patients | 37 | 9 | 45 | 11 | 30 | 8 | 112 | 9 |
| • Paed. patients | 7 | 5 | 3 | 2 | 4 | 3 | 14 | 3 |

Freedom to choose a doctor or to change from one to another does not seem to be an issue among respondents. Basically, it seems patients are well informed about their right to choose.

Table 55. Patients' experiences with information and cooperation, by region

| Statements | Vojvodina (N=549) | | Central Serbia (N=580) | | Belgrade (N=526) | | Total (N=1655) | |
|--|-------------------|----|------------------------|----|------------------|----|----------------|----|
| | Abs. | % | Abs. | % | Abs. | % | Abs. | % |
| If I visit another doctor than my own, he/she has all the necessary information about me | | | | | | | | |
| • GP patients | 189 | 48 | 188 | 46 | 124 | 33 | 501 | 43 |
| • Paed. patients | 34 | 26 | 86 | 52 | 33 | 26 | 153 | 36 |
| When I am referred, my doctor informs the medical specialist about my illness | | | | | | | | |
| • GP patients | 237 | 60 | 249 | 61 | 193 | 51 | 679 | 58 |
| • Paed. patients | 39 | 30 | 101 | 60 | 40 | 31 | 180 | 42 |
| If I have been treated by a medical specialist, my doctor knows the results | | | | | | | | |
| • GP patients | 383 | 92 | 369 | 89 | 332 | 86 | 1084 | 91 |
| • Paed. patients | 95 | 76 | 137 | 82 | 86 | 67 | 318 | 76 |
| To see a specialist, I first need to visit my doctor for a referral | | | | | | | | |
| • GP patients | 388 | 97 | 396 | 96 | 361 | 93 | 1145 | 95 |
| • Paed. patients | 125 | 96 | 162 | 96 | 118 | 92 | 405 | 95 |
| My doctor and the practice nurse work well together | | | | | | | | |
| • GP patients | 374 | 93 | 373 | 91 | 299 | 78 | 1046 | 87 |
| • Paed. patients | 105 | 81 | 145 | 86 | 98 | 76 | 348 | 82 |
| Sometimes a nurse does the consultation, making it unnecessary to see my doctor | | | | | | | | |
| • GP patients | 154 | 39 | 129 | 32 | 88 | 23 | 371 | 32 |
| • Paed. patients | 28 | 22 | 42 | 25 | 36 | 28 | 106 | 25 |

Only a quarter to a third of the respondents have experienced nurse consultations separate from doctors' consultations. So, an independent role for nurses in treating patients seems to be an exception rather than the rule.

Table 56. Patients' experiences with information and cooperation, by urbanization

| Statements | Urban (N=1269) | | Rural (N=386) | | Total (N=1655) | |
|--|----------------|----|---------------|----|----------------|----|
| | Abs. | % | Abs. | % | Abs. | % |
| If I visit another doctor than my own, he/she has all the necessary information about me | | | | | | |
| • GP patients | 338 | 40 | 163 | 48 | 501 | 43 |
| • Paed. patients | 127 | 34 | 26 | 55 | 153 | 36 |
| When I am referred, my doctor informs the medical specialist about my illness | | | | | | |
| • GP patients | 454 | 54 | 225 | 67 | 679 | 58 |
| • Paed. patients | 153 | 40 | 27 | 57 | 180 | 42 |
| If I have been treated by a medical specialist, my doctor knows the results | | | | | | |
| • GP patients | 777 | 91 | 307 | 90 | 1084 | 91 |
| • Paed. patients | 278 | 74 | 40 | 91 | 318 | 76 |
| To see a specialist, I first need to visit my doctor for a referral | | | | | | |
| • GP patients | 818 | 95 | 327 | 97 | 1145 | 95 |
| • Paed. patients | 359 | 95 | 46 | 98 | 405 | 95 |
| My doctor and the practice nurse work well together | | | | | | |
| • GP patients | 732 | 85 | 314 | 92 | 1046 | 87 |
| • Paed. patients | 307 | 81 | 41 | 87 | 348 | 82 |
| Sometimes a nurse does the consultation, making it unnecessary to see my doctor | | | | | | |
| • GP patients | 241 | 29 | 130 | 39 | 371 | 32 |
| • Paed. patients | 89 | 24 | 17 | 38 | 106 | 25 |

Comparison of answers on information and cooperation by urban and rural region shows again more favourable data from rural respondents at several points. Rural respondents are more positive about information transfer from their doctor to other doctors, including a treating specialist. They also think more often than urban respondents that their doctor and nurse cooperate well. In rural areas nurses conduct independent consultations somewhat more frequently than in urban areas.

6. CONCLUSION

6.1 Summary of findings

The table below provides an overview of the results and conclusions, structured according to the health system functions, selected dimensions and proxy indicators, as outlined in the Primary Care Evaluation Scheme in Chapter 1.

Table 57. Summary of findings

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|---------------------------------|-------------------------------|---|--|-----------------------|
| Stewardship | | | | |
| Policy development | Primary care as priority area | <ul style="list-style-type: none"> • Specific legislation developed concerning PC (PC): Yes • Ministry of Health department specifically dealing with PC: No | <p>From 2002, several important policy documents related to PC have been issued. The policy "Better health for all in the third millennium" prioritized prevention and primary health care as the basis and point of entry of the health system.</p> <p>This division of responsibilities for PC at the Ministry was established in 2008. By 2010, CHCs should have been separated from secondary care facilities.</p> | National level survey |
| | Regional variation | | <p>There is an ongoing process of decentralization of priorities and provision to municipalities. Municipal ability to develop health policy will largely depend on the economic development. Despite the existence of general regulation, regional differences in PC are likely to increase.</p> | National level survey |
| Conditions for the care process | Recent PC policy developments | <ul style="list-style-type: none"> • Primary-secondary care split • New capitation payment system with performance indicators • Health promotion centres • Implementation of human resource plans • Licensing scheme for health care workers from 1 January 2010 • Voluntary accreditation of CHCs • The chosen doctor is a largely but not fully implemented reform by which each citizen chooses his or her doctor of first contact. | | National level survey |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|-------------------------------|---|--|--|------------------------------------|
| Conditions for responsiveness | Involvement of professionals and patients in policy process | | Since 2002 the Ministry of Health has created mechanisms to involve stakeholders and interest groups systematically in the development of policy documents. Besides, the Ministry has encouraged civil society initiatives to formulate their ideas and needs and to communicate these to the public. | National level survey |
| | Patient rights | Physicians reporting that a patient complaint procedure is in place in their ambulatory or policlinic: <ul style="list-style-type: none"> • GPs: 81% • Paediatricians: 88% | The position of patients has formally been acknowledged. There are many organizations defending the interests of patients. Complaint procedures are obligatory, but still 19% of GPs and 12% of paediatricians reported not having such a procedure. | Physician survey. |
| Financing | | | | |
| Incentives for providers | | Employment status of PC physicians: 100% state employed | A capitation-based payment system is now being implemented with indicators of efficiency and quality of care. | National level survey |
| Financial access for patients | | Patients reporting copayments for drugs prescribed in PC: 59% | Many patients reported copayments for visits to their doctor, prescribed medicines or injections, specialist visits on referral and home visits. Eleven per cent had abstained from a visit to their doctor for financial reasons. | Patient survey |
| Resource generation | | | | |
| Professional development | Workforce | <ul style="list-style-type: none"> • % of all active physicians in Serbia working in PC: 25.5-28 • % of PC physicians who are GPs: 21.6 • Average age of GPs: 49 years • Average age of paediatricians: 51 years | The core of the primary health care system is the team of chosen doctors, consisting of internists or occupational medicine doctors, specialists for adults, paediatricians for children, gynaecologists for women over 15, or dentists. The role of chosen doctor in PC is dominated by tasks related to preventive work, promotion of healthy lifestyles and health educational work with people in their territory. | National level survey |
| | Shortages | <ul style="list-style-type: none"> • 43% of GPs and 49% of paediatricians reported shortages of more than 6 months duration. | If the average staff norms are applied, there is no lack of health workers in PC at the national level. However, there is a strong variation in supply of physicians. There are CHCs with oversupply of physicians, in addition to CHCs where physicians have workloads far above the national norm. About half of the responding GPs and paediatricians affirmed staff shortages existing for more than six months. Shortage in Central Serbia seemed to be higher than in the other regions. | National survey / physician survey |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|-----------|--------------------------------|---|--|---|
| | Quality improvement mechanisms | <ul style="list-style-type: none"> • Number of hours GPs or paediatricians report spending on professional reading, etc. per month: <ul style="list-style-type: none"> » GPs: 17.5 hours » Paed.: 15.9 hours • Physicians reporting that they frequently use clinical guidelines: <ul style="list-style-type: none"> » GPs: 61% » Paed: 41% | <p>The licensing scheme for medical professionals was restructured in 2009.</p> <p>Formal licensing requirements exist for physicians, chosen doctors and nurses. Accreditation for CHCs is not obligatory.</p> <p>Relicensing of physicians depends on having collected a minimum number of points for accredited activities of CME.</p> <p>The quality of (primary) health care services in Serbia is extensively monitored at various levels with use of many clinical and other indicators.</p> <p>Most generally used are internal control measures within the CHC, practice inspection by supervisors and external clinical auditing. Obligatory periodic tests of knowledge and skills of physicians and nurses are rarely or never used. Doctors are not obliged to follow guidelines; rather their use is recommended. No national guidelines for nurses have been developed.</p> | National level survey/ physician survey |
| | Human resources planning | | Recent human resource plans aim to achieve a more rational distribution of staff in line with the official norms and standards. This activity will be further rolled out in the coming years. | National level survey |
| | Organization of professionals | <ul style="list-style-type: none"> • 4 out of 5 medical universities in Serbia offer a postgraduate programme in general medicine / GP | Family Medicine has not been recognized as a medical specialty. The number of professors of GP strongly varies among the medical faculties. In the academic year 2007/2008 10.5% of medical graduates chose to enroll in a postgraduate programme in GP, which is far below the 21% of all Serbian doctors who are working as PC GPs. GPs, paediatricians and gynaecologists are organized in several sections and societies involved in professional development, medical education and scientific activities. | National level survey |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|-------------------------|---------------------|--|--|--------------------------|
| Medical equipment | | <ul style="list-style-type: none"> Physicians with a computer available in the practice: <ul style="list-style-type: none"> » GPs: 61% » Paed: 57% Number of items of medical equipment reported to be available to physicians (from a list of 30 items): <ul style="list-style-type: none"> » GPs: 13 items (= 43%) » Paed.: 16 items (=53%) 56% of GPs' patients and 57% of paediatricians' patients found equipment was insufficient Waiting time for lab results: <ul style="list-style-type: none"> » GPs: 3.9 days » Paed: 1.5 days Waiting time for X-ray results: <ul style="list-style-type: none"> » GPs: 7.4 days » Paed: 1.3 days | <p>A substantial proportion of physicians are not using a computer, but in most practices other staff do so, primarily to store patient data. It seems that computerized patient information is used for other purposes than for the physicians' clinical work.</p> <p>The results suggest that the equipment that physicians, and in particular GPs, have at their disposal is not compatible with a comprehensive package of preventive, curative and rehabilitative PC tasks.</p> <p>The sharp contrast between the regions in the availability of several items points to opportunities for improvement.</p> <p>X-ray and laboratory facilities were fully available by a large majority of respondents.</p> <p>Waiting times until results of these diagnostics are available strongly varied between regions and were generally much longer for GPs than for paediatricians. In Central Serbia GPs had to wait much longer for lab results than elsewhere. In Vojvodina GPs had to wait much longer for X ray results than in the other regions.</p> | Physician/patient survey |
| Delivery of care | | | | |
| <i>Accessibility</i> | | | | |
| Geographical access | | <ul style="list-style-type: none"> Patients reporting up to 20 minutes travel to GP or paediatrician: 73% | Patients could generally easily reach the PC practice by public transport. The majority of patients reported travel times of less than 20 minutes to reach their preferred PC doctor, pharmacist or dentist. Hospitals were generally further away from home, resulting in travel times of more than 40 minutes for the majority of patients. | Patient survey |
| Organizational access | Practice population | <ul style="list-style-type: none"> Reported number of patients per GP: 1197 patients Reported number of patients per paed.: 975 patients | The average number of patients that GPs reported to be registered with them was well below the national norm of 1600. The average number of children reported by paediatricians seemed to be closer to the national norm. Paediatricians in Central Serbia reported the lowest number (845), followed by those in the Belgrade region (916) and Vojvodina (1171). | Physician survey |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|---------------------|---|---|---|---|
| | Workload | <p>Reported number of:</p> <ul style="list-style-type: none"> • Office consultations per day per GP: 39 • Office consultations per day per paediatrician: 43 • Home visits per week per GP: 4 • Home visits per week per paediatrician: 2 • Working hours per week per GP: 35.2 hours • Working hours per week per paediatrician: 36.0 hours | <p>GPs and paediatricians had a similar workload, with small differences between rural and urban practices. The number of working hours among paediatricians varied by region (in Vojvodina on average 32 hours, while in both other regions this was considerably higher at 38 hours per week). Home visits were sparsely made by GPs and paediatricians. Per month GPs reported to spend 17.5 hours on reading professional journals or medical information, including the internet. Vojvodina was below this average and Central Serbia above. Paediatricians spend 16 hours per month on keeping up to date. Those in Belgrade were below the average. In addition, physicians spend about one day per month (5 to 6 hours) on following courses.</p> | Physician Survey |
| | Patients' access and availability of services | <ul style="list-style-type: none"> • Reported visiting frequency of patients (utilization rate): <ul style="list-style-type: none"> » GP patients: 9.1 visits per year » Paed. patients: 3.6 visits per year • Reported average length of a patient consultation per patient: <ul style="list-style-type: none"> » GP patients: 14.7 min. » Paed. patients: 14.5 min. • Physicians offering same day consultation 90% • Patients reporting to have same day consultation if demanded <ul style="list-style-type: none"> » GP patients: 77% » Paed. patients: 64% • Physicians offering evening opening at least once per week 43% | <p>The position of chosen doctors is far from exclusive. Patients reported a high visit frequency to their chosen PC physician and various other PC physicians. Same day and weekend visits (at least once per month) were usually possible. GPs were more available on weekend days than paediatricians and gynaecologists. Even though patients experienced limited access during out-of-office hours (in particular in the Belgrade region), the majority of patients reported satisfaction with current opening hours. Nevertheless, the results indicate several opportunities to improve access during (e.g. by telephone) and outside of office hours (e.g. in the evening).</p> | <p>Patient survey</p> <p>Physician survey</p> |
| <i>Coordination</i> | | | | |
| Cohesion within PC | Practice management | | <p>83% of the physicians shared their unit with other GPs and to a much lesser extent with paediatricians (49%). The CHCs in Vojvodina seemed to be broader, given the collaboration with medical specialists. Little collaboration was reported between GPs and paediatricians.</p> | Physician survey |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|-------------------------------------|------------------------------------|---|---|--|
| | Collaboration | <ul style="list-style-type: none"> Physicians reporting working with other PC physician(s) in same premises: 51% Physicians reporting to have regular face-to-face meetings with: <ul style="list-style-type: none"> Family nurses: GPs: 15%; Paed: 11% Midwives: GPs: 19%; Paed: 7% Pharmacists: GPs: 1%; Paed: - | <p>Shared practices with other GPs, paediatricians, dentists, practice and community nurses and laboratory technicians were normal.</p> <p>There appeared to be a low level of structured cooperation and teamwork, both within PC and between the primary and secondary care levels. Organized exchange of information between chosen doctors seemed to be not well developed and most doctors had no regular meeting with nurses. There were very few signs of structured cooperation between medical doctors across levels of care.</p> | <p>Physician survey</p> <p>Patient survey</p> |
| Coordination with other care levels | Referral system | <ul style="list-style-type: none"> Number of referrals to medical specialists in 4 weeks time: 82 <ul style="list-style-type: none"> rural: 85 urban: 81 Referral rate (% of all office and home care contacts) <ul style="list-style-type: none"> GPs: 12.4% Paed: 4.7% Rural: 10.3% Urban: 9.9% Number of hospital admissions ordered by PC physicians per 1000 patient contacts: 135 Number of pharmaceutical prescriptions by PC physicians per 1000 patient contacts: 1566 | <p>More than 80% of patients in all 3 regions reported they would first visit their GP or paediatrician with a new health problem before seeking specialist care.</p> <p>Physicians, in particular GPs, reported very high referral rates. By far the most referrals were made to internists, neurologists, surgeons, ophthalmologists and ENT specialists.</p> <p>The average referral rate (referrals as a percentage of all patient contacts in the office and during home visits) of GPs (12.4%) was more than 2.5 times higher than that of paediatricians (4.7%).</p> <p>Central Serbian GPs reported 1.4 times more referrals than in Vojvodina and the Belgrade region.</p> | <p>National level survey</p> <p>Physician survey</p> <p>Patient survey</p> |
| | Collaboration with secondary level | | <p>Contacts between PC physicians and medical specialists were mainly on a case basis. Most GPs indicated sometimes seeking the advice of an internist, surgeon, neurologist, dermatologist, ENT specialist or ophthalmologist. In contrast to GPs, most paediatricians asked advice from secondary level paediatricians and few from internists.</p> | <p>Physician survey</p> |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|--------------------------|-------------------|--|--|---|
| <i>Continuity</i> | | | | |
| Informational continuity | | <ul style="list-style-type: none"> Physicians reporting that they keep medical records of all patient contacts on a routine basis: -GPs: 92% <ul style="list-style-type: none"> » Paediatricians: 96% Physicians reporting to routinely use referral letters: <ul style="list-style-type: none"> » GPs: 92% » Paediatricians: 99% | <p>Even though keeping record of all clinical information of patients was daily routine for almost all physicians in the three regions, the conditions for clinical information could be improved. Physicians had difficulties retrieving information, for instance for preventive monitoring. This limits efficient outreach activities. Paediatricians in Vojvodina reported more favourably in this respect than those in both other regions.</p> <p>Almost all respondents indicated using referral letters.</p> <p>Use of computers strongly differed among regions. In Belgrade not using a computer was exceptional, while in Central Serbia it was more or less the rule. Computers were mainly used for writing prescriptions and keeping clinical records, and to a lesser extent for writing referral letters. The results suggested a lack of Internet access.</p> | <p>Physician Survey</p> <p>Patient survey</p> |
| Longitudinal continuity | | <ul style="list-style-type: none"> Patients reporting having been with their GP for at least 1 year: 78% Patients reporting having been with their paediatrician for at least 1 year: 75% Patients reporting they did not choose their GP but were assigned: 5% Patients reporting they did not choose their paediatrician but were assigned: 8% | <p>A large majority of the patients of both GPs and paediatricians have been registered with their current doctor for more than one year. In Belgrade, a larger proportion of respondents indicated that they had been with the current doctor for more than three years than did those in the other two regions.</p> <p>Only very few respondents reported having been assigned to their current doctor and, similarly, very few indicated they could not change to another.</p> | <p>Patient survey</p> |
| Interpersonal continuity | | <ul style="list-style-type: none"> 39% of the patients have been with their GP for more than three years 34% of the patients have been with their paediatrician for more than three years | <p>About two thirds of patients would generally see their own doctor each visit. Consultations took on average 15 minutes in all regions.</p> <p>In general, patients were somewhat more positive about the qualifications of GPs than of their paediatricians. Rural patients were more positive about their doctor than urban patients.</p> <p>Personal skills of doctors were well appreciated. Most patients thought that their doctor knew their personal situation. Patients were not sure if their doctor would be the right person for discussing non-medical problems that impacted on health. Furthermore, patients were reserved about their doctor's preparedness to make home visits.</p> | <p>Patient survey</p> |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|--------------------------|---|--|---|------------------|
| <i>Comprehensiveness</i> | | | | |
| Practice conditions | Convenience | <ul style="list-style-type: none"> 48% of patients reported that the centre was well accessible for disabled and people in wheelchairs. | Wheelchair access to PC centres was reported to be problematic, particularly in Vojvodina and Belgrade. The majority of patients were satisfied with the convenience of the waiting rooms and the prompt and friendly treatment at the reception desk. | Patient survey |
| | Information materials | <p>Information materials reported to be available in the waiting room on various topics.</p> <p>Highest:</p> <ul style="list-style-type: none"> healthy diet: 84% smoking cessation: 78% CVD risks: 76% <p>Lowest:</p> <ul style="list-style-type: none"> social services: 22% contraception: 24% | The availability of information materials, such as leaflets or posters, made available in the waiting room of CHCs or ambulatories could be improved. | Physician survey |
| Services delivery | Population groups served | <ul style="list-style-type: none"> Consolidated score for the GP as doctor of first contact (based on 18 items; range of score 1-4): 2.06 Same for paediatrician: 1.73 | <p>The position of paediatricians in the first contact was more clear-cut than that of GPs. The results suggest that GPs lack a clear clinical domain in the first contact. The summary score of 2.06 is very low compared to GPs in other countries.</p> <p>GPs in Vojvodina have a more comprehensive role in the first contact than GPs in both other regions.</p> <p>Paediatricians in urban and rural practice have identical roles in the first contact with health problems. GPs in urban CHCs, however, see a wider spectrum of health problems in the first contact than their rural colleagues.</p> | Physician survey |
| | Involvement of PC physicians in the treatment of diseases | <ul style="list-style-type: none"> Consolidated score for the provision of treatment of diseases by GPs (based on 20 items; range of score 1-4): 3.00 Same for paediatricians: 2.18 | <p>The treatment profile of GPs seemed to be clearer than the first contact profile. GPs reported more involvement in the treatment of patients with the listed diagnoses than paediatricians.</p> <p>Compared to their colleagues in Belgrade, paediatricians in Central Serbia and Vojvodina were more involved in the treatment of patients with the listed diagnoses. GPs in Vojvodina had a somewhat broader treatment profile than GPs in both other regions.</p> <p>The involvement in treatment tasks was not related to working in a city or in the countryside.</p> | Physician survey |

| Dimension | Information items | Selected proxies / findings | Background to findings | Source |
|-----------------------|--|---|---|---|
| | Provision of preventive and medical technical procedures | <ul style="list-style-type: none"> Consolidated score for the provision of medical procedures and prevention by GPs (based on 16 items; range of score 1-4): 1.52 Same for paediatricians: 1.41 Coverage of public health activities (based on 12 items = 100%) by GPs on a routine basis: 32% Same for paediatricians: 32% Involvement in cervical cancer screening programme GPs: 16 % | <p>GPs and paediatricians were practically not involved in preventive and medical technical procedures, but in the procedures where they were involved they were both involved. These procedures were: immunization for flu or tetanus, intravenous infusion, allergy vaccination, ankle strapping and wound suturing.</p> <p>The overall percentage of involvement for GPs as well as paediatricians in several screening programmes was 32%, which leaves significant room for improvement.</p> | <p>Physician survey</p> <p>Patient survey</p> |
| | Provision of mother / reproductive and child health care | <ul style="list-style-type: none"> GPs providing routine antenatal care: 14% Paediatricians providing routine antenatal care: 42% | <p>GPs were rarely involved in the provision of mother and child health services. Paediatricians mostly provided child immunizations and routine paediatric surveillance. A minority of paediatricians were involved in the provision of routine antenatal care, family planning and contraception care.</p> <p>In general, rural physicians were more involved in mother and child health services than urban physicians</p> | Physician survey |
| | Perceived quality of prescribing | <p>Patients estimated to receive medically unnecessary prescriptions:</p> <ul style="list-style-type: none"> GPs: 6.7% Paediatr: 4.6% | | Physician survey |
| | Perceived balance between curative and preventive work | <p>Satisfied with current balance:</p> <ul style="list-style-type: none"> GPs: 26% Paediatr: 38% <p>Would like to spend more time on prevention and health promotion:</p> <ul style="list-style-type: none"> GPs: 64% Paediatr: 61% | | Physician survey |
| Community orientation | | <ul style="list-style-type: none"> Physicians reporting regular meetings with local authorities: 22% | There were very few reported structured connections with the community. | Physician Survey |

ANNEX I. GLOSSARY OF PC TERMS

Accessibility: the patients' ability to receive care where and when it is needed, given possible physical, financial or psychological barriers (10).

Comprehensiveness: the extent to which services provided comprise curative, rehabilitative and supportive care, as well as health promotion and disease prevention (16).

Confidentiality: the right to determine who has access to one's personal health information (1).

Continuity: the ability of relevant services to offer interventions that are either coherent over the short term both within and among teams (cross-sectional continuity), or are an uninterrupted series of contacts over the long term (longitudinal continuity) (10).

Coordination: a service characteristic resulting in coherent treatment plans for individual patients. Each plan should have clear goals and necessary and effective interventions, no more and no less. Cross-sectional coordination means the coordination of information and services within an episode of care. Longitudinal coordination means the interlinkage among staff members and agencies over a longer period of treatment (10).

CHC: a comprehensive PC facility, usually including a number of (rural) health posts.

Financing: function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system (8).

Family medicine teams: Family medicine teams can vary from country to country. The core team usually encompasses the general practitioner and a nurse, but can consist of a multidisciplinary team of up to 30 professionals, including community nurses, midwives, medical attendants, dentists, physiotherapists, social workers, psychiatrists, speech therapists, dieticians, pharmacists, administrative staff and managers (21). In 2003, WHO described a PC team as a group of "fellow professionals with complementary contributions to make in patient care [; t]his would be part of a broader social trend away from deference and hierarchy and towards mutual respect and shared responsibility and cooperation" (22). By definition, family medicine teams are patient-centred and therefore their composition and organizational model cannot but change over time; it is a flexible construct.

General practice: General practice is a term now often used loosely to cover the general practitioner and other personnel as well, and is therefore synonymous with PC and family medicine. Originally, it was meant to describe the model of the most significant single player in PC: the general practitioner or PC physician, while family medicine originally encompassed more the notion of a team approach. Whenever the notion of a solo practitioner (general practice) versus team-based approach (family medicine) is relevant, the distinction should be made. According to Atun (23), the specificity of the general practitioner is that he/she is "the only clinician who operates in the nine levels of care: prevention, pre-symptomatic detection of disease, early diagnosis, diagnosis of

established disease, management of disease, management of disease complications, rehabilitation, palliative care and counselling”.

Performance (or composite goal performance): the extent to which the health system relates goal attainment to what could be achieved in the given context of the country (1).

Primary health care (PHC): This term should be used when it is intended to refer to the broad concept elaborated in the Declaration of Alma Ata (1978) with its principles of equity, participation, intersectoral action and appropriate technology and its central place in the health system (24).

Primary care (PC): is more than just the level of care or the gate-keeping – it is a key process in the health system. It is the first contact, accessible, continued, comprehensive and co-ordinated care. First contact care is accessible at the time of need. Ongoing care focuses on the long-term health of a person, rather the short duration of the disease. Comprehensive care is a range of services appropriate to the common problems in the respective population. Coordination is the role by which PC involves other specialists that the patient may need (23). Primary care is a subset of primary health care.

Primary Care Evaluation Tool (PCET): is an instrument developed for the WHO Regional Office for Europe to examine Member States’ health system functions and typical characteristics of PC delivery systems. The tool considers policy and regulation as well as supply- and-demand aspects. It is intended to support ministries of health and other stakeholders in monitoring the progress of their PC-related policies and reforms and to set new priorities on the basis of evidence-based information with the aim of further strengthening the PC level.

Proxy indicator: Indirect measure or sign that approximates or represents a phenomenon in the absence of a direct measure or sign.

Resource generation: the provision of essential inputs to the health system, including human capital, physical capital and consumables (1).

Responsiveness: is a measure of how the system performs relative to non-health aspects, meeting or not meeting a population’s expectations of how it should be treated by providers of prevention, care or non-personal services (not a measure of how the system responds to health needs, which shows up in health outcomes). Enhancing responsiveness to the expectations of the population, includes: respect for people (including dignity, confidentiality and autonomy in health decisions) and client orientation, including prompt attention, access to social support networks, quality of basic amenities and choice of provider) (1).

Stewardship: a function of a government responsible for the welfare of the population, and concerned with the trust and legitimacy with which its activities are viewed by the citizenry. It includes the overseeing and guiding of the working and the development of the nation’s health actions on the government’s behalf. The components of stewardship are: health policy formulation (defining the vision and direction for the health system), regulation (setting fair rules of the game with a level playing field) and intelligence (assessing performance and sharing information) (1,8).

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SUMMARY

Although the strengthening of Primary Care (PC) services is a priority of health reforms in many countries of eastern, central and western Europe, backgrounds and reasons for reforms are not similar. In western Europe emphasis on PC reflects an approach to rising costs and changing demand as a result of demographic and epidemiological trends. Central and eastern European countries, as well as former Soviet Union countries, are struggling to fundamentally improve the performance of their entire health systems. PC is now being reorganized in many countries as bringing adequate and responsive health services closer to the population.

In many countries in transition health reforms are part of profound and comprehensive changes of essential societal functions and values. PC reforms are not always based on evidence, and progress is often driven by political arguments or interests from specific professional groups rather than based on sound evaluations. However, policy makers and managers increasingly demand evidence about progress of reforms and responsiveness of services.

This report evaluates PC developments in Serbia based on a methodology that characterizes a good PC system as comprehensive, accessible, coordinated and integrated, that ensures continuity, and that recognizes that all health system functions outlined in the WHO Framework are taken equally into consideration to improve the overall health system: financing, service delivery, human and other resources such as appropriate facilities, equipment and drugs, necessary legal frameworks and regulations and proper direction of the system. It thus offers interested policy-makers and stakeholders a structured overview of the strengths and weaknesses of a country's organization of PC services, including the voices of the professionals and patients concerned.