EVALUATION OF THE ORGANIZATION AND PROVISION OF PRIMARY CARE IN
KAZAKHSTAN

A survey-based project in the regions of
Almaty and Zhambyl

Primary care in the WHO European Region

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ABSTRACT

For many countries in political and economic transition, health reforms are part of profound, comprehensive changes in essential societal functions and values. However, primary care reforms are not always based on evidence, often being driven instead by political arguments or the interests of specific professional groups. Yet health policy-makers and managers are increasingly demanding evidence of the progress of these reforms and the responsiveness of services. The WHO Primary Care Evaluation Tool (PCET) seeks to provide a structured approach to this process by by drawing on health systems functions such as governance, financing and resource generation and the characteristics of a good primary care service delivery system: accessibility, comprehensiveness, coordination and continuity.

This report summarizes PCET findings for Kazakhstan. The project was undertaken there in the framework of the 2008–2009 Biennial Collaborative Agreement between the WHO Regional Office for Europe and the Ministry of Health of Kazakhstan. Additional partners have included the Netherlands Institute for Health Services Research (NIVEL, a WHO collaborating centre for primary care), the National Center of Healthy Lifestyle Development and other stakeholders in the health system of Kazakhstan, including national policy experts, managers, academics, primary care physicians and patients.

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ABBREVIATIONS

CIS	Commonwealth of Independent States
EU	European Union
EU15	the 15 countries that were EU members prior to May 2004
GP	general practitioner
HIV	human immunodeficiency virus
KAFP	Kazakh Association of Family Practitioners
NGO	nongovernmental organization
NIVEL	Netherlands Institute for Health Services Research
PC	primary care
PCET	Primary Care Evaluation Tool
STI	sexually transmitted infection
TB	tuberculosis
WHO	World Health Organization

ACKNOWLEDGEMENTS

FOREWORD

Primary health care embodies the values and principles that WHO pursues in its worldwide 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 primary care (PC) services forms the core of an efficient, 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, overall health in the 53 Member States of the WHO European Region has improved considerably, despite significant changes in epidemiological patterns, demographic profiles and exposure to major risks and hazards in a rapidly evolving socioeconomic environment. The Region has also seen trends towards better integrated models of care and greater pluralism in the financing and organization of health systems. Governments have been rethinking their roles and responsibilities in population health and the organization and delivery of health care, thereby changing the context for framing and implementing health policy.

This report evaluates PC developments in Kazakhstan, using a methodology that characterizes a good primary care system as one that:

- is comprehensive, accessible, coordinated and integrated;

- ensures continuity; and

- recognizes that all health system functions outlined in the WHO framework are considered equally in work 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 all necessary legal frameworks and regulations are in place, and that the system is steered by effective leadership.

The report offers a structured overview of the strengths and weaknesses of a country's organization and provision of primary care services – including the voices of the professionals and patients concerned – to interested policy-makers and stakeholders. It focuses on structural performance and provides for a list of proxy indicators. It does not, however, examine the process or outcome of care itself, and consequently its quality, but instead signifies a first and very important step towards establishing a baseline on how primary care processes and outcomes can best be improved. We at the WHO Regional Office for Europe hope that the report will contribute to further primary care reform in Ukraine..

We thank the many collaborators who have generously contributed to this project with their ideas and insight. We would also like to gratefully acknowledge the financial assistance of the Netherlands Ministry of Health, Welfare and Sport in the framework of the partnership programme between the WHO Regional Office and the Netherlands.

Hans Kluge
Director, Division of Health Systems and Public Health
WHO Regional Office for Europe

EXECUTIVE SUMMARY

This report summarizes results from the application of the WHO Primary Care Evaluation Tool (PCET) in Kazakhstan. The Tool was implemented in the framework of the 2008–2009 biennial collaborative agreement between the WHO Regional Office for Europe and the Kazakhstan Ministry of Health, an agreement that outlined the main areas of collaborative activities. Additional partners were the Netherlands Institute for Health Services Research (NIVEL, a WHO collaborating centre for PC), the National Center of Healthy Lifestyle Development and other stakeholders in the Kazakh health system, including national policy experts, institutes for medical education, regional (oblast) authorities, PC physicians and patients.

The PCET addresses both supply and demand aspects of PC. It is intended to help ministries of health and other health system stakeholders monitor the progress of PC-related policies and reforms and provide evidence for setting new priorities that will strengthen PC.

Methods

The underlying methodology for the design of the PCET was derived from the WHO 2000 Health Systems Framework *(1)*, which states that the performance of a health system is determined by the way its functions are organized. These functions are stewardship, resource generation, financing and service provision. The PCET addresses these four functions, together with the key characteristics of PC services, including accessibility of services, continuity of care, coordination of care and comprehensiveness. For each of these functions and characteristics, the PCET has identified key dimensions and subthemes, which it has then translated into indicators or appropriate proxies. To evaluate the complexity of PC systems, the Tool gathers information from different administrative levels, and from both the demand and the supply side. The PCET accordingly consists of three instruments: a questionnaire addressing the status of PC at the national level, a questionnaire for general practitioners (GPs) and other PC physicians, and a questionnaire for patients. Together, the three questionnaires cover the key PC functions, dimensions and subthemes derived from the Framework. The questionnaires for PC physicians and patients were prestructured, with precoded answers. The national questionnaire contained both prestructured and open-ended questions, with room for statistical data.

The project team implemented the Tool in Kazakhstan in the end of 2008 and the first months of 2009 in two regions (oblasts): Almaty and Zhambyl. These provinces were selected for their logistical convenience (both are situated in the south-east) and differing characters. Almaty is more urbanized and diversely developed, while Zhambyl is mainly rural.

The three questionnaires were completed by, respectively, national policy experts and other health system stakeholders; district "therapists" (internists) and retrained GPs; and PC patients. The project team processed and analysed data from April to October 2009. The survey approach means that the results rely on respondents' self-reported behaviour and experiences.

Results

**National results
(from the health system questionnaire and interviews with national policy experts)**

Stewardship/governance

It was not until 2003 that the Kazakh Ministry of Health established a PC unit to coordinate policy-making and implementation regionally. Due in part to a ministerial lack of vision and capacity, the country did not develop a coordinated national approach to health sector reform until relatively recently, starting with the 2004 launch of the State Programme for Health Care Reform and Development. The Programme, which covers the period 2005–2010, has had a major impact on health care, including PC reform. It established PC and prevention as priorities, streamlined health care financing through budget consolidation, decentralized health services to the 14 regions (oblasts) and increased health care expenditures. Within centrally defined limits, regions assumed a more important role in managing their own health care budgets. As purchasers of health care services, they decided how to allocate resources. However, variation in economic development among the regions led to differences in available health funding, and consequently in the availability and quality of services. Even more marked was the difference between urban and rural health care, which applied to the whole country. Service access and quality in rural areas has been generally well below that in urban areas. Shortages of physicians and other health workers, which were more strongly felt in the countryside, exacerbated the problem.

The Programme has now entered its final year. Several key reforms with major consequences for PC are waiting to be completed, including an incentive-based funding scheme for GPs, better distribution of medicines and access to pharmaceutical care for rural populations, and measures to improve services and the medical educational system. Initiatives have also been planned to improve accreditation systems, develop norms and guidelines for medical products and services, reorganize the continuing medical education system and promote evidence-based medicine. While all the medical universities have retraining programmes, and they retrained many GPs after 2006, the number retrained was a modest fraction of the total needed. In 2009, a World Bank project started to address many of these reforms. Foreign assistance, including aid from some donors that have been active in Kazakh health sector reform for many years, will continue to be invaluable in realizing the Programme's ambitious goals.

In 2009, more than a year before the current reform programme will end, the health sector was developing a new reform strategy for 2010–2020.

Financing

In contrast to the official rules, which stipulate that health care services are free, patients have generally needed to pay for services at the primary level, particularly for drug prescriptions. The planned expansion of the national health budget is meant to provide health care facilities enough resources that patients will no longer need to make co-payments for services in the guaranteed benefit package. The PC portion of the health care budget (excluding capital investment) increased from 28% in 2005 to 34% in 2008, and it is scheduled to reach 40% in 2010.

The payment system for PC physicians still lacks performance incentives. PC physicians have salaries that are 50% higher than those of medical specialists. However, despite GPs' having more comprehensive responsibilities than other PC providers, no difference exists between the salaries of GPs and those of district therapists and district paediatricians.

Human resources

At the time of this study, only 19% of the physicians in PC were GPs. To fully implement the planned GP-based PC system, even if only for rural facilities, the retraining capacity of the nine medical institutes would need to be expanded considerably. The need is particularly acute since well over half the current GP workforce was older than 50 when the three surveys were conducted and will need to be replaced in the near future. One possible way to alleviate the human resources problem in PC would be a more efficient deployment of nurses, who at the time of the study were used mainly for administrative duties. The quality of medical education also needs upgrading, and the system of continuing medical education needs reorganization. Distance learning methods could help provide GPs with refresher instruction after they have completed retraining, and enable rural doctors in particular to stay up to date. Meanwhile, with donor support, the Kazakh Association of Family Practitioners (KAFP) appears to be promoting professional development in general practice and PC effectively.

Service provision

Official data about demand for and utilization of PC services in Kazakhstan are extremely scarce. No information was available for this report on how GPs, therapists and paediatricians provided PC services. Nor were data available on referrals from PC to medical specialists, or on medicines prescribed in PC. For such information, the authors have relied on the physician and patient questionnaires. The dearth of information for management and clinical purposes is largely due to the obsolete health information systems in the (primary) health care sector, systems that involve a large amount of paperwork.

PC physician and patient results
(from the physician and patient questionnaires)

Accessibility of care

According to the questionnaires, the geographical distribution of PC services is not very good in either Almaty or Zhambyl. Most patients need more than 20 minutes to reach their preferred PC facility or hospital. PC practices are in most cases staffed by GPs, therapists, community nurses, midwives and practice nurses, and sometimes also by dentists, pharmacists and laboratory technicians. The organizational accessibility of PC practices (e.g. by telephone) could be improved. Patients experience limitations in access to PC services during normal office hours as well as outside them, especially in Almaty. Few patients are satisfied with current opening hours. They are satisfied with the way they are treated by reception staff (particularly in Zhambyl), but less so with the time they must wait from appointment till consultation. Therapists responding to the survey were responsible for 2479 patients and GPs for 2259 patients, making their workload well above the national norms of 2200 and 2000 patients, respectively. On average, physicians report spending 18 minutes per consultation and conducting 24 home visits per week. Patients in both regions visit their physician an average of almost four times a year.

Coordination of care

Coordination of care seems to be reasonably well developed. Patients generally visit their GP or therapist with new health problems first, before they seek specialist care. Most physicians work in practices with other PC physicians and medical specialists. They have regular face-to-face meetings with other PC physicians, nurses, midwives, neurologists, gynaecologists, therapists and surgeons to discuss patient cases. They meet less often with dermatologists, paediatricians, ophthalmologists and ear, nose and throat specialists. PC is not coordinated with pharmacists. Task substitution appears to occur between PC physicians and nurses. The physicians surveyed reported relatively high referral rates to medical specialists, which were even higher among the therapists. PC physicians in rural facilities were more likely than those in urban facilities to treat patients themselves instead of referring them.

Continuity of care

Most patients are assigned to their physicians. The conditions for a continuous physician–patient relationship are better in Zhambyl than Almaty, where there appears to be considerable patient turnover. Patients in Zhambyl and rural patients are more positive about their physician than patients in Almaty and urban patients. Patients feel confident that their PC physician knows them, or at least their medical history and current health issues. However, they feel they cannot consult their physician for nonmedical problems. Almost all physicians use clinical guidelines regularly. Physicians could improve their medical record-keeping. Almost a quarter of physicians do not keep routine records of all their patient contacts. Among physicians who do keep regular medical records, most are able to identify risk groups in their files. The use of referral letters and the exchange of patient information between PC physicians and specialists is suboptimal. Further implementation of computers in PC practices could improve efficiency and the usability of information.

Comprehensiveness of care

GPs have a strong and therapists a somewhat weaker role as physicians of first contact with health problems. GPs in Almaty have a somewhat stronger role in first-contact care than those in Zhambyl. Both GPs and therapists are highly involved in the treatment and follow-up of common diseases. However, their involvement in prevention and technical medical procedures (e.g. setting up an intravenous drip or vaccinating against allergies) is quite low. Rural GPs are more involved in undertaking technical procedures than urban GPs and therapists. In addition, GPs are also more involved than therapists in public health activities such as monitoring schoolchildren and screening for HIV and sexually transmitted infections (STIs). Maternal and paediatric care is chiefly provided by GPs (particularly in Almaty), except for routine antenatal care, which both GPs and therapists provide. Finally, PC in both regions is connected fairly strongly with the community, as reflected by reported meetings between PC practices and local authorities.

Selected indicators

Table 1 provides an overview of some key statistical findings.

Table 1.   Selected PC indicators, Almaty and Zhambyl regions, 2008–2009

Function	Indicator	Value
Stewardship and govern-ance	Whether Ministry of Health has a department specifically dealing with PC	Yes (since 2003)
	% Percentage of physicians reporting that a patient complaint procedure was in place in their ambulatory/policlinic	79%
Financing	Employment status of PC physicians	State employed (salaried)
	% of patients reporting co-payments for drugs prescribed in PC	89%
Resource generation	% of active physicians in Kazakhstan who work in PC	15%
	% of PC doctors who are GPs	19%
	Average age, GPs	48 years
	Average age, therapists	46 years
	Hours GPs spend on professional reading (per month)	18
	Hours therapists spend on professional reading (per month)	19
	Medical universities with a department of general practice or family medicine	9 (all)
	Average number of items of medical equipment available to GPs (from a list of 30 items)	21
	% of physicians reporting no or insufficient access to a laboratory	5%
	% of physicians reporting no or insufficient access to an X-ray facility	13%
	% of physicians with a computer in their centre/practice	58%
Service delivery	% of patients living within 20 minutes' travel from a GP or therapist	30%
• Access to services	Average number of registered patients, GPs	2 259
	Average number of registered patients, therapists	2 479
	Average number of patient consultations per day, GPs	23
	Average number of patient consultations per day, therapists	23
	Average number of home visits per week, GPs	24
	Average number of home visits per week, therapists	24
	Average working hours of GP per week	37
	Average working hours of therapist per week	35
	Average length of patient consultations, minutes	18
	Reported average contact rate (frequency) by patients per year	4
	% of PC physicians offering evening consultations at least once per week	41%
	% of PC patients reporting having had same-day consultations when they requested them	53%

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Function	Indicator	Value
• Coordination	Referral rate to specialist services (% of all PC office and home care contacts)a	GPs: 8% Therapists: 9%
	Referral rate to specialist services (% of all PC office and home care contacts)[a]	Rural: 7% Urban: 11%
	% of PC physicians sharing premises with other PC physicians	33%
	% of PC physicians who meet regularly with practice nurses	71%
	% of PC physicians who meet regularly with midwives	71%
	% of PC physicians who meet regularly with pharmacists	29%
• Continuity	% of PC physicians who report that they keep medical records routinely	77%
	% of GPs' patients who were assigned (rather than choosing their GPs themselves)	78%
	% of GPs' patients who have been with their present GPs for at least one year	59%
• Comprehensiveness	% of PC physicians who say they use clinical guidelines frequently	87%
	% of medical equipment items that PC physicians report being available (from a list of 30 items)	71%
	Average score for GPs' role in first-contact care for 18 selected health problems (range of score 1 (never)–4 (always))	2.39
	Average score for therapists' role in first-contact care for 18 selected health problems (range of score 1 (never)–4 (always))	1.88
	Average score for GPs' involvement in the treatment of 19 selected diseases (range of score 1 (never)–4 (always))	2.81
	Average score for therapists' involvement in the treatment of 19 selected diseases (range of score 1 (never)–4 (always))	2.76
	Average score for GPs' involvement in the provision of 16 selected preventive and technical medical procedures (range of score 1 (never)–4 (always))	1.50
	Average score for involvement of therapists in the provision of 16 selected preventive and medical-technical procedures (range of score 1 (never)–4 (always))	1.34
	Coverage of public health activities (based on 9 items = 100%) by GPs on a routine basis	77%
	Coverage of public health activities (based on 9 items = 100%) by therapists on a routine basis	68%
	% of physicians involved in cervical cancer screening programme	GPs: 66% Therapists: 59%
	% of physicians providing family planning/contraception services	GPs: 77% Therapists: 69%
	% of GPs providing routine antenatal care	91%
	% of therapists providing routine antenatal care	83%
	% of PC physicians having regular meetings with local authorities	66%

Findings are based on surveys of 212 physicians and 1704 patients.
[a] Self-referrals not included.

Recommended policy actions

Governance and regulation

Implementation of the GP-based PC model

The GP-based PC model should continue to be implemented actively in every region and independent city of Kazakhstan.

> *The PC priorities formulated in the 2005–2010 State Programme for Health Care Reform and Development have not yet been realized in all regions. Delays have been reported in the three largest regions, while in the independent cities of Astana and Almaty, the reform has not even been initiated. Little progress has been made to introduce GPs to urban areas as planned. Polyclinics that serve only one sex or age group should be merged into PC facilities in which GPs serve both sexes and all age groups. Continuing the PC reform process at the current pace may not be enough to maintain the necessary momentum to implement the reform successfully.*

Continuity of health policy

The current reform programme principles of strengthening PC, strengthening ambulatory hospital services and strengthening prevention efforts should be incorporated into the new health reform programme for 2010–2020.

> *The current reform programme ended in 2010, and a new programme is being developed for the coming decade in accordance with a general national reform strategy. While priorities may change, the underlying principles should be maintained.*

Profile of GP services

The breadth and quality of GP services should be developed further.

> *GPs appeared to do better in this study than district "therapists" (internists) in several areas, both in services provided and patient perceptions. However, the results show that the GP service profile lacks consistency and can be improved. For instance, the list of tasks GPs perform is far from comprehensive and the number of referrals they make to secondary care is still high.*

Quality of premises and equipment

The quality of PC premises and equipment should be reviewed, and renovation and replacement should be invested in as needed.

> *PC conditions are below standard, particularly in rural areas, which is where most GPs work. The facilities are in poor condition and not tailored to PC needs. In the patient survey, 35% of the respondents described wheelchair access to PC premises as poor. Widespread patient dissatisfaction with PC equipment indicates the need to examine it for operational quality.*

Medical education for GPs

The question of whether the medical education system is sufficiently attuned to the needs of GPs should be investigated, and regulations should be developed as appropriate

to modernize medical curricula and training programmes and to address the practical needs of GPs.

Respondents reported that medical educational programmes focused strongly on knowledge rather than practical skills. Training should occur partly in PC practices, which would reduce the long time that physicians being retrained as GPs are not in clinical practice. For retraining and continuing medical education, distance learning should be formally embraced and used more often.

Financing and incentives

Coordinated financing across levels
The implications of the recently introduced financing split between PC and hospital services on the coherent provision of services across both levels should be investigated, and any negative consequences should be addressed promptly.

The pooling and purchasing functions were recently centralized for hospital services, though for PC they are still the responsibility of the regions. It is expected that this division will encourage regions to send patients to hospital even when their problems could be addressed in PC.

Financial incentives for GPs
Incentive-based payment schemes for GPs should continue to be introduced.

The current parity between GP and district therapist salaries does not reward performance and encourage GPs to excel. Variable payments should include incentives for GPs to expand their range of services, for instance to cover more technical medical procedures, primary and secondary prevention, and health promotion. A new scheme should allow GPs to earn a salary surplus, enabling them to earn more than district therapists and paediatricians.

Patient out-of-pocket payments
The question of whether existing co-payments prevent certain patient groups from obtaining necessary PC services should be investigated.

Although most PC services are free, patients must pay for prescribed drugs and injections. Fifteen percent of the respondents in the patient survey stated that, in the previous year, these payments were an obstacle to their using services they needed.

Resource generation

Recruitment of GPs
Steps should be taken to intensify GP recruitment, training and education.

One goal of the 2005–2010 health care reform programme has been to ensure that by 2010, all physicians working in PC will be GPs. However, the limited training capacity at the nine medical universities has only produced about one fifth of the GPs needed. At present, there is a shortage of PC physicians, making the national norm of 2000 patients per GP impossible to achieve. Moreover, the average age of GPs is

relatively high; more than half of them are older than 50 and will retire in the near future. Difficult working conditions may also contribute to the loss of GPs. Measures to increase the pool of GPs should focus on short-term retraining of doctors and increasing GP residency programme admissions. (See also the recommendation above to modernize GP medical education.)

Follow-up of newly retrained GPs
Educational follow-up and feedback should be intensified for GPs who have completed the retraining course.

Completing the retraining course is just the start of becoming a GP. The course will only have its intended effect with follow-up. Distance learning can facilitate access to follow-up support.

Quality assurance
The development, distribution and use of clinical guidelines should be encouraged and coordinated.

Various governmental and nongovernmental bodies (including donors) are currently involved in clinical guideline efforts, but their activities are evidently uncoordinated. Nor is it clear how much such guidelines have been integrated into continuing medical education.

Role of nurses in PC
Paperwork should be reduced for nurses, and they should be more involved in nursing tasks, notably prevention, health information and routine monitoring of chronic patients.

The surveys showed that in some practices nurses undertake tasks that traditionally are performed by physicians. A critical review could help reduce nurses' paperwork, for instance by delegating administrative tasks to non-nursing staff members. Transforming "writing nurses" into "nursing nurses" may help address the nursing shortage.

Information in PC
A health information system should be developed and rolled out for PC, and computers with access to the Internet should be installed in rural practices to help overcome their isolation.

The lack of health information is alarming and a source of stagnation for PC staff. The current paper-based clinical record system absorbs a great deal of time and resources, yet does not produce adequate information. The absence of information not only hampers clinical work in interactions with individual patients, but also quality control, administrative work and the monitoring of reforms.

Service delivery

The profile of services provided in PC
The current range of services that GPs provide should be reviewed in light of GPs' intended role in national health reforms.

This study found that the profile of curative and preventive services provided in PC is limited. For instance, GPs have a very limited role as doctor of first contact, and they very rarely provide their patients with minor surgery and other medical procedures. Yet many patients prefer obtaining services in PC when possible, and it is usually more efficient than relying on specialists.

Performance indicators
Routine performance monitoring should be expanded to include indicators on consultation rates and referrals from primary to secondary care.

The Ministry of Health utilizes many performance indicators each year. It prefers outcome indicators, although the influence of PC physicians on these outcomes is not always clear. Process indicators such as consultation and referral rates are relevant because they reflect the breadth of PC service provision, and they have important implications for health care costs.

Patient-centred care
Patient needs and wishes should be systematically investigated, and the results used to make PC services more patient-centred.

A 2003 law established the right of patients to choose their health care providers. However, its provisions were not all implemented. In the patient survey, most respondents stated that they had had no opportunity to choose their current doctor. While the choice of a doctor may be limited in practice, the right to choose can still be formalized, and respected and encouraged as much as possible. It is critical to inform patients about their right to choose. Patients also expressed dissatisfaction with office hours and access both during and after office hours.

Patient safety
Patient safety regulations should be developed with all due speed, and mechanisms should be established to generate data on adverse events and report medical errors systematically and independently.

Patient safety is in its infancy in Kazakhstan. There is no culture of patient safety, and relevant legislation, for instance with respect to the distribution of pharmaceutical products, is lacking.

Equipment and diagnostic services
Gaps in PC equipment should be filled to match the GP job profile.

Having the proper equipment allows GPs to provide the services that patients can expect in PC. From a list of 30 items commonly used in PC, an average of only 21 were available to GPs, with considerable variation. Seventeen percent reported having no access or insufficient access to X-ray facilities.

1. EVALUATING PRIMARY CARE: BACKGROUND AND IMPLEMENTATION

1.1 The theoretical framework of the Primary Care Evaluation Tool (PCET)

Why evaluate PC?

Careful monitoring is called for in any reform process. That is especially true for large-scale, fundamental change, such as health care reform in eastern European countries in economic and political transition. Although strengthening PC services is a priority in many of the countries in the WHO European Region, the nature of such reforms varies greatly from west to east. In western Europe, PC is expected to help address rising costs and changing demands that result from demographic and epidemiological trends. In the central and eastern part of the Region, however, countries once part of or closely allied with the Soviet Union are struggling to drastically improve the performance and cost–effectiveness of their entire health systems. These countries are now developing PC, which used to function poorly there if it existed at all, to improve overall health system efficiency and bring adequate, responsive health services closer to their populations. In many of these countries, health care reforms have been part of profound, comprehensive changes in essential societal functions and values *(2)*.

Performance evaluations and measurements play an increasing role in health care reforms. Stakeholders need the information to decide how best to steer the health system towards better outcomes *(3)*. In the past, reforms were not always based on evidence, and changes were often driven by political arguments or professional interests rather than sound assessments. That situation is changing. Health care stakeholders are holding decision-makers increasingly accountable for their choices, demanding evidence from them on, for instance, the progress of reforms.

In addition, demographic and epidemiological changes require that health systems adapt to new population demands. Effective adaptation requires that the systems evaluate the responsiveness of health services from the patient perspective. Such evaluations can provide information about how accessible and convenient services are, how health workers treat patients, how patients receive communications that may affect their behaviour and well-being and how health care is managed, both at the PC level and beyond.

However, health system evaluations and performance assessments should be contextualized appropriately before they inform policy-making and regulation. Not only do governments use such material directly, but in exercising their stewardship role they should also generate an appropriate flow of information, make it available to other health system stakeholders and ensure that the relevant analytical capacity is in place *(3)*.

Finally, system evaluations and performance assessments should be based on a proper framework. Deriving indicators from an accepted framework helps ensure that the in-

dicators are relevant and that they cover key topics sufficiently. The following sections describe the framework used to develop the PCET.

PC evaluation and the health systems framework
A health system can be defined as a structured set of resources, actors and institutions related to the financing, regulation and provision of health actions to a given population. A health action is any activity whose primary intent is to improve or maintain health. The overall objective of a health system is to optimize the health status of an entire population throughout the human life-cycle, including cases of both premature mortality and disability *(3)*.

Health systems aim to achieve three fundamental objectives *(1, 3)*:

1. *improved health* (e.g. better health status and reduced health inequality);

2. *enhanced responsiveness to the expectations of the population,* encompassing:
   » respect for the individual (including dignity, confidentiality and autonomy);
   » client orientation (including prompt attention, access to services, basic amenities and choice of provider); and

3. *guaranteed financial fairness* (including fairness in household contributions to national health expenditures, and protection from financial risks resulting from health care).

How successfully a health system attains these goals reflects its overall performance. However, as health conditions and health systems both vary among countries, the country context needs to be addressed when comparing the performance of health systems. Thus, the measurement of performance should cover both goal attainment and available resources and processes.

The WHO health system performance framework (see Fig. 1) indicates that the performance of a system is determined by the way in which four key functions are organized *(3)*:

1. stewardship

2. resource generation

3. financing

4. service provision.

Fig. 1. Health system functions and objectives in the WHO performance framework
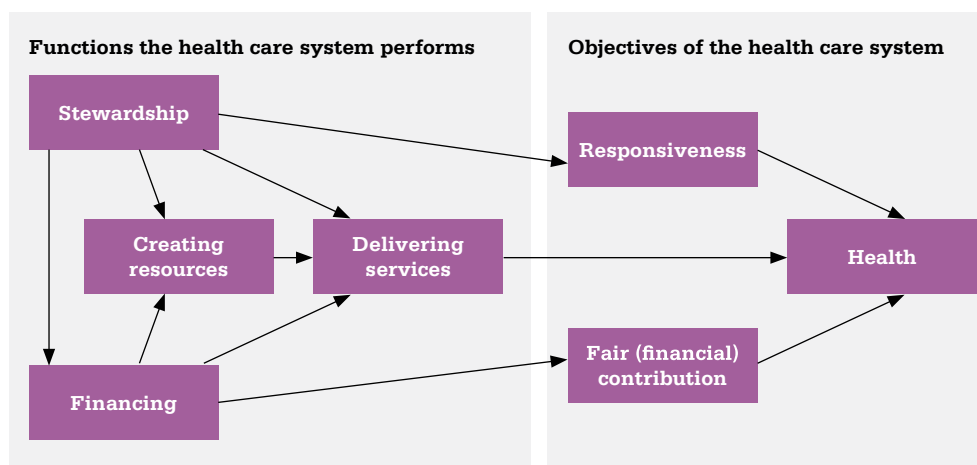
Although the international literature presents other approaches to performance measurement *(4–7),* they all employ similar insights or related concepts. The four functions can be applied to the whole health system of a country or, for example, to PC only, with specific subcharacteristics for PC service provision.

What does each health system function encompass?

Stewardship
Stewardship is an overriding function, overseeing all basic health system functions but more broadly than regulation. It affects health system outcomes both directly and indirectly *(1)*. Stewardship encompasses the tasks of defining the vision and direction of health policy, exerting influence through regulation and advocacy, and collecting and using information. It has three main aspects: a) setting, implementing and monitoring the rules for the health system; 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 also be subdivided into the subfunctions of overall system design, performance assessment, priority setting, regulation, intersectoral advocacy and consumer protection *(3)*. In short, stewardship involves governing, disseminating information about, coordinating and regulating the health system at various levels.

Resource generation
Not only does every level of a health system needs a balanced variety of resources to function properly, but they also have to be further developed to sustain health services over time and across various levels and geographical areas. The resources needed include facilities, equipment, consumable supplies, human resources, knowledge and information.

It is especially crucial that the quantity and quality of human resources adequately matches the demand for services across the various levels of health care, and that they are 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 that concerns human and physical resource planning falls under the stewardship function,

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as do regulatory frameworks for assuring high-quality service provision and consumer protection. However, actual workforce volume, distribution and professional development (including training, continuing medical education and research) are usually measured as part of resource generation.

Financing

In general, financing deals with the mobilization, accumulation and allocation of funds to cover the health needs of the people, individually and collectively, in the health system *(8)*. The financing function in health systems is defined by Murray & 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 (such as households and firms) and secondary sources (such as governments and donor agencies). There are a number of mechanisms through which funds can be mobilized, varying with 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 nongovernmental organizations (NGOs) and donor agency transfers. *Fund pooling* uses various forms of health insurance to share and reduce health risks. *Purchasing* is the allocation of funds to cover the costs (e.g. for staffing, durable goods and operations) of health providers, whether institutional or individual, for specific interventions *(3)*. The way these subfunctions are organized and executed affects the accessibility of health services.

Service delivery

Service provision involves the mix of inputs needed to deliver health interventions within a specific organizational setting *(3)*. It includes preventive, curative and rehabilitative services delivered to both individual patients and larger populations (e.g. through health education and promotion) in public or private institutions. Providing services is what the health system *does* – not what the health system *is*. (For the four characteristics of good service provision, see sections 1.1.4 and 1.1.5 below.)

The Primary Care Evaluation Framework

The characteristics of PC vary from country to country, and different definitions of what constitutes PC exist (see Annex 2). However, a comprehensive or well-developed PC system should have 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, from which the PCET has been developed, encompasses the four health care system functions and, derived from the above definition, four characteristics of effective PC service provision (see Fig. 2).

Fig. 2.   The Primary Care Evaluation Framework
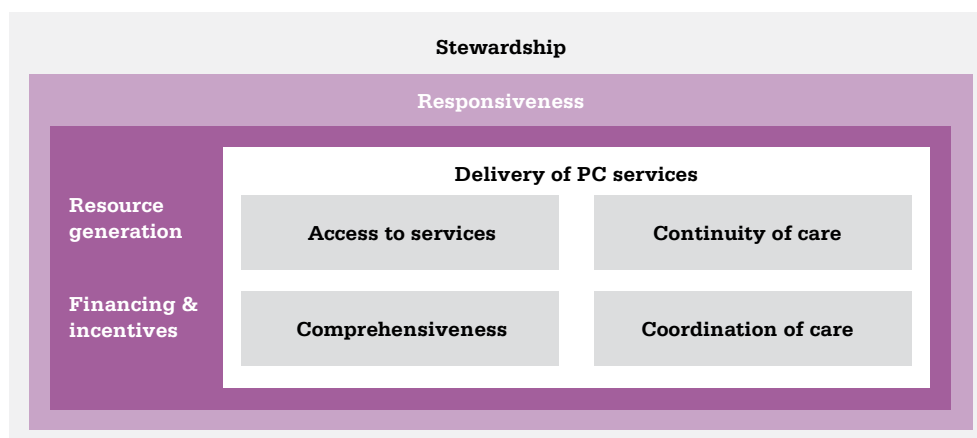
What do the four key characteristics of a good PC system involve?

Access to services
In general, access to health services can be defined as the ease with which health care is obtained *(5)*. Alternatively, it can be defined as "the patients' ability to receive care where and when it is needed" *(10)*. There are various physical, psychological, sociocultural, informational and financial barriers that restrict accessibility. For instance, the Primary Care Evaluation Scheme addresses geographical obstacles (distance to and distribution of general practices), obstacles in the organization of PC practices (office hours, distance consultations, waiting times) and financial obstacles (cost-sharing, co-payments).

Continuity of services
Health care interventions should be geared to patient needs over an extended period and cover subsequent episodes of care and treatment. A general definition of service continuity is "follow-up from one visit to the next" *(11)*. WHO provides a more comprehensive definition that takes into account the potential involvement of several health care providers, describing continuity 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 have been distinguished *(12)*. First, *informational continuity* signifies an organized body of medical and social history about a patient that is accessible to any health care professional caring for that patient. Second, *longitudinal continuity* points to an accessible, familiar environment where a patient customarily receives health care from a provider or team of providers. Third, *interpersonal continuity* is an ongoing personal relationship between patient and provider, characterized by personal trust and respect *(12)*. Reid et al. also add *management continuity*, the provision of timely, complementary services as part of a shared management plan *(13)*. The Primary Care Evaluation Scheme includes informational, longitudinal and interpersonal continuity of care.

Coordination of delivery

Particularly because PC is the most common entry point to health care and often provides a gatekeeping function to other levels of care, the coordination of services at PC level is a key determinant of the responsiveness of health service provision and the health system as a whole. The potential for problems in coordination are particularly evident at the interfaces between primary and secondary care, and between curative care and public health services in the field of health promotion *(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)*. With respect to health care, it can be defined as:

> … 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 interlinkages among staff members and agencies over a longer period of treatment (*10)*.

In the Primary Care Evaluation Scheme, the dimensions of coordination include collaboration within the same PC practice, collaboration between PC providers (e.g. GPs, community nurses, physiotherapists, etc.) and collaboration between primary and other levels of care through consultation and referral.

Comprehensiveness

Comprehensiveness can be defined as the extent to which a health care provider directly offers a full range of services or other provider or specifically arranges for their provision elsewhere *(15)*. In the PC setting, comprehensiveness refers to the fact that services can encompass curative, rehabilitative and supportive care, as well as health promotion and disease prevention *(14, 16)*. It also refers to the ability to consider several conditions at a time in one patient, particularly chronic conditions. The comprehensiveness of services refers not only to the range of services provided but also to practice conditions, facilities, equipment and the professional skills of the primary service provider. PC workers' linkages to community services and the community also play a role. All these dimensions are incorporated in the Primary Care Evaluation Scheme.

The Primary Care Evaluation Scheme

Taking the Primary Care Evaluation Framework *(1)* as its basis, the Primary Care Evaluation Scheme provides further details by focusing on specific measurable topics and items relating to essential features and national priorities for change in primary care and the facilitating conditions. The Primary Care Evaluation Scheme, which forms the basis of the PCET, includes a number of key dimensions that have been identified for every primary care system function. Each dimension has in turn been translated into one or more information items or proxy indicators for the dimension (see Table 2).

Table 2.   The Primary Care Evaluation Scheme

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 resource planning
		Conditions for responsive-ness	Involvement of professionals and patients in policy process
			Patient rights; complaint procedures
Resource generation		Workforce volume	Numbers and density
		Professional development	Role and organization of professionals
			Education in PC
			Scientific development and quality of care
		Professional morale	Job satisfaction
		Facilities and equipment	Medical equipment
			Other equipment
Financing and incentives		Health care/PC financing	PC funding
		Health care expenditures	PC expenditures
		Incentives for professionals	Entrepreneurship
			Mode of remuneration
		Financial access for patients	Cost sharing/co-payments for PC
Delivery of care	**Access to services**	Geographical access	Distance to PC practice
			Distribution of PC physicians
		Organizational access	Patient list size
			PC provider workload
			PC outside office hours
			Home visits in PC
			Electronic access
			Planning of non-acute consultations
		Responsiveness	Timeliness of care
			Service aspects
			Clinics for specific patient groups

Function	Subfunction	Dimension	Selected Items/Proxies
Delivery of care	**Continuity**	Informational continuity	Computerization of the practice
			Medical records
		Longitudinal continuity	Patient lists
			The part of the health system that patients contact first with health-related problems
			Longevity of patient–provider relationship
		Interpersonal continuity	Patient–provider relationship
	Coordination	Cohesion within PC	PC practice management
			Collaboration among general practitioners/family doctors
			Collaboration of PC physicians with other PC workers
		Coordination with other care levels	Referral system/gatekeeping
			Shared care arrangements
	Comprehensiveness	Practice conditions	Premises, equipment
		Service delivery	Medical procedures
			Preventive, rehabilitative and educational activities
			Disease management
		Community orientation	Practice procedures and policies that help ensure comprehensive care
			Monitoring and evaluation
			Community links
		Professional skills	Technical skills

To evaluate the complexity of a PC system properly, the PCET gathers information from different administrative levels and from both supply and demand sides, i.e. from health providers and patients. The PCET accordingly consists of three separate questionnaires:

1. a questionnaire for experts, concerning national PC policies and structures

2. a questionnaire for GPs and other PC physicians

3. a questionnaire for patients.

Together, these questionnaires cover all the PC functions, dimensions and information items identified in the Scheme. The physician and patient questionnaires are prestructured. The national questionnaire contains both prestructured and open-ended questions, and it lists the statistical data to submit.

1.2 PCET development and pilot testing

Development of the PCET commenced in February 2007 and concluded in May 2008, when the final instrument became available to WHO for its health system support activities with Member States. The successive stages of development are briefly explained below. The development process for the tool has been described in more detail elsewhere *(17-19)*.

Literature review
As a first step, researchers at NIVEL conducted a directed literature study, based on the WHO performance framework *(1)*, to gather information on possible ways to measure the key PC system functions. They paid particular attention to PC indicators and existing PC performance measurement and evaluation tools and questionnaires. They produced a preliminary listing of dimensions and items for the tool.

First consultation with experts from the European Region
A meeting of international experts was convened in March 2007 to discuss the outcomes of the literature study. Primary objectives for the meeting were to discuss and reach consensus on key concepts and definitions; to discuss and endorse the provisional set of dimensions, proxy indicators and information items for the PCET; and to improve the initial version of the Primary Care Evaluation Scheme (see Table 2) in order to develop questions for the questionnaires. Participants also took the first steps towards a pilot implementation of the provisional tool.

Drafting, validating and translating the 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 in each country where the tool would be piloted: the Russian Federation and Turkey. The terminology was adapted for the national situations and, at the 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 Russian and Turkish with input from a PC expert, back-translated into English and compared to the original version.

Two pilot implementations
The provisional tool was piloted in two provinces of Turkey and two raions of Moscow Oblast, Russian Federation. Under the supervision of the Regional Office and the respective health ministries in the pilot countries, local partners worked together with the technical leader from NIVEL to organize the details of the fieldwork, including sampling procedures, field worker training, and the logistics of data collection and entry. In both countries, meetings were organized with experts to discuss and validate the answers to the national PC questionnaires. The data were analysed, the conclusions and policy recommendations formulated and a report was produced for each pilot implementation, including a section on lessons learned *(17,18)*.

Copenhagen consultation meeting
A review meeting with international experts discussed the draft report at the Regional Office in Copenhagen on 14 and 15 April 2008. The meeting revised the three questionnaires, making a variety of major changes. Specifically, it:

- rewrote questions to encourage factual responses instead of soliciting opinions;

- reordered the sequence of topics and questions;

- changed the national PC questionnaire into a questionnaire and the template for a more comprehensive background document for a small team of local experts would prepare (materials that a focus group directed by WHO and NIVEL would subsequently discuss and approve);

- reduced the size of the physician and patient questionnaires;

- made terminology and wording more consistent throughout the questionnaires;

- decided to complement the survey results with other information sources such as publicly available literature, interviews with health care workers and experts and personal observations during site visits;

- determined that individual countries would be able to add questions related to specific national priorities (such as tuberculosis (TB) care and reproductive health services in Belarus); and

- decided that he final report would contain a set of proxy indicators.

After revision, the PCET was made available to the countries of the European Region. To inform implementers in each Member State, an implementation scheme was prepared, describing the steps involved in utilizing the PCET.

1.3   Implementing the PCET in Kazakhstan

The biennial collaborative agreement
The 2008–2009 biennial collaborative agreement between the Government of Kazakhstan and the Regional Office specified implementation of the PCET as an activity. The first preparations for implementing the Tool were made during a visit to Kazakhstan by Regional Office representatives.

The Regional Office's two project partners were the Ministry of Health and, in its capacity as WHO collaborating centre, NIVEL. The project effectively started in July 2008.

Country visits for information, planning and validation
In the preparatory phase of the study, experts from the WHO Regional Office for Europe and NIVEL paid two visits to Kazakhstan. The first visit took place from 7 to 11 July 2008 to inform national project counterparts about the purpose of the Tool and the activities involved in implementing it, explain the instruments and procedures to be used and prepare the next methodological and logistic steps.

- Experts presented the translated questionnaires to the national working group established for the project, and explained and discussed the project with the staff of the National Center of Healthy Lifestyle Development in Almaty city.

- They explained and discussed the steps and procedures required to implement the Tool.

- They also planned and discussed the next activities to undertake with the national coordinator for the project, including identification of the target physician and patient populations, the sampling procedure and the organization of fieldwork.

During this first mission, the Ministry of Health informed WHO and NIVEL experts about national policy and challenges relating to primary health care. The researcher also made seven orientation visits to polyclinics, ambulatories and feldsher-midwife posts in both project regions.

Experts visited again on 17–23 November 2008. During this visit, they trained field workers, initiated fieldwork and organized a validation meeting to check and complete the answers that the expert group submitted to the national questionnaire (see below). Experts also visited eight more polyclinics, ambulatories and feldsher-midwife posts.

The 15 site visits they made during these two missions occasioned the following observations.

- Kazakh doctors, nurses and feldshers (medical attendants) were devoted to their work, despite often-difficult working conditions.

- Most facilities were coping with staff shortages. In some cases, stomatologists were working as PC physicians.

- Rural PC facilities were poorly housed and poorly equipped. Conditions were not suitable for maintaining hygiene standards.

- Retrained GPs were scarce, being observed only in rural practices. However, they were positive about the change in their work since retraining.

- In one of the districts visited, not a single action had been undertaken in connection with national PC policy. This disparity appeared to be due to a lack of information and/or to resistance.

- Access to some rural PC facilities was severely hampered by the absence of public transport.

Preparation and implementation of the questionnaires

The Ministry of Health suggested implementing the PCET in the regions of Almaty and Zhambyl for logistical reasons – although the two regions are neighbours in the south-eastern part of the country, they have different characters, as well as not being too sparsely populated. Almaty is more diversely developed and urbanized, while Zhambyl is mainly rural. Moreover, the Ministry stated that there were no reasons to believe that the health care system in other regions would deviate substantially from that in these two.

After explaining the project methodology to the project coordinator at the National Center of Healthy Lifestyle Development, WHO and NIVEL experts helped identify the

study populations and prepare the fieldwork. For the physician and patient surveys, they agreed upon the following sampling procedure.

Physician sampling

Although a minimum of 200 responding physicians would have been enough to undertake the planned statistical analyses, it was decided to include more to compensate for possible dropouts. Since Kazakh health reforms have designated GPs as the core providers of PC in the future, the project would try to recruit all retrained GPs from both regions. For comparison, roughly equal numbers of district "therapists" (internists) would also be approached.

Using physician lists, the projected breakdown of physicians to be approached was as follows. In Almaty, all 69 retrained GPs would be included, as well as 60 district therapists randomly selected from a total of 218. In Zhambyl, all 59 retrained GPs would be included, as well as 60 district therapists randomly selected from 221 total. Hence a projected total of 248 physicians were to be included in the study (128 retrained GPs and 120 district therapists).

The actual sample was somewhat different in both regions. Due to a long delay in data collection, the number of retrained GPs increased at the expense of the district therapists in both regions. All GPs who had completed retraining were included, resulted in responses from 95 GPs in Almaty and 99 in Zhambyl. Meanwhile, the decline in district therapists meant that only 43 responded in Almaty and 47 in Zhambyl. (For more details, see Chapter 4.)

Patient sampling

For the patient questionnaires, field workers recruited patients from the practices of around 50% of the surveyed GPs and therapists in both regions. For practical reasons – avoiding long distances and remote locations – these practices were chosen from certain districts in each region. Each practice was visited by a trained field worker, who asked patients in attendance to fill out a questionnaire. (For patients younger than 15, the field worker would request accompanying adults to complete it.) The field worker had 15 patients fill out questionnaires at each practice.

The project team planned to survey 900 patients in Almaty from the districts of Enbekshi-Kazakh, Kapchagay (Ili), Karasaj, Talgar and Zhambyl, as follows:

- 30 general practices: 450 patients

- 15 urban practices of district therapists: 225 patients

- 15 rural practices of district therapists: 225 patients.

The team also planned to survey 855 patients in Zhambyl from the districts of Chu, Kordai and Merke, thus:

- 27 general practices: 405 patients

- 15 urban practices of district therapists: 225 patients

- 15 rural practices of district therapists: 225 patients.

In Almaty, the actual response (690 patients) was only about three quarters of the planned total. In Zhambyl, the actual response of 810 patients was close to the planned number of 855. In all, 1500 patients were recruited, or 85% of the target. (For more details see Chapter 5.)

Field workers played a crucial role in collecting data from patients. Where field workers did not visit a targeted practice, regional health officials distributed questionnaires to the physicians working there. The questionnaires were returned in closed envelopes to the National Center of Healthy Lifestyle Development in Almaty city for processing. The Institute had recruited the field workers, and the NIVEL researcher had instructed them in their responsibilities during his second mission. In the training he addressed the following topics:

- the survey context and objectives

- the basic principles and structure of the Tool and the type of questions it uses

- the specific topics on the questionnaires

- approaching and assisting respondents

- establishing good rapport by explaining clearly and stressing confidentiality

- creating a suitable environment for patients to fill in the questionnaire

- checking the readability and completeness of answers

- logistics, such as field worker allocation, planning and transport.

National information gathering
A team of experts at the Ministry of Health filled out the questionnaire and checklist addressing the national PC situation. They provided their answers and statistical data they gathered to the NIVEL research team, experts on the national working group and others. A discussion and validation meeting was then held in Almaty city on 23 November 2008. The meeting, led by a NIVEL researcher, was organized to validate the answers, consider them in a broader perspective and gather more detailed information requested by the NIVEL team. Attendance was disappointing, however, as only the director of the National Center of Healthy Lifestyle Development and a Ministry of Health representative came. The team added the supplementary information they provided to the answers and data received in response to the national-level questionnaire. Together, these sources have served as the major input to the description of the national PC situation in this report.

Data processing, analysis and reporting
NIVEL designed a data entry program, using SPSS Data Entry Station version 3.0.3. The National Center of Healthy Lifestyle Development did the data entry for this report, then sent the raw data files to the NIVEL research team for processing and analysis. A meeting with Kazakh and WHO experts discussed a draft of this report, including results

and preliminary recommendations, with the team in Astana on 18–19 November 2009. The report was revised based on the suggested changes and requests for additional analysis and information made at this meeting, and on comments made during a peer review at NIVEL and WHO. NIVEL then submitted this new version to WHO for final revision and editing

Table 3 summarizes implementation of the PCET in Kazakhstan.

Table 3.   Key data, PCET implementation in Kazakhstan, 2008–2009

Target groups	• PC physicians (district therapists and GPs) • Patients (attending PC facilities) • National health care experts (national)
Locations	• Almaty region • Zhambyl
Type of data collection	• PC physicians: survey using prestructured questionnaire disseminated by field-workers and managers • Patients: survey using prestructured questionnaire disseminated by field workers and regional health officials • Health care experts: mixed questionnaire and meeting for validation and discussion
Recruitment of respondents	• PC physicians: GP population and random sample of district therapists in both regions • Patients: the first 15 patients attending the practices of about 50% of surveyed physicians • Health care experts: identified by local partner or Ministry of Health

Planned sample sizes	• PC physicians: 248 (128 GPs + 120 district therapists)
	    » Almaty: all 69 GPs + 60 of 218 district therapists
	    » Zhambyl: all 59 GPs + 60 of 221 district therapists
	• Patients 1 755 (15 from each of about 50% of sampled physicians)
	    » Almaty: 30 GPs (450 patients) and 30 district therapists (450 patients)
	    » Zhambyl: 27 GPs (405 patients) and 30 district therapists (450 patients)
	• Health care experts: selected on the basis of expertise

Response rate	• GPs: 194 • District therapists: 90 • Patients: 1 500
Instructions provided to contributors	• Local coordinator: methodology of sampling and recruitment, identification of study populations, lists of GPs and therapists, survey logistics • Regional health authorities: aim and approach of the study • Field workers: explanation of questions, approaching and assisting respondents, quality considerations • Respondents: written introduction and instructions in the questionnaires; verbal introduction and support from field workers
Coordination of fieldwork	• Local coordinator: overall responsibility • Field workers: information on respondents, correct administration of data collection on site • NIVEL: general supervision during and after field visits
Data entry	National Center of Healthy Lifestyle Development (Almaty city)
Analysis & reporting	NIVEL (Utrecht, Netherlands), with WHO input

2.INTRODUCTION TO KAZAKHSTAN

2.1 **The country** *(20–23)*

Fig. 3. **The Republic of Kazakhstan**

Source: Wikimedia Foundation, 2010 *(20)*.

The Republic of Kazakhstan is a vast landlocked country, with an area of 2.7 million square kilometres. Situated in Eurasia, it is the ninth largest country in the world, larger than western Europe. It is neighboured by the Russian Federation, China, Kyrgyzstan, Uzbekistan, Turkmenistan and the Caspian Sea. Since 1997 the capital has been Astana, but the former capital of Almaty (also called Alma-Ata) continues to be the largest city. Kazakhstan is home to a wide variety of landscapes: flatlands, steppes, taigas, rock-canyons, hills, deltas, mountains and deserts. With 15.5 million inhabitants, its population density is extremely low (5.6 people per square kilometre).

Kazakhstan first became independent in 1991, having previously been part of the Soviet Union. Considered a middle-income country, Kazakhstan has inherited a significant amount of infrastructure from Soviet times. With its mineral wealth and the prospects of increased oil production, its economic outlook is very good. Although the agricultural sector contributes only modestly to the gross domestic product, it remains a major source of employment.

Administratively, Kazakhstan is divided into 14 regions (oblasts), each headed by a provincial governor (*akim*), and the 3 independent cities of Almaty, Astana and Baykonur. The present study was conducted in Almaty and Zhambyl, both located in the south-eastern part of the country. *Almaty*, with an area of 224 000 km^2 and a population of 1.6 million, borders China and Kyrgyzstan in the south-east with the mountains of Khrebet Dzhungarskiy Alatau. Major cities include the regional capital, Taldykorgan (population 125 000), and Almaty (population 1.3 million), an administratively independent city that serves as a national centre of culture and education. The population of Almaty region is concentrated in the cities and in river valleys and foothills, where cereals (including rice), vegetables and sugar beets grow. Sheep are kept on the alpine meadows in summer

and on the steppe and semidesert pastures of the Balkhash area in winter. The region also contains lead and zinc mines.

Zhambyl has an area of 144 000 km² and a population of around 1 million. The mountainous southern part of the region borders Kyrgyzstan. The centre of Zhambyl includes the sandy Moyynkum desert, which the Chu River separates from the clay desert of Betpak-Dala to the north. Sugar beets, grain and tobacco grow in the more fertile parts along the Chu, Talas and Assa rivers. In the drier areas cattle, sheep, and camels are raised. Phosphate production is also an important activity.

Despite an expected rise in average income, poverty remains a problem in Kazakhstan. In 2007 and 2008, an estimated 12% of the population was below the national poverty line. The country is addressing environmental problems, including industrial pollution, land degradation, desertification and the radioactive contamination of the Semipalatinsk area are being addressed, and progress is being made – for instance, the once-shrinking Northern Aral Sea has filled up again and its fishery is reviving.

The country performs relatively poorly on social indicators. In rural areas, only 57% of the population has access to clean drinking-water. Another area needing improvement is the status of women in the Kazakh society. For instance, in the Upper House of Parliament, women make up only 4% of the legislators, while in the Lower House they comprise 16%. Labour shortages and inadequate infrastructure have also been reported, problems that investing in education will help alleviate. Kazakhstan is addressing these and other social indicators in the context of newly established targets for the Millennium Development Goals.

A United Nations analysis points to food insecurity as a significant threat to population health in Kazakhstan. The availability, variation and nutritional value of food in the country are inadequate, especially in rural areas. The analysis suggests that young children and women in particular are affected by malnutrition, due to contaminated water, micronutrient deficiencies and poor infant feeding practices.

The country's economic growth and labour shortage have attracted immigrants, including health care workers, from surrounding countries, notably Uzbekistan and Kyrgyzstan. However, the global financial crisis has also hit Kazakhstan, resulting in a 20% devaluation of the national currency, the tenge, in February 2009. The effects of the crisis will likely increase hardship and negatively affect the country's short-term economic prospects.

The president appoints the akim in each region. In contrast to regional administrations in other countries of the Commonwealth of Independent States (CIS), those in Kazakhstan have more power, also in health care affairs. The regions are further subdivided into 220 districts (raions). The lowest administrative level consists of elected local councils, which have limited power. The separation of powers among administrative levels does not always appear to be clearly delineated, which may cause gaps in the practical implementation of laws and regulations.

2.2 Population and health *(20, 23–25)*

Table 4 compares key indicators for Kazakhstan to Belarus, the Russian Federation and the 15 countries that were members of the European Union (EU) prior to May 2004 (the EU15).

Table 4.   Selected demographic, health and lifestyle indicators

Indicator	Kazakhstan	Belarus	Russian Federation	EU15
% of population age 0–14	24	14.8	14.8	16.0
% of population age 65+	7.8	14.6	14.0	17.6
Population density (per km²)	5.6	46.9	—	—
Population growth rate, 2005–2007 (%)	2.2	–1.33	—	—
Live birth rate (per 1 000 pop.)	20.8	10.7	10.4	10.7
Total fertility rate (children per woman)	2.47	1.37	—	1.58
Life expectancy at birth (years) • Male • Female	60.8 72.3	64.6 76.3	60.5 73.3	77.4 83.0
Death rate (per 1 000 pop.)	10.22	13.7	15.3	9.3
Maternal mortality (per 100 000 live births)	47.5	6.7	23.8	5.4
Estimated infant mortality, 2004 (per 1 000 live births)	63	8	13	4.2
SDR for circulatory diseases (per 100 000 pop.)	815	591	782	196
SDR for externally caused injuries or poisoning (per 100 000 pop.)	155	139	188	34
TB incidence (per 100 000 population) • Official • Estimated	160 129	55.2 61	89.7 107	9.2 13.1
HIV incidence (per 100 000 population)	11.4	7.5	27.5	6.14
Abortions (per 1 000 live births)	413	447	951	247 (EU average)
Regular smokers (% of population aged 15+) • Male • Female	40.7 8.8	52.8 8.7	— —	Poland M: 37, F: 23 Netherlands M: 32.0, F: 26.3

EU15: the 15 countries that were EU members prior to May 2004, SDR: age-standardized death rate, TB: tuberculosis.
Source: WHO Regional Office for Europe, 2010 (European health for all database, http://data.euro.who.int/hfadb) *(24)*. Figures apply to 2006 or 2007 unless indicated otherwise.

As Table 4 shows, the population in Kazakhstan is much younger and more fertile than the populations of the other countries, with a birth rate that is nearly double. Almost one quarter of the population is 14 or younger, while less than 8% is 65 or older.

As with the other countries that were once part of the Soviet Union, population health in Kazakhstan deteriorated severely in the years after 1990, a development that was reflected in a steep decrease of life expectancy. Between 1990 and 1996, life expectancy dropped

by more than 4 years (5 years for men and 3 for women). Subsequently, in parallel with the national economic recovery, the indicator slowly improved, reaching 66.4 years in 2007. That means, however, that life expectancy had made up for just half of its post-Soviet decline. Inequalities in life expectancy exist among regions as well as between the sexes. The gender gap is comparable to the ones reported for Belarus and the Russian Federation. According to most recent statistics, shown in the table, life expectancy at birth in Kazakhstan is 61 years for males and 72 for women. The lag behind the EU15 countries is considerable: 17 years for men and 11 for women.

Since the Kazakh population is young, its overall death rate is relatively low, below the Belarusian and Russian rates but still somewhat higher than EU15 average. The indicators for maternal and child mortality are poor compared to the other countries. The official maternal mortality ratio is double that for the Russian Federation, seven times that for Belarus and almost nine times that for the EU15 (Table 4). Since underreporting is a common problem with maternal mortality, the actual ratio will likely much higher than shown. The latest estimates made by WHO, for the year 2000, were three times the official numbers (24). Meanwhile, Kazakh infant mortality (defined as death in children during their first year of life) is estimated to be around 5 times the rate in the Russian Federation, 8 times that in Belarus and 15 times that in the EU15.

The leading cause of death in Kazakhstan is diseases of the circulatory system, including cardiovascular diseases. The standardized death rate for circulatory diseases is higher in Kazakhstan than in the Russian Federation, considerably higher than in Belarus and more than four times that found than in EU15 countries. Violence and inadequate safety measures are reflected in the high mortality for externally caused injuries and poisonings, which amounted to 155 per 100 000 in 2007. This indicator is also high for Belarus and the Russian Federation. However, comparison to EU15 rate of 34/100 000 shows that it can be reduced substantially.

Like other CIS countries, Kazakhstan has witnessed several TB epidemics since becoming independent. Although the incidence of TB has declined since 2004, it is still double the incidence in Belarus, well above that in the Russian Federation and nearly 10 times that of the EU15. Within the country, regional variation in TB incidence is considerable too. Meanwhile, the number of people living with HIV has grown since 2005. HIV incidence used to be relatively low, but it now is well above the rates in the EU15 and Belarus, though still far below the rate found in the Russian Federation.

Abortion is still a method of birth control in Kazakhstan, again as in other CIS countries, though less than in the time of the Soviet Union. While Kazakhs increasingly use modern contraceptives, the number of abortions per 1000 live births is still high at 413, similar to the number in Belarus and less than half the number in the Russian Federation, yet much higher than in the EU15.

High alcohol consumption and smoking are two lifestyle factors that cut life expectancy significantly. Kazakh men and women differ greatly from each other in their consumption of tobacco, though the difference is somewhat smaller than in Belarus. Only 9% of Kazakh women are regular smokers, in contrast to more than 40% of the men. In EU countries such as Poland and the Netherlands, smoking among men is somewhat less

prevalent than in Kazakhstan, but smoking among women is much more common, being practised by around one quarter of the women.

2.3   **The health care system** *(20, 26–28)*[1]

When it gained its independence in 1991, Kazakhstan inherited a health care system in poor shape. The system suffered from underfunding, obsolete practices, outdated facilities, inefficiency and few incentives to provide quality services. The system was unable to effectively respond to the steep downward trend in population health during the 1990s. As health care reforms started relatively late and took effect slowly, system performance continues to be suboptimal. However, with the rapid growth of the economy in the last decade, boosted by growing revenues from oil and other natural resources, the tide is changing. Public expenditure per capita on health doubled between 2000 and 2005 (although as a percentage of the corresponding EU figure the growth was modest). Through the 2005–2010 State Health Care Reform and Development Programme, Kazakhstan has demonstrated its ambition for reform. The Programme aims to not only invest in buildings and equipment, but also to improve the technical and managerial expertise of the health care workforce in order to increase the efficiency and quality of services. In the second half of its period, the Programme has sought to reorganize and strengthen inpatient and emergency care, improve continuity of service delivery and introduce competition among providers. Its other priorities have been to modernize medical education and training and to focus more on prevention and health education. Strengthening PC services has been one of the Programme's chief overall aims.

Although privatization has been significant in dental care and pharmaceutical dispensing, it has not been well established in other parts of the health care sector.

As with other government sectors, policy-making in health care is strongly centralized, with the president playing a key role. Governance and management of the health care system is hierarchical, with the Ministry of Health at the top. The Minister of Health is appointed by presidential decree. In contrast to the situation in other CIS countries, however, the regional authorities in Kazakhstan, particularly the regional health departments, run their health services with relative autonomy, sometimes overstepping their authority and other times simply deviating from national policy due to a lack of information. However, the regional variation in the development of PC does not appear to be just a result of this autonomy; other factors include differences in economic development.

The 14 regions and the 3 independent cities own the government health facilities in their jurisdictions and employ the government health workers. Their health departments also play a key role in managing the hospitals and most polyclinics. The akim of each region or independent city appoints the director of these departments. The district authorities, which are subordinate to the regional authorities, are responsible for managing smaller secondary care and most PC facilities. The chief physicians of the central hospital in each district manage the local PC practices.

The Kazakh health care system is publicly funded through taxation. The state guarantees a basic benefit package of health care services that was intended to be free to the

1 Additional information gathered in this project during site visits and from experts.

entire population. However, significant out-of-pocket payments are now required for many services that once were free.

Public health concerns many citizens in Kazakhstan. In a 2008 national survey of 1524 Kazakhs, 13% stated that government health services were the most important issue Kazakhstan faces. When asked which problem politicians talk too little about, 5% responded that it was problems with such services, the second most frequent response *(29)*.

Table 5.   Selected indicators on health care resources and utilization

Indicator	Kazakhstan	Belarus	Russian Federation	EU15
Total health expenditures as % of GDP, 2005	3.9	6.6	5.2	9.6
Total health expenditures per capita (in US$ PPP)	306	515	561	2 282
Hospital beds (per 100 000 pop.) • All beds • Acute care beds only	772 528	1 123 —	966 931	554 375
Physicians (per 100 000 pop.)	370	484	431	338
GPs and district therapists • Number per 100 000 pop. • As % of all physicians	24 6.5	40 8.3	27 6.3	102 30.2
Nurses (per 100 000 pop.)	692	1 198	806	805
Pharmacists (per 100 000 pop.)	82	31	8	81
Dentists (per 100 000 pop.)	37	49	32	65
Average length of stay (days) • All hospitals • Acute hospitals	12.6 10.2	11.4 —	13.6 11.5	9.4 6.5
Acute care hospital admissions (per 100 pop.)	16	—	23	17
Outpatient contacts per person (per year)	6.8	13.6[a]	9.0	6.5[b]

EU15: the 15 countries that were EU members prior to May 2004, GDP: gross domestic product, PPP: purchasing power parity.
[a] Based on data from the PCET in Belarus *(30)*; the WHO Health for all database reports 7.8% (24). [b] 2001.
Source: WHO Regional Office for Europe, 2010 (European health for all database, http://data.euro.who.int/hfadb) *(24)*. Figures apply to 2006 or 2007 unless indicated otherwise.

Table 5 shows representative statistics for health care expenditure, resources and service utilization in Kazakhstan for 2006 and 2007, with corresponding figures from Belarus, the Russian Federation and the EU15 countries for comparison.

Despite health budget increases after 2002, in 2005 Kazakhstan was still spending a relatively modest proportion of its gross domestic product on health care, namely 3.9%. In the Russian Federation the proportion was 5.2%, in Belarus 6.6% and in the EU15 9.6%. However, a look at per capita spending, controlled for differences in purchasing power, reveals the health expenditure gap between the EU15 and the three CIS countries was in fact much wider (Table 5).

The supply of hospital beds in Kazakhstan was lower than in the other CIS countries examined, yet higher than in the countries of the EU15. Similarly, there were fewer physicians per 100 000 inhabitants than in Belarus and the Russian Federation, and a few more than in the EU15.

The number of GPs and district therapists indicates to what extent a health care system is oriented towards PC, rather than secondary and tertiary care. In Kazakhstan, 24 PC doctors were working per 100 000 people, and only 6.5% of all physicians were working at the primary level. These figures are comparable to those for the Russian Federation. In Belarus there were 40 PC doctors per 100 000 inhabitants, comprising 8.3% of all physicians. Health care systems in the EU15 countries are generally much more strongly oriented towards PC, with almost one third of the physician workforce working in PC, or 102 PC physicians per 100 000 population.

The concentration of nurses at this time was lower in Kazakhstan than in the other countries in the table. In contrast, that of pharmacists was at the EU15 level, which was far more than in Belarus and the Russian Federation. As for concentration of dentists, the position of Kazakhstan was between the Russian Federation and Belarus and well below the average for the 15 oldest EU members.

The average length of hospital stays in Kazakhstan was comparable to the other two CIS countries. In the EU15 stays were somewhat shorter, particularly at acute hospitals.

The average number of annual contacts with health services in Kazakhstan was comparable to the number in the EU15. However, the contact rate in the Russian Federation was one third higher and in Belarus it was double.

A detailed systematic observational assessment by international clinicians in 17 hospitals in Almaty, focusing especially on care for children, has thrown light on hospital conditions in the country *(26)*. The study found good health networks, adequate staffing levels and paediatricians who showed a high level of commitment and dedication to their patients and pride in their work. However, it also found that working conditions and medical practices were below standard. The hospital buildings were large but very poorly maintained, so that much of the basic infrastructure needed repair. With respect to medical care, the study mentioned excessive treatment, overdiagnosis and overhospitalization, tendencies that could partly be ascribed to numerous outdated treatment protocols. Polypharmacy and related inefficiencies appeared to be related to misplaced financial incentives, unregulated pharmacies and patient expectations (which in turn pointed to poor information). Unmanageable numbers of *prikazes* (administrative directives) decreed a large range of examinations and treatments that were not in accordance with international standards or guidelines. These statutory requirements were the main reason for long hospital stays in cases that could easily be treated in an ambulatory setting. They resulted not only in harm to patients but also in excessive costs to the health care system and patients' families.

Primary care (PC) *(20)*

The current situation of PC in Kazakhstan is the combined result of the heritage from the time before independence in 1991 and of health care policy in the time after. It is common knowledge that the core of the Semashko health care system used in the Soviet Union was its emphasis on narrow specialties and strict limitation of PC. After achieving independence, Kazakhstan for the most part continued to ignore PC, especially in rural areas. Although some regions, with support from donors and international agencies, sought to develop the PC system, a coordinated national approach was realized only recently. Although the tide has turned, the PC situation can still be described as poor. PC premises and equipment are inadequate, facilities are understaffed, medicines are scarce and poorly distributed, while PC service provision remains limited. Moreover, the prestige of PC physicians and nurses continues to be low, and no incentives or resources are in place to encourage quality PC. Since these problems are even more widespread and serious in rural areas, it may be also concluded that access to health care is inequitable.

PC reforms commenced in 2005 as part of the State Programme on Health Care Reform and Development. One element in the Programme consists of developing the specialty of family medicine, through initiatives that include a retraining programme for district therapists to become family doctors and improved continuing medical education. It should lead to an expansion in clinical responsibilities at the primary level and better services there, particularly in the areas of maternal and child health, reproductive health and cardiovascular screening). The quality of services provided by feldsher-midwife posts, which act as the point of entry to the health system in remote areas, should also improve after the GPs from the nearest ambulatory start managing them. The Programme is also upgrading PC premises, equipment and transport facilities, especially in rural areas. In addition, GPs will receive a mix of capitation and performance-based payments, which should improve the accessibility and quality of services and improve GP motivation. Moreover, the Programme will improve the dispensing of drugs by introducing drug benefits for specific categories of patients. It is also considering measures to make rural practice more attractive to staff.

Although the PC reform began by focusing on rural areas, the intention is to gradually introduce GPs to urban facilities as well. As a first step, age- and sex-specific polyclinics will be replaced with polyclinics for children and adults. Family group practices will also be established independent from polyclinics, and they will refer them to polyclinic specialists as needed. In addition, independent PC centres will be established, which the state will contract with on a capitation and partial fundholding basis. As PC services expand, secondary care services will as a consequence be reduced.

PC in Kazakhstan is in a state of transition, with characteristics of both its former and its projected state. In towns and cities the old organization still dominates, with polyclinics offering both primary and secondary care services to either children, adults or women with gynaecological issues. Family group practices and integrated polyclinics (those that serve all age groups and both sexes) are emerging only reluctantly. In the countryside, the quality of many feldsher-midwife posts and ambulatories still leaves much to be desired, but starting in 2006 feldsher-midwife posts have been reconfigured as medical posts offering a broader range of services. In rural ambulatories, retrained GPs are increasingly replacing the combination of therapist and paediatrician. Nevertheless,

the provision of high quality services in rural areas continues to be a challenge. Rural Kazakhs still have insufficient access to pharmaceutical services. The lack of public and private transport among widely dispersed villages and district towns is still an obstacle to accessing medical services, as does the continuing shortage of physicians in rural facilities. Finally, too many feldsher-midwife posts and ambulatories are housed in buildings that do not satisfy basic sanitary and hygienic needs.

A more general problem, which applies to other sectors besides health, is the inability of regional and district authorities to fully implement new policies and standards. It can lead to situations in which the Ministry of Health or other central authorities develop beneficial laws and regulations that are never properly realized. However, improving the capacity of regional and district policy-makers and managers is time-consuming and requires much greater financial resources than are currently available. Recognizing this, donors and international organizations have been actively supporting the capacity-building process in the Kazakh health sector.

3. PRIMARY CARE IN KAZAKHSTAN: NATIONAL SITUATION AND CONTEXT

This chapter addresses key national aspects of PC in Kazakhstan, including policy and legislation, financial arrangements, workforce, provider education, quality assurance and patient role.

It is primarily based on responses that a team of experts provided to the national-level PCET questionnaire, and on the comments and additions made during the validation meeting held in Almaty city on 23 November 2008. The Ministry of Health contributed the statistical background. Since the national-level questionnaire was answered and discussed well before the completion of the physician and patient surveys and, consequently, the drafting of this report, the project team utilized additional information from other sources to cover more recent developments (20,28,31).

The chapter has been organized according to health system function and the dimensions used in the Primary Care Evaluation Scheme (see Table 2). It should provide general context for the results of the physician and patient surveys described in Chapters 4 and 5.

3.1 Stewardship and governance

Policy development

Early PC policy

In the first decade after independence, PC reform in Kazakhstan made little progress. It is true that a 1992 policy document, called *The concept of health care reform*, announced promising health care measures, like prioritized development of PC and simultaneous hospital bed reduction, better trained health care providers, the introduction of health insurance, decentralization, the possibility of private practice, and patient choice of doctors. Yet apart from some externally supported district and regional initiatives, the period was characterized by a lack of vision and of coordinated effort to improve poorly developed primary services, especially in rural areas.

However, with the rapid economic growth after the turn of the century, the government undertook several policy initiatives to reform the health care sector, including PC. One major step forward was Presidential Decree No. 1438, issued 13 September 2004 and called *State Programme for Health Care Reform and Development in the Republic of Kazakhstan for 2005–2010*. The named Programme has aimed to prioritize the development of PC and prevention in Kazakhstan in line with international principles, and to increase PC financing to 4% of the total state budget for guaranteed package of health services. The Programme period was divided into two implementation phases, 2005–2007 and 2008–2010. The second phase has been designed to reform PC in conformity with general practice principles, notably by having the medical universities retrain therapists as GPs, the core PC providers, and changing the financing scheme for PC organizations

to one based on capitation and partial fundholding. The Programme has also overseen a gradual introduction of GPs in urban areas. As a first step, several age- and sex-specific urban polyclinics have been merged into facilities that serve all ages and both sexes.

Also under the Programme, a national institute is being established to promote prevention, with branches in each region. In addition, health promotion activities that have been conducted by the state sanitary epidemiological services network (San-epid), which operates in parallel to the Ministry of Health, will be integrated into PC.

The reform programme has affected the health care system at all levels. In every region and city, the Programme has meant reforms in line with the national ones. One core element has been to devolve health care funding to the regions. Pooling funds and overseeing the health budget has become an regional responsibility, and the regional health care departments are now in charge of health care purchasing.

By the end of 2005, the Government published Resolution No. 1304, *About measures to improve primary care for the population of the Republic of Kazakhstan.* Resolution 1304 set formal standards for the network of PC organizations and facilities in the country, based on the size of the population served and the distance of PC clients from the facilities. It proclaimed the stepwise introduction of a GP-based PC system by training GPs and retraining district therapists. By the end of 2009, 30% of physicians in PC were to be retrained GPs. Furthermore, Resolution 1304 announced that PC services would be provided in the following types of facilities:

- polyclinics (multi-specialist facilities that would include general practice departments) in settlements with populations of at least 30 000, as well as district capitals;

- PC centres in settlements with a population between 5000 and 30 000;

- ambulatories in settlements with a population between 2000 and 5000, as well as in rural areas with populations between 1000 and 5000; and

- medical points in settlements that have between 50 and 1000 people and are situated at least 5 km from the nearest PC facility.

PC centres, which are staffed by GPs but no medical specialists, represent a new type of facility in Kazakhstan.

As of 2009, this system had been implemented in eight regions, with another five expected to follow soon. The three biggest regions (Karaganda, Vostochnyy Kazakhstan and Yuzhnyy Kazakhstan) reported implementation delays, while the cities of Almaty and Astana had not introduced the system yet.

About one fifth of the PC physicians in Kazakhstan are retrained GPs. Most of them used to be district therapists, paediatricians, gynaecologists or, to a lesser extent, stomatologists (dentists). Very few hospital physicians have shown interest in becoming GPs. Nonetheless, the formal expectation that all PC physicians would be GPs by the end of 2010 has not been abandoned.

A third policy document relevant to the development of PC in the country is Prikaz No. 124 issued by the Ministry of Health in March 2006, called *About functioning of medical organizations providing PHC* [primary health care] *services.* This decree included:

- description of the structure of PC organizations, and of PC functions

- approval of regulations about the functioning of PC organizations

- specification of PC provider functions

- approval of staffing norms for PC organizations

- definition of minimal norms for the medical services PC organizations provide.

Latest policy developments in PC
Other activities planned for 2009 and 2010 as part of the Programme included:

- informing the population about changes in health care, in particular the new expanded role of GPs in PC;

- informing the population about the stronger focus on prevention and lifestyle issues; and

- further implementation and explanation of the new funding scheme for GPs (specifically partial fundholding, in which money will flow from the primary to the specialist care level in case of referrals).

Traditionally, the Kazakh population has preferred specialist care and hospital services rather than PC. There are moreover reasons for these preferences, including the fact that drugs prescribed in hospital settings are free, while those prescribed by PC physicians usually are not.

To support to the reform programme, a health code was instituted in September 2009. The Health Code aimed to harmonize existing legislation on public health and bring it more in line with international standards. Specifically, the Code addressed:

- quality improvement in health care services

- accreditation of health care facilities

- a supply of high-quality medical products

- establishing standards for medical equipment

- prioritization of PC funding

- the professional autonomy of health care providers

- reform of continuing medical education

- new modes of payment for health providers.

Furthermore, the Health Code introduced a split between the pooling of funds and the purchasing of health services. The role of the regions as a single payer of health services has been reduced considerably. For hospital services, the pooling and purchasing functions have been transferred to the national level, while for PC and the vertical programmes these functions are left to the region.

By the end of 2009, the Ministry of Health had developed a new reform programme, the Health Care Development Strategy for 2010–2020. Details of this strategy, which will replace the 2007–2010 phase of the current programme, were not yet available during the preparation of this study.

Centralized and decentralized health governance

Setting priorities for the health sector, developing legislation and regulation, and setting norms for care and service provision are all obvious tasks for the national government and the Ministry of Health in exercising their overall responsibility for the health care system. Conversely, running regional and district health care services is the responsibility of the regional and district authorities, respectively.

In 2003, for the first time, a PC department was established at the Ministry of Health, with a staff of four. In 2008 the department was reorganized with eight employees and renamed the Primary Health Care Office . The main responsibilities of the Office are coordination of PC service provision in the regions and independent cities (particularly the introduction of the GP-based system) and coordination of the new prevention priorities (the healthy lifestyle programme that PC centres all over the country are carrying out).

The 1995 Law on Local Self-government delegated the management and financing functions in health care to the regions. In 2005, further steps were taken to consolidate budgeting and allocation decisions at the regional level. Within centrally determined limits, regional authorities are responsible for planning and managing health care services in their regions, including licensing and paying service providers. The administrative level below the regions is the district (or raion). District administrations manage basic secondary care and the PC facilities. The chief physicians of central district hospitals supervise the PC services in each district.

The regional variation in the organization (and quality) of service provision does not result from decentralization of governance alone, for the level of economic development in each region directly influences health care provision there. In addition, centrally developed policies have not always been well implemented in the regions due to lack of information or an insufficient capacity to implement change there.

An even sharper contrast in the accessibility and quality of health care services, particularly at the primary level, appears between urban and rural areas. In addition to the usual difference in the availability of specialized services, in rural areas the quality of premises and equipment is much lower than in urban areas, often falling below minimum standards. Furthermore, PC staff shortages, of physicians as well as nurses, are much worse in rural facilities than in urban ones. In rural health care facilities, there are currently 3000 physician vacancies, 55% of them in PC. Since many ambulatories are staffed

by only one physician, shortage in such situations often means that communities can only rely on care provided by the insufficient number of nurses and feldshers available. Similarly, in only two thirds of rural settlements people do have access to medicines in their own community.

If they are dissatisfied with government health services, urban dwellers can seek care from the private sector, but rural residents have little choice. Despite the fact that the guaranteed benefit package is officially free, in actual practice, access to adequate health care has become more and more contingent on the ability to pay. Widespread poverty in rural areas has only increased the equity gap between urban and rural health services.

Professional development

Licensing and accreditation

All Kazakh physicians are entitled to work in PC. No specific requirements apply, whether physicians work in the public sector or in the private. However, the following conditions apply to the licensing of physicians in general.

All physicians must recertify every five years. There is also a voluntary certification scheme, whereby physicians can apply to be promoted to a higher professional category and thus more salary. With 3 years of practical work after graduation, they can become "2nd category" physicians; with 5 years, "1st category"; and with 10, "supreme category". A higher categorization can only be attained with flawless performance in the preceding years.

Like physicians, nurses need to recertify every five years.

Indicators used to monitor quality in PC

In 2004, a Minister of Health decree replaced an quality assessment system from the 1990s with a new scheme for quality control of health care services. The decree describes the Ministry responsibilities for quality assurance, accreditation and licensing.

In 2005, a Committee for Health Services Quality Control was established with a branch in each region. The Committee has several functions. In its inspection role, it identifies services that are not being provided in accordance with national norms and policies and can take measures to improve them. To that end, it undertakes comprehensive investigations, both announced and unannounced, into health services, using clinical documentation, patient medical records, medical examinations of patients and patient satisfaction surveys. Furthermore, the Committee is involved in accrediting, licensing and revalidation of facilities and providers, and in addressing citizen complaints. In 2009, the Committee launched an internal audit service with specific quality indicators for assessing outpatient and inpatient care services.

The Ministry of Health reported that it routinely used the following indicators to monitor the quality of PC services each year:

• validity and timeliness of hospitalization initiated by PC physicians (particularly mortality during first hour and during first day after admission);

- conformity of diagnostic procedures and treatment to existing protocols (which specify minimum procedures to carry out and essential medicines to prescribed for each diagnosis; norms also exist for the duration of specific diseases);

- continuity between primary and secondary care (e.g. discharge letters with information for PC physicians and follow-up information for patients);

- morbidity and health risks among adolescents (case-finding outcomes reported by PC physicians);

- morbidity and health risks among infants (case-finding outcomes reported by PC physicians);

- morbidity and health risks among pregnant women (case-finding outcomes reported by PC physicians);

- infant and maternal mortality;

- population coverage of preventive check-ups and immunization;

- contraceptive coverage (particularly among populations for which pregnancy is undesirable, including TB patients, the mentally ill, people living with HIV, alcohol addicts and parents of large families);

- proportion of infants who are breastfed at 6 months of age; and

- change in disability among the practice population.

In the current transitional period in PC reform, referrals from PC to medical specialists are not considered an effective indicator of performance. Since the Ministry prefers to apply outcome rather than process indicators, it does not use patient consultation rates either, whether for office or home visits.

Conditions for the care process

PC workforce norms
Table 6 lists the national norms for the number of people that GPs, district therapists and district paediatricians should serve. Although GPs have a much more comprehensive range of tasks, their normative practice population is only 200 less than district therapists'. Moreover, in international comparisons, 2000 patients for GPs and 2200 adults for district therapists are considered large practice populations. The national norm for district paediatricians is 900 children age 18 and younger. Due to staffing shortages, especially in rural ambulatories and health centres, PC physicians in reality serve even larger populations. Table 7 shows recent shortages.

Table 6. Population served by full-time PC physicians (official norms)

Type of PC physician	Population served
GP	2 000[a]
District therapist	2 200[b]
District paediatrician	900[c]

[a] All age groups, [b] older than 18, [c] 18 and younger.

Table 7. Shortages reported for PC providers

Primary care profession	No shortage	Shortage in some regions	Modest national shortage	Severe national shortage
GPs				√
PC nurses			√	
Gynaecologists			√	
Dentists		√		
Pharmacists		√		
PC midwives and feldshers			√	
Physiotherapists		√		

Table 7 reveals that Kazakhstan does not have enough providers from any of the PC professions. In particular, severe shortages have been reported among GPs all over the country. For PC nurses, midwives, feldshers and gynaecologists, national shortages also exist, albeit to a lesser extent. Shortages in some regions have also been reported for dentists, pharmacists and physiotherapists. In general, shortages are much more acute in sparsely populated regions than in the more urbanized ones.

Mode of practice

Of the 1151 retrained GPs working in Kazakhstan at the end of 2008, 83% were working in (rural) solo practices. The remaining 17% worked in polyclinics with medical specialists. According to the information provided, no GPs were working in units with two or three other GPs – not even in the new PC centres, which are being implemented as facilities offering PC exclusively and which fall between polyclinics and ambulatories in terms of the size of the population served).

PC gatekeeping

Only upon referral by a PC physician can patients access medical specialist services without paying. In cases of self-referral, they need to pay for a consultation with a specialist.

Conditions for responsiveness

The role of NGOs and other bodies

Many NGOs are active in the health sector in Kazakhstan, varying from associations of health professionals to volunteer organizations promoting the interests of vulnerable

groups. Many of them receive support in various forms from international organizations and donors. An NGO council has been created as a platform for collaboration between the Ministry of Health and NGOs. The role and activities of four important organizations are described below.

1. The *Kazakh Association of Family Practitioners (KAFP)* is an active partner of the Ministry in the process of (primary) health policy development. The basis for this role is laid down in a memorandum of collaboration between the Ministry and the KAFP. Such memoranda also exist with other medical associations.

   The Association takes part in discussions on documents, orders and concepts relating to PC development, such as the new Health Care Development Strategy 2010–2020. On its own initiative, the KAFP may also submit proposals on family practice and PC issues. In addition, the Association is represented in high-level structures, such as the Attestation Committee that works under the Ministry's Committee for Quality Control.

   Supported by the ZdravPlus Project, the KAFP has been able to develop its organization both nationally and in 15 regions and independent cities. The KAFP also promotes family practice as a PC system priority in regions and districts. Some members of the Astana branch, for instance, are taking part in working groups on PC development in their quickly expanding city, while others are participating in a confidential enquiry into maternal deaths in which PC providers have played a role.

   In addition to its role in health policy-making, the KAFP also acts independently to improve the quality of GPs and the services they deliver and helps coordinate their training and education. For instance, the Association is developing professional guidelines and protocols that promote evidence-based practices and supporting and developing family practice residency programmes.

2. *Aman Saulyk* is an NGO supported by the Soros Foundation that aims to address public health problems by providing education and social protection. Aman Saulyk tries to improve the quality and accessibility of medical, educational and social services for socially vulnerable groups. To help it realize its mission, it organizes public hearings and round tables on pressing or significant public health problems. In addition, Aman Saulyk develops and publishes materials on health, educational and social problems and operates a hotline to answer urgent medical questions. The NGO also conducts an international forum to defend the rights of invalids and patients with diseases such as TB.

3. *Business Women's Association of Kazakhstan* is involved in health education for the population, particularly reproductive health and family planning. Its major activity, supported by the ZdravPlus project, is the Red Apple Hotline that it operates in several cities. Among its other activities are student meetings on family planning and STI prevention. In May 2009, it closed the Hotline due to a lack of continued funding. However, with funding from individual regions and other sources, the Association is reinstating the Hotline in some parts of the country.

4. *National Medical Holding Company.* The Company is not an NGO but a commercial organization, founded in May 2008 to introduce international quality and safety

standards and business culture to the health sector. It has mainly been active in the hospital sector, for instance through training hospital managers. It has also been active in introducing standards for patient safety and for the quality of health care services and institutions. The Company has been part of the working group preparing the new Health Care Development Strategy 2010–2020.

International donors

Both directly and indirectly, international donor organizations have played a significant role in developing the Kazakh health care sector. The United Kingdom has been supporting Kazakhstan since the early 1990s in several areas, including health care reform. Its Department for International Development (DFID) has helped improve the quality and accessibility of PC services. However, since Kazakhstan is no longer a low-income country, DFID is phasing out its programme in the country. Two other major donors continue to be active in the country: the ZdravPlus Project and the World Bank.

1. The *ZdravPlus Quality Public Health and Primary Health Care in Central Asia Project* is a PC programme of the United States' Agency for International Development (USAID). Since 1992, ZdravPlus have been helping reform the Kazakh health care system to increase access to high-quality PC services. The ZdravPlus strategy in Kazakhstan focuses heavily on governance: supporting the government in implementing its own health care program. Major activities have included promoting family medicine, improving reproductive health services and reducing the incidence of arterial hypertension. The institutionalization of family medicine has been largely implemented through a grant to the KAFP (see above). In addition, ZdravPlus provides direct support to the Ministry of Health and other institutions, such as by establishing a health care unit at the National Analytical Centre. Furthermore, ZdravPlus contributes to NGO activities informing the population about patient rights and health reforms.

2. Since 1992, the *World Bank* has financed 25 operations in a variety of Kazakh in sectors. In November 2008, the Government of Kazakhstan ratified the World Bank's Health Sector Institutional Reform and Technology Transfer Project, and the contract was awarded the following year. The Project covers the following activities:

    »   introduction of an accreditation system for health care facilities;
    »   capacity development for policy-making, health financing and management;
    »   training of health care managers at all levels;
    »   improvement of capacity in investment planning;
    »   development of clinical protocols/guidelines and health technology assessment;
    »   introduction of evidence-based methods to medical education and clinical practice;
    »   improved efficiency and effectiveness of laboratory services;
    »   blood service reform;
    »   modernization of medical education;
    »   upgrading of medical science management and research;
    »   development of health information systems for patient care and resource and financial management;
    »   improved access to safe drugs and information on drugs; and
    »   promotion of food safety.

The Project does not have a dedicated PC component, but numerous components will affect PC directly.

Patient rights and patient safety

Two laws have been relevant for patient rights in Kazakhstan. The first is the 2003 Law on the Health Care System, which gave Kazakhs the right to choose their health care providers. Probably more significant is the Law on Protection of Population Health, which passed in 2006. According to this law, residents are entitled to:

- receive free, high-quality care as part of the package of guaranteed benefits

- obtain necessary information on health protection

- obtain information about their and their relatives' health status

- appeal against decisions of health workers and ask for second opinions

- refuse medical care.

The Health Code further strengthens patient rights. It gives patients the right to change physicians or health facilities, obtain health services abroad (covered by state funds) and receive compensation for health damage caused by medical errors.

The document *On processing of complaints* specifies the rights of patients, the rights and duties of health care officials, and the details of the complaint procedure, as well as sanctions in case of violations. The Committee for Health Services Quality Control was established to handle patient complaints. The duties of the Committee and its regional branches are to process citizen complaints, to analyse and record the complaints and to submit recommendations to the relevant health divisions. Such recommendations should result in improvements and the disciplining of any "guilty physician".

Citizens of Kazakhstan are entitled to address their complaints to governmental bodies at any level. The heads and deputies of government bodies and local authorities are obliged to receive citizens who have complaints personally. If officials cannot resolve a complaint during a personal meeting, a written complaint will be submitted.

Patient safety in Kazakhstan is still in its infancy. The culture of safety is poorly developed, and legislation in this area leaves much to be desired. Recently, the Health Code has made a start, creating the possibility of compensation in case of an adverse event and addressing the urgent issues of blood and pharmaceutical safety. Implementing and maintaining the new regulations will be a challenge, however, and more regulation is still needed, for instance, on routinely registering and independently reporting medical errors and other adverse events.

In November 2008, the Eastern European and Asian Organizations for Patient Safety convened in Almaty city. In a memorandum, the participants agreed to promote patient safety through mutual cooperation, strengthen the quality and safety of their health care systems, organize conferences to exchange information, develop patient safety programmes and carry out research.

3.2　　　　Resource generation

PC workforce

Fifteen percent of all active physicians in Kazakhstan work at the primary level in ambulatories and polyclinics. About 80% of PC physicians are either district therapists or district paediatricians, medical specialists who are being replaced by GPs in accordance with the Programme for Health Care Reform. Given how recently the programmes to retrain specialists as GPs have been developed, having 1151 GPs in 2008 can be seen as a major achievement (Table 8). However, the target of the current Programme has been to retrain all PC physicians by the end of 2010. It is unlikely that this target can be met.

Table 8.　　Medical and nonmedical workers in PC, 2008

Active providers	Number	As % of:	
GPs	1 151	… all active PC physiciansa:	18.9%
District therapists	2 590	… all active PC physiciansa:	42.5%
District paediatricians	2 348	… all active PC physiciansa:	38.6%
All PC physiciansa	6 089	… all active physiciansb:	<13.5%
PC nurses	13 347	… all active nurses:	—
PC midwives	6 358	… all active midwives:	—
PC feldshers	2 060	… all active feldshers:	—

[a] Calculated as the sum of GPs, therapists and paediatricians (=6089). [b] Calculated using a 2007 estimate of more than 45 000. According to the European Health for All Database *(24)*, 6.5% of all Kazakh physicians, whether active or not, work in PC; see Table 5.

In 2008, the number of active PC nurses was 13,347, equivalent to 2.2 nurses per PC physician. The number of active PC midwives was 6358 and of active PC feldshers, 2060. Professional development

Professional organizations and journals

The KAFP was established in 1999 and now has 1069 members throughout the country. Since 2003, it has been a member of the World Organization of Family Doctors (WONCA). As noted above, the KAFP is an active stakeholder in the Kazakh PC system, with a well-developed advisory role to the Ministry of Health. Moreover, it is involved in professional development through such activities as developing clinical guidelines and improving GP training, and it provides input to evaluations of PC in Kazakhstan. As a member of the World Organization, the KAFP also participates in international conferences.

At present, there is no professional journal on family medicine or general practice in Kazakhstan. Between 2004 and 2006, the KAFP published a newsletter for its 15 branches, but then it ceased doing so. However, the Association does run a web site (kzfamilydoctor.org) that appears to substitute for a journal. The site offers national and international news, including developments in the Kazakh health care system and clinical information. With its educational material, the site promotes evidence-based practice and serves as a major vehicle in distance leaning for Kazakh GPs.

Medical education

All nine institutes for medical education in Kazakhstan provide programmes in family medicine to retrain physicians to become General Practitioners (see Table 9). However, only three of these institutes have family medicine departments headed by professors. The retraining programmes last from one to six months, though information was not available for the present study about the exact duration of each programme, nor about how much of the time was spent in a PC setting.

Table 9.   Institutes for medical education involved in (re)training of GPs; professorships in Family Medicine and duration of the retraining programme

	Location	Professors in family medicine	Duration of GP (re)training
Kazakh State Medical Academy	Astana	0	1–6 months
Kazakh National Medical University	Almaty city	0	1–6 months
Karagandy State Medical Academy	Karagandy	1	1–6 months
West Kazakhstan State Medical Academy	Aktobe	0	1–6 months
Semei State Medical Academy	Semipalatinsk (Semei)	0	1–6 months
South Kazakhstan Medical Academy[a]	Shymkent	0	1–6 months
Almaty State Institute for Postgraduate Medical Education	Almaty city	1	1–6 months
Kazakh Medical University	Almaty city	1	1–6 months
International Kazakh-Turk University	Shymkent	0	1–6 months

[a] Starting in 2009, provides training only to pharmacists.

In 2006 and 2007, a total of 1022 GPs graduated from the nine retraining programmes, equivalent to 23% of all medical graduates. The interest in becoming a GP appears to be growing, as the proportion of graduates who have chosen general practice has been trending upward.

Even ignoring GP attrition, due to retirement for instance, it will nonetheless be difficult to satisfy the national need for GPs in the near future. According to the official norm of 1 GP per 2000 population, Kazakhstan needs about 7750 GPs. An estimated 2500 specialists will have been retrained as GPs by the end of 2009; if accurate, this figure represents only a third of the requisite number. It is improbable that sufficient numbers of GPs can be retrained to meet the target by the end of 2010, which is the deadline established by the current reform programme.

Quality assurance

PC monitoring is the responsibility of the health department of each region, while PC data collection and reporting is organized by the medical information centres. One basic measure that is undertaken for quality assurance is the recertification of physicians, nurses, midwives and feldshers every five years, a process that includes a test of medical knowledge and skills. In preparation for these tests, health professionals take courses organized by the medical academies and universities. Another measure is the

regular inspection by each district's head physician of PC facilities and their physicians, nurses, midwives and feldshers, whom he or she supervises. This procedure can include inspection of medical files, which may also be examined in the event of complaints or adverse incidents.

In addition to these formal quality assurance measures, the KAFP, with support from the ZdravPlus Project, actively promotes the practice of evidence-based medicine among its members, notably through the use of clinical guidelines.

Clinical practice guidelines

Various government bodies and NGOs have been involved in the development and dissemination of clinical guidelines. Usually, protocols and guidelines are developed by a working group at the Institute for Health Care Development, in which all medical professions are represented. For instance, the Institute developed four sets of diagnostic and treatment protocols for PC workers (including PC gynaecologists, district therapists and district paediatricians) and another set on surgical procedures. The protocols were sent to all PC organizations, although not all GPs received them. Another group of guidelines, relating to paediatric care for use in rural settings, was developed in collaboration with the United Nations Children's Fund (UNICEF). A clinical guideline on PC for arterial hypertension was jointly developed by the Almaty State Institute for Postgraduate Medical Education and the Institute of Cardiology at Karagandy State Medical Academy. Dissemination of this guideline was organized with the KAFP and the ZdravPlus Project through seminars for GPs, who received a certificate upon completion.

Finally, it is worth mentioning a series of protocols on reproductive health. They were jointly developed by the Ministry of Health and the Institute of Mother and Child Health Protection in Almaty city and distributed free through all ambulatories and antenatal clinics.

No guidelines and protocols have been developed specifically for nurses. Instead, the available protocols were developed for all PC professionals, including nurses.

For the prevention of health risks and the promotion of healthy behaviours, the National Center of Healthy Lifestyle Development has developed standards in collaboration with other institutes. To support the use of these guidelines, health schools have been suggested for reaching risk group patients with chronic non-infectious diseases. Starting in 2007, the Centre and the Almaty Institute of Medical Professional Development have offered a certificate programme to PC physicians. By the end of 2009, a total of 673 doctors had received the certificate. These guidelines and activities are discussed with heads of the regional health departments in an annual workshop.

3.3 Financing aspects

The decentralization of health care funding and budget management, introduced by the State Programme on Health Care Reform and Development 2005–2010, was largely undone by the launch of the Health Code in September 2009. The Code drastically reduced the role of regional health authorities as the single payers and purchasers of health care services so that it now applies to PC services and vertical programmes only. For

hospital services, the Code centralized the pooling of funds and the purchasing function again. Accordingly, the financing of primary and of secondary care are now separated.

PC financing and expenditure

In line with the reform goal of prioritizing PC services, allocation of financial resources for PC has increased since 2005. In that year, PC (including outpatient specialist services) received 28% of the state budget for the guaranteed package of services (which does not include capital investments). By the end of 2008, this figure had increased to 34%, and when the current Programme on Health Care Reform runs out in the end of 2010, 40% of the health care budget should be spent on PC.

Financial incentives

Payment mechanisms

Although an independent practice is an option in PC, few Kazakh physicians are said to have made this choice. (No data were available for this study about the number of independent PC physicians.) Thus it appears that a large majority of GPs, district therapists and district paediatricians are salaried employees of the state. Their salaries are marginally related to the size of their practice populations. If the population of a catchment area is above the official norm (2000 adults for GPs, 2200 adults for district therapists and 900 children for district paediatricians), the physician receives 150% of the basic salary.

Self-employed physicians who want to provide services in the state-guaranteed package must enter into an agreement with their regional health care authorities. In such cases, they are paid on a capitation basis for the population they serve. They receive additional payments for services not covered by the guaranteed benefit package or provided to patients outside their catchment areas.

Until recently, physician salaries have thus contained little in the form of financial incentives. One exception is the voluntary certification scheme, which links salary to years of experience. If physicians perform well they can apply for a higher level of certification. The lowest level, "2nd category", can be attained 3 years after graduation from medical school; after 5 cumulative years of satisfactory practice, they can be promoted to "1st category" physicians, and after 10, to "supreme category" physicians. Each promotion comes with a raise.

Since 2007, the government has tried to relate compensation to workload and performance. For instance, bonuses are now paid to physicians who work under physically or emotionally difficult circumstances. In addition, those working in rural areas now get a 25% increase in salary. As part of the current reform programme, plans have been made to institute performance-related payments, such as a more balanced capitation scheme with fixed compensation for health care services and variable compensation for prevention, with particularly incentives for specific services. However, none of these ideas have been realized yet.

Income levels

Table 10 provides a comparison of the estimated income for 40-year-old physicians in different medical specialties. A large difference appears between primary and secondary care salaries, with PC physicians earning about 50% more than secondary physicians.

The marked difference may operate as a strong incentive to choose a career in PC. On the other hand, GPs, despite having more extensive responsibilities, do not earn more than district therapists or district paediatricians. As a consequence, the salary structure does not reward district therapists and paediatricians from being retrained as GPs.

Table 10.   Estimated gross incomes of medical professionals, age 40

Medical professional	Gross annual income, 2009 (US$)
GP	5 122
District therapist	5 122
District paediatrician	5 122
Gynaecologist	3 380
Specialist in internal medicine	3 380
Cardiologist (in a polyclinic)	3 380

Financial access

Although the state-guaranteed package of services is officially free, in reality it is not for most people. Tight budgets urge health care facilities to ask for co-payments from patients, and informal payments continue to be common practice. While co-payments are not usual for visits to a PC doctor, most patients need to pay for the drugs prescribed in PC out of pocket – and in rural areas, drugs are already hard to obtain. Nor are members of vulnerable groups are not exempt from such charges.

3.4   Aspects of PC service delivery

National data on the utilization and provision of services

For the preparation of this report, the availability of data on PC service demand and utilization was poor and could not be disaggregated by type of practice or practitioner. No data could be produced for most of the indicators in Table 11.

Table 11.   Annual indicators of PC service demand and utilization

Indicator	Number
Patient contacts in PC per 1 000 population	2 433
Referrals from PC to medical specialists per 1 000 patient contacts	—[a]
Hospital admissions from PC per 1 000 patient contacts	—
Medicine prescriptions written in PC per 1 000 patient contacts	—

[a] Official statistics not available. For referral rates calculated from the PCET physician survey, see Chapter 4.

Table 11 shows that the average Kazakh visits PC 2.43 times each year, a very low frequency compared to e.g. Belarus (12.7 visits annually). For more details on PC service delivery, see Chapter 4, which summarizes the results from the survey of GPs and district therapists.

3.5   Topics in the development of PC

PC after 2010
The current State Programme on Health Care Reform and Development will conclude at the end of 2010. At the time that this study was being prepared, a new Programme for the next decade was being developed in line with a general national strategy. For the sake of continuity, it is important that the new Programme share the principles in the current one of strengthening PC, ambulatory hospital services and prevention efforts.

Health financing
Much has been achieved in financing the guaranteed benefit package and providing it to the population. However, this process is not complete. The package coverage is far from universal, and the package could be much more equitable and provide much more financial protection, particularly in pharmaceutical care. A great deal of effort still needs to be expended to refine provider payment systems. Experiences with performance-related payment systems for projects of modest scale should be used to develop and implement national schemes. The alignment of the new Health Code, which Parliament approved in May 2009, with the principles of the current health financing reform is a welcome development.

Health information
Strengthening PC by retraining GPs and promoting evidence-based practices requires information on clinical processes. Unfortunately, modern health information systems are practically absent in Kazakhstan, not just in PC but at all levels of care. In gathering information for this report, it turned out that even simple performance data was un-available. In the region of Karaganda, however, there appears to be a health information system that could serve as a model for the development of a national system. Such a development deserves the support it will soon receive as part of the World Bank Health Sector Institutional Reform and Technology Transfer Project, which addresses, among other topics, health information systems for patient care, for resource management and for financial management.

Integration of vertical services
Making progress on national health indicators also poses challenges for PC. Maternal and child health care, TB services and cardiovascular disease prevention are more effective if they are, to some extent, provided in the community at the PC level. To the degree that such services are still organized in parallel (or vertical) programmes, they should be integrated into PC. PC organizations need to be prepared for these new responsibilities and for cooperating with the relevant specialist services.

Continuing medical education
Retraining enough physicians as GPs to meet the ambitious goals of the Programme on Health Care Reform is a daunting prospect, especially in the rural areas of the country. Whether or not it can be accomplished by the end of 2010, following up with the new GPs poses additional challenges. The retraining programme is a starting point for the GPs, after which they will need to grow into their new role. That will require continuing medical education programmes, like those the KAFP already offers to its members via its web site. However, such programmes should be obligatory and include systematic

feedback and testing. Distance learning could provide a good way for rural physicians to participate in continuing medical education.

Nurses in PC

Until recently, little attention appears to have been paid to the role of nurses in PC. Kazakh nurses are heavily involved in reporting and other administrative duties. Upon the implementation of an effective health information system, many of these tasks can either be computerized or delegated to administrative staff. The functions and responsibilities of PC nurses can then expand to embrace tasks that are either delegated to them by GPs or entirely new. This development will necessitate retraining programmes for nurses, and probably a revision of nursing education.

World Bank Health Sector Institutional Reform and Technology Transfer Project

The start of this World Bank project will intensify health care reform in Kazakhstan. Important elements that address PC development include the development of health information systems mentioned above, the introduction of accreditation for health care facilities, the training of health care managers, the development of clinical protocols and guidelines, the upgrading of medical science management and research, and the modernization of medical education, including evidence-based methods.

4. GENERAL PRACTITIONERS AND DISTRICT THERAPISTS ON THEIR SITUATION IN PRIMARY CARE

This chapter summarizes the results of the survey among retrained GPs and district therapists in Almaty and Zhambyl. The physicians' responses are based on their own experiences and opinions. The survey addresses their workload and use of time, the accessibility and availability of their services, quality of care, their use of clinical information, coordination, equipment availability and several aspects of their clinical task profiles.

4.1   Respondent profile

The survey was completed by 284 physicians: 138 in Almaty and 146 in Zhambyl (see Table 12). In both regions, roughly two thirds of respondents consisted of GPs (Almaty: 69%, Zhambyl: 68%), and around three quarters worked in rural practices (Almaty: 78%, Zhambyl: 76%).

Table 12.   Number of GPs and therapists surveyed

Type of PC physician	Almaty (n=138)		Zhambyl (n=146)		Total	
	Urban	Rural	Urban	Rural	Total	%
GPs	16	79	22	77	194	68.3
Therapists	15	28	13	34	90	31.7
Total	**31**	**107**	**35**	**111**	**284**	**100.0**

The GP respondents included all the GPs in both regions at the time of data collection. The surveyed district therapists made up 24% of those in Almaty and 26% of those in Zhambyl.

Table 13 suggests that primary medical care in Kazakhstan is usually provided by women: almost three quarters of the responding physicians (71.1%) were female. However the gender distribution was different for GPs and therapists. Among GPs, one third were male, while among therapists one fifth were, which may point to a higher attractiveness of the GP position for male physicians.

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Table 13.   Gender of urban and rural physicians surveyed

PC physicians	Almaty (n=138)		Zhambyl (n=146)		Total	
	Urban	**Rural**	**Urban**	**Rural**	**Total**	**%**
GPs • Female • Male	14 2	51 28	16 6	49 28	130 64	67.0 33.0
Total GPs	16	79	22	77	194	100.0
Therapists • Female • Male	14 1	20 4	12 1	26 8	72 18	80.0 20.0
Total therapists	15	24	13	24	90	100.0
Total	**31**	**107**	**35**	**111**	**284**	**100.0**

Table 14 provides other key characteristics of the GPs and district therapists in both regions.

Table 14.   Physician characteristics in Almaty and Zhambyl

Characteristic	Almaty (n=138)			Zhambyl (n=146)		
	N	**%**	**Valid responses**	**N**	**%**	**Valid responses**
Males • GPs • Therapists	30 9	32 21	95 43	34 9	34 19	99 47
Postgraduate training completed • GPs • Therapists	32 0	34 0	95 43	53 0	54 0	99 47
Retraining programme completed • GPs • Therapists	63 0	66 0	95 43	46 0	47 0	99 47
Serving adults and children • GPs • Therapists	58 12	61 28	95 43	69 5	70 11	99 47
Younger than 50 • GPs • Therapists	47 24	50 56	95 43	56 32	43 68	99 47
Salaried state employees • GPs • Therapists	95 41	100 95	95 43	92 41	93 87	99 47
Average age • GPs • Therapists	**Urban** 49 44		**Rural[a]** 50 51	**Urban** 43 45		**Rural[a]** 48 44
Average time working (years) • As GP • As therapist	10.4 18.7			7.6 16.2		

[a] For the tables in this chapter, "rural" includes small towns as well as rural areas.

Obviously, only GPs reported having completed a postgraduate education or a retraining course. Two thirds of the GPs in Almaty had completed the retraining course rather

than the postgraduate programme, which is longer. In Zhambyl the opposite was true: five ninths reported completing the postgraduate programme and four ninths the re-training course.

Many more GPs than therapists said they had a mixed practice population, with both children and adults. This difference between GPs and therapists was more marked in Zhambyl than Almaty. It is still worth noting that, although the GP principles of the health reform promote mixed practice populations, a considerable proportion of the GPs did not serve such populations.

Overall, GPs were older than therapists, with more GPs being older than 50. This trend is critical for human resources planning, since these GPs will retire and need to be re-placed in the near future.

The results also showed that private PC practices were rare but not unheard of. In Zhambyl, the state employed all but seven GPs and six therapists. In Almaty, only two therapists (and none of the GPs) reported not being employed by the state.

Finally, Almaty GPs averaged 10.4 years of experience in their profession and therapists 18.7 years, while Zhambyl GPs had 7.6 years of experience and therapists 16.2 years.

4.2 Accessibility of care

Organizational access

Workload
Table 15 presents an overview of various aspects of PC physicians' workload. The size of the practice, i.e. the number of patients a physician is responsible for, varies only slightly by type of practitioner, but practices in Zhambyl are on average larger than practices in Almaty. The average list sizes we found for both GPs and therapists were 13% above the national norms (2000 patients per GP and 2200 per therapist). These findings sug-gest staff shortages, and indeed, as the bottom row of the table shows, about two thirds of the GPs and therapists in both regions affirmed that such shortages had existed for more than six months.

Table 15.   GPs' and therapists' workload and use of time

Indicator	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	(Mean) number	Valid responses	(Mean) number	Valid responses	(Mean) number	Valid responses
Size of patient list						
• GPs	2 171	94	2 344	97	2 259	191
• Therapists	2 362	43	2 598	45	2 479	85
Patient consultations per day						
• GPs	26	95	21	99	23	194
• Therapists	25	43	20	47	23	90
Home visits per week						
• GPs	26	95	22	99	24	194
• Therapists	27	43	21	46	24	89
Working hours per week						
• GPs	37.2	87	36.4	91	36.8	178
• Therapists	37.0	34	33.2	33	35.2	67
Hours reading per month						
• GPs	16.1	87	19.3	89	17.7	176
• Therapists	22.4	40	15.0	41	18.7	81
Hours in courses (with certificate) per year						
• GPs	42.0	69	49.2	56	45.2	125
• Therapists	57.7	28	51.8	28	54.8	56
Hours in courses (without certificate) per year						
• GPs	25.2	59	27.5	51	26.3	110
• Therapists	36.0	24	26.3	19	31.7	43
PC physicians reporting staff shortages						
• GPs	61	94	63	99	124	193
• Therapists	24	43	28	45	52	88

The shortages that respondents mentioned most often were of therapists (88 times total), followed by paediatricians (66 times), gynaecologists (60 times) and nurses and members of support staff (41 times each).

No differences were found between GPs and therapists in the frequency of consultations or home visits. On average they saw 23 patients in their office each day and called on 24 patients at home each week. Consultation and home visiting rates were higher in Almaty than in Zhambyl.

GPs reported mean workweek of 37.2 (Almaty) and 36.4 (Zhambyl) hours. Therapists reported a mean working week of 37.0 and 33.2 hours, respectively.

The average number of hours spent per month on reading professional journals or medical information, including online, averaged between 15 and 22 hours. Although therapists in both regions reported using more time taking courses than GPs, the response rates for the two questions involved were poor.

Table 16 presents the workload indicators, now comparing rural and urban responses. In urban areas, practices are larger than in rural areas, especially in Almaty. Rural doctors see somewhat more patients in their office than urban doctors, but visit fewer patients at home. Rural doctors have longer working weeks than those in urban areas; the difference in considerable in Zhambyl.

Table 16.   Urban and rural physicians' workload and use of time

Indicator	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	(Mean) number	Valid responses	(Mean) number	Valid responses	(Mean) number	Valid responses
Size of patient list						
• Urban physicians	2 618	30	2 494	35	2 551	65
• Rural physicians	2 122	107	2 396	104	2 257	211
Patient consultations per day						
• Urban physicians	23	31	19	35	28	66
• Rural physicians	26	107	21	111	23	217
Home visits per week						
• Urban physicians	30	31	25	35	28	66
• Rural physicians	25	107	21	110	23	217
Working hours per week						
• Urban physicians	35.9	25	30.3	28	33.0	53
• Rural physicians	37.5	96	37.1	96	37.3	192
Hours reading per month						
• Urban physicians	16.6	29	17.1	33	16.9	62
• Rural physicians	18.5	98	18.3	97	18.4	195
Hours in courses (with certificate) per year						
• Urban physicians	5.87	20	52.8	23	55.5	43
• Rural physicians	43.4	77	49.0	61	45.9	138
Hours in courses (without certificate) per year						
• Urban physicians	31.0	15	27.5	21	28.9	36
• Rural physicians	27.8	68	27.1	49	27.5	117
PC physicians reporting staff shortages						
• Urban physicians	21 (68%)	31	24 (73%)	33	45 (70%)	64
• Rural physicians	64 (60%)	106	67 (60%)	111	131 (60%)	217

In both regions, rural physicians spend slightly more time reading professional journals or sources of medical information than urban physicians, but less time on courses.

Overall, urban physicians reported staff shortages more frequently than their rural colleagues.

Accessibility and availability of services

PC physicians in both regions reported that patients could generally see them the same day if desired, and most reported holding evening opening hours at least once per week (Table 17). Opening at least once a month during a weekend day (normally a Saturday) is routine. If practices are closed, a telephone consultation is usually available for patients who get sick, though somewhat less often in Zhambyl (75% versus 88%).

Table 17.   Patient access to the practice

Indicator	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Same-day visits possible						
• GPs	99	95	96	99	97	194
• Therapists	98	43	89	47	93	90
Evening opening at least once per week						
• GPs	57	95	40	99	49	194
• Therapists	26	43	26	46	26	89
Weekend day opening at least once per month						
• GPs	90	95	92	99	91	194
• Therapists	100	43	85	46	92	89
Phone number available for patients when practice is closed						
• GPs	90	95	79	98	84	193
• Therapists	86	43	67	46	76	89
Clinics or sessions used for special patient groups						
• GPs						
» For diabetes patients	63	79	47	65	56	144
» For hypertension patients	77	79	60	65	69	144
» For those interested in family planning	67	79	71	65	69	144
» For pregnant women	80	79	86	65	83	144
» For the elderly	43	79	29	65	37	144
» For other groups	14	78	11	65	13	143
• Therapists						
» For diabetes patients	78	32	64	39	70	71
» For hypertension patients	69	32	62	39	65	71
» For those interested in family planning	56	32	54	39	55	71
» For pregnant women	63	32	74	39	69	71
» For the elderly	34	32	26	39	30	71
» For other groups	9	32	3	39	6	71
No clinics or sessions used for special patient groups						
• GPs	17	95	30	99	24	194
• Therapists	26	43	17	47	21	90
Practice situated <5 km distance from nearest general hospital						
• GPs	66	95	60	99	63	194
• Therapists	44	43	28	47	36	90

Calculations based on the data in the bottom row of the table show that 50% of PC physicians in Zhambyl worked within 5 kilometres of a general hospital (in fact, a larger part of this group, or 32% of the respondents from the region, were working in the central polyclinic next door). In Almaty, 59% of physicians were working within 5 kilometres of a general hospital, again including 32% of the respondents who shared premises with such a hospital.

Table 17 also shows that GPs are more likely to offer evening openings and, to a lesser extent, to offer a telephone service that patients can call when the practice is closed. GPs also usually work farther away from a general hospital than therapists.

Quality improvement

Table 18 summarizes the utilization of quality improvement measures, in particular clinical guidelines, complaint procedures and methods used to assess the satisfaction of patients, community representatives and PC professionals.

Table 18. Use of clinical guidelines, complaints procedures and evaluation methods

Quality improvement measure	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid re-sponses	%	Valid re-sponses	%	Valid re-sponses
Clinical guidelines						
• GPs						
» Use frequently	92	95	84	99	88	194
» Use occasionally	7	95	15	99	11	194
» Use seldom or never	1	95	1	99	1	194
• Therapists						
» Use frequently	88	43	81	47	84	90
» Use occasionally	12	43	17	47	14	90
» Use seldom or never	0	43	2	47	1	90
Complaint procedure						
• GPs have one	84	95	77	99	80	194
• Therapists have one	79	43	70	47	74	90
Evaluation methods in use						
• GPs						
» Investigating patient satisfaction	48	95	41	98	45	193
» Interviewing community representatives about satisfaction with the centre or practice	56	95	48	99	52	194
» Interviewing GPs/thera-pists and nurses about their job satisfaction	52	95	38	98	45	193
• Therapists						
» Investigating patient satisfaction	47	43	45	47	44	90
» Interviewing community representatives about satisfaction with the centre or practice	56	43	40	47	48	90
» Interviewing GPs/thera-pists and nurses about their job satisfaction	46	43	38	47	37	90

A larger majority of PC physicians, both GPs and therapists, report frequent use of clinical guidelines; 91% in Almaty and 83% in Zhambyl. Complaint procedures are frequently in place, though not generally used. In Zhambyl one fourth of the respondents said they did not have such procedures, while in Almaty 17% said they did not. GPs were more likely to report having complaint procedures than therapists.

More than half of the GPs and therapists said they did not survey patients about satisfaction, and around half reported interviewing community representatives. Interviewing medical staff job satisfaction was not widespread either, though GPs practised it more frequently than therapists. In Zhambyl, only 38% reported holding such interviews and in Almaty, 46%.

Responsiveness

Most physicians said that they organized special clinics for patients with diabetes and hypertension, people interested in family planning and pregnant women (Table 17). Clinics for the elderly were much less usual. Twenty percent of the respondents in Almaty and 26% in Zhambyl reported organizing no clinics or special sessions for particular groups at all. Special clinics or sessions for hypertensive and diabetic patients were held more often in Almaty. Family planning clinics were held equally often in both regions, but clinics for pregnant women were more frequent in Zhambyl.

4.3   Continuity of care

Informational continuity

Routinely medical record-keeping is a major prerequisite for health care quality and continuity. In both regions it has been a daily practice for most PC physicians (Table 19). Still, it could be much, as almost one quarter of the respondents reported not keeping medical records routinely. Incomplete record-keeping was more frequent in Zhambyl than in Almaty, where GPs performed better in this respect than therapists. Retrieval of information is equally important. The identification of patient groups on the basis of a shared diagnosis, health risk or even just age can enable efficient active monitoring and prevention.

Table 19.   Availability and use of clinical information

Performance Indicator	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Routine medical record-keeping for all patient contacts						
• GPs	85	95	71	99	78	194
• Therapists	77	43	72	47	74	90
Easily generated list of patients by diagnosis or health risk						
• GPs have one	76	95	84	98	80	193
• Therapists have one	84	43	79	47	81	90
Referral letters used for most or all referrals						
• GPs have one	82	95	80	99	81	194
• Therapists have one	74	43	70	47	72	90
Computer uses						
• GPs						
» Appointment booking	15	95	10	99	12	194
» Issuing bills/financial administration	19	95	16	99	18	194
» Medicine prescriptions	45	95	36	99	41	194
» Patient medical record-keeping	34	95	23	99	28	194
» Writing of referral letters	18	95	19	99	19	194
» Searching for information	6	95	16	99	11	194
» *Not* used	33	95	39	99	36	194
• Therapists						
» Appointment booking	7	43	9	47	9	90
» Issuing bills/financial administration	19	43	9	47	13	90
» Medicine prescriptions	35	43	21	47	29	90
» Patient medical record-keeping	33	43	11	47	21	90
» Writing of referral letters	8	43	17	47	11	90
» Searching for information	7	43	9	47	9	90
» *Not* used	42	43	64	47	53	90

The information systems for PC practices in both regions appear to be tailored to generate categorical lists, but a considerable proportion of them (20%) cannot produce lists of patients by health risk or diagnosis. Referral letters are routinely used by three quarters of the respondents, especially the GPs.

Computerization of PC activities turns out to be an area where there is room for development. Almost half of the physicians in Zhambyl and well over a third in Almaty stated that they do not use a computer. GPs reported using a computer more often than therapists. The physicians surveyed used computers most frequently for writing medicine prescriptions, followed by medical record-keeping. On the other hand, searching for information with the computer was quite uncommon.

4.4   Coordination of care

Cohesion within PC

Almost one third of the respondents worked in a practice without any other physicians (see Table 20). Another one third worked with other PC physicians in shared premises. And a good one third worked in a polyclinic with both PC doctors and specialists.

Table 20.   Total number of physicians working in respondent's ambulatory or polyclinic

Working in the same building	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
One PC physician	30	42	32	47	31	89
Two PC physicians	20	27	17	25	18	52
Three or more PC physicians	15	21	15	22	15	43
Both PC physicians and medical specialists	35	48	34	50	35	98
Other type of practice	0	0	1	2	1	2
Total	**100**	**138**	**100**	**146**	**100**	**284**

It was almost universal for the physicians surveyed to work with a community nurse, and a large majority reported working with a midwife in the same building (Table 21). Three quarters of the physicians also worked with a practice nurse. Dentists and pharmacists were mentioned by less than 50% of the respondents. About one in four physicians in Zhambyl and one in five in Almaty mentioned other medical professionals, such as laboratory technicians, neurologists or ophthalmologists.

Table 21.   Other primary care professionals working in the respondent's ambulatory or polyclinic

Other disciplines	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Practice nurse	78	138	72	146	75	284
Community nurse	97	138	96	146	97	284
Midwife/birth assistant	84	138	90	146	87	284
Dentist	54	138	45	146	49	284
Pharmacist	27	138	20	146	23	284
Other	20	138	27	146	23	284

Most respondents met regularly (at least every month) with colleagues, nurses or midwives, though not with pharmacists (Table 22). Most frequently mentioned were regular meetings with other PC physicians, by 81% of the respondents in Almaty and 88% in Zhambyl. About an equal proportion of respondents had regular meetings with a com-

munity nurse. Meetings with practice nurses were mentioned by 80% of the physicians in Almaty and 62% of those in Zhambyl. Regular meetings with a midwife or birth assistant were also reported by the majority of physicians in both regions. By contrast, in Almaty just one third and in Zhambyl one fifth of the respondents reported regular meetings with pharmacists. GPs also reported meeting regularly with nurses and midwives more frequently than therapists did.

Table 22.   Face-to-face meeting with other primary care professionals

Meeting face-to-face at least once per month with:	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid re-sponses	%	Valid re-sponses	%	Valid re-sponses
Other GPs or therapists • GPs • Therapists	80 84	95 43	88 87	97 47	84 86	192 90
Practice nurses • GPs • Therapists	84 70	95 43	63 60	94 47	74 64	189 90
Community nurses • GPs • Therapists	91 84	95 43	83 79	95 47	87 81	190 90
Midwives/birth assistants • GPs • Therapists	77 63	95 43	71 64	94 47	74 63	189 90
Pharmacists • GPs • Therapists	28 44	95 43	24 22	90 45	27 33	185 88

Contact with other care levels and the community

PC physicians generally had a very high level of contact, in terms of asking advice, with medical specialists (Table 23). Almost all of those surveyed reported regular consultations with neurologists, gynaecologists, specialists in internal medicine and surgeons, and a strong majority reported them with dermatologists, ophthalmologists and ear, nose and throat doctors. Two thirds of the GPs also indicated having frequently or sometimes received advice from paediatricians.

Table 23.   PC physicians' consultation with medical specialists

Source of advice "frequently" or "sometimes"	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Paediatricians						
• GPs	65	95	63	92	64	187
• Therapists	40	43	37	46	38	89
Specialist in internal medicine						
• GPs	86	95	93	97	90	192
• Therapists	95	43	96	47	96	90
Gynaecologists						
• GPs	90	95	89	98	89	193
• Therapists	98	43	92	47	94	90
Surgeons						
• GPs	91	95	98	98	89	193
• Therapists	93	43	85	47	89	90
Neurologists						
• GPs	94	95	95	99	94	194
• Therapists	93	43	94	47	93	90
Dermatologists						
• GPs	84	95	80	97	82	192
• Therapists	74	43	79	47	77	90
Ear, nose and throat specialists						
• GPs	85	95	83	99	84	194
• Therapists	93	43	83	47	88	90
Ophthalmologists						
• GPs	79	95	80	91	80	186
• Therapists	86	43	69	45	77	88

Respondents also reported the number of patients they had referred to medical specialists in the preceding four weeks (Table 24). Their referrals averaged 38.5 for GPs and 44.7 for therapists. For GPs, this number means that 7.5% of all office consultations and home visits ended with a referral to a medical specialist. For therapists, the referral rate was 8.9%. (Self-referrals were not included.)

Table 24. **Number of patients referred to medical specialists during the preceding four weeks, by region and type of physician**

Specialists referred to	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	Mean (range)	Valid responses	Mean (range)	Valid responses	Mean (range)	Valid responses
Paediatricians • GPs • Therapists	3.5 (0–40) 2.0 (0–18)	68 25	2.8 (0–24) 2.4 (0–30)	63 27	3.2 (0–40) 2.2 (0–30)	131 52
Specialist in internal medicine • GPs • Therapists	7.6 (0–90) 11.2 (0–60)	86 33	9.1 (0–60) 8.7 (0–60)	86 42	8.3 (0–90) 9.8 (0–60)	172 75
Gynaecologists • GPs • Therapists	8.7 (0–60) 9.1 (0–45)	88 35	5.9 (0–30) 10.4 (0–70)	88 42	7.3 (0–60) 9.8 (0–70)	176 77
Surgeons • GPs • Therapists	4.5 (0–40) 4.8 (0–30)	89 39	4.2 (0–25) 4.9 (0–30)	86 43	4.4 (0–40) 4.8 (0–30)	175 82
Neurologists • GPs • Therapists	8.2 (0–70) 9.6 (0–50)	88 38	8.5 (0–60) 9.3 (0–94)	86 44	8.3 (0–70) 9.4 (0–94)	174 82
Dermatologists • GPs • Therapists	2.8 (0–60) 2.1 (0–10)	85 34	2.1 (0–13) 2.2 (0–10)	81 40	2.5 (0–60) 2.1 (0–10)	166 74
Ear, nose and throat specialists • GPs • Therapists	4.9 (0–50) 4.8 (0–20)	89 36	4.5 (0–40) 5.8 (0–45)	86 42	4.7 (0–50) 5.3 (0–45)	175 78
Ophthalmologists • GPs • Therapists	5.5 (0–38) 7.1 (0–31)	87 38	5.8 (0–40) 6.0 (0–70)	90 41	5.7 (0–40) 6.5 (0–70)	177 79
Total • GPs • Therapists	46.8 52.5		29.3 38.4		38.5 44.7	
Total as % of all office contacts and home visits • GPs • Therapists	8.5% 9.5%		6.3% 8.4%		7.5% 8.9%	

GPs in Zhambyl had considerable lower referral rates (averaging 6.3%) than those in Almaty (8.5%), while GPs in both places had lower rates than therapists. In Zhambyl, GPs had much lower referral rates in particular to gynaecologists and ear, nose and throat specialists. In Almaty, GPs had lower referral rates for internal medicine and ophthalmology.

The results point to considerable room for reducing the number of referrals because a referral rate of 7.5% is relatively high for retrained GPs. For instance, retrained GPs in Belarus had a corresponding referral rate of 3.0% (measured by the same method).

Breaking down the referrals by urban and rural practices also reveals differences (Table 25). Urban PC physicians referred their patients to medical specialists much more frequently than their rural colleagues did (11.1% versus 7.3%). Referral rates to specialists in internal medicine and neurologists in urban areas are more than double those in rural areas. Instead, GPs and therapists working in rural ambulatories are more likely to treat

patients themselves. It is probable that this difference is due to the better access to specialist providers and facilities that city dwellers enjoy.

Table 25. **Number of patients referred to medical specialists during the preceding four weeks, urban versus rural**

Specialists referred to	Urban (n=66)		Rural (n=218)		Total (n=284)	
	Mean (range)	Valid responses	Mean (range)	Valid responses	Mean (range)	Valid responses
Paediatricians	0.5 (0–4)	26	3.3 (0–40)	157	2.9 (0–40)	183
Specialists in internal medicine	14.8 (0–90)	59	6.9 (0–60)	188	8.8 (0–90)	247
Gynaecologists	11.2 (0–60)	60	7.1 (0–70)	193	8.1 (0–70)	253
Surgeons	6.7 (0–40)	61	3.8 (0–30)	196	4.5 (0–40)	257
Neurologists	14.5 (0–94)	60	6.9 (0–60)	196	8.7 (0–94)	256
Dermatologists	3.5 (0–60)	56	2.0 (0–13)	184	2.4 (0–60)	240
Ear, nose and throat specialists	8.2 (0–50)	59	3.9 (0–40)	194	4.9 (0–50)	253
Ophthalmologists	9.6 (0–70)	61	4.8 (0–40)	195	5.9 (0–70)	256
Total	**65.7**		**35.8**		**40.3**	
Total as % of all office contacts and home visits	**11.1%**		**7.3%**		**7.8%**	

In both regions, the PC physicians had fairly strong connections to the community, with two thirds of them reporting regular meetings with local authorities (GPs more often than therapists, especially in Zhambyl) (Table 26). Other links with the community were less usual. Overall, one third of the physicians met regularly with community or social workers, though therapists in Zhambyl did so much less often. Only 20% of the PC physicians in Almaty and 26% in Zhambyl had a community representative on the board of their PC organization, though it was more common among the GPs. About one fifth of those surveyed did not know about community representation on their boards.

Table 26. **Connections between PC physicians and the community**

Kind of connection	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Regular meetings with local authorities						
• GPs	70	94	68	98	69	192
• Therapists	67	43	53	47	60	90
Regular meetings with community/social workers						
• GPs	34	95	35	97	34	192
• Therapists	37	43	22	45	30	88
Community representative on the board of respondent's centre or practice						
• GPs	22	95	30	98	30	193
• Therapists	16	43	18	45	17	88

4.5   Comprehensiveness of care

Practice conditions
Physicians were asked whether information materials, such as leaflets or posters, had been displayed or made available in the waiting room of their polyclinic or ambulatory. Results are presented in Table 27. Information materials on all topics mentioned in the table, except one, were widely available. Broadly speaking, the situation was similar in both regions. A large majority of PC physicians indicated the availability of materials concerning risks for cardiovascular disease, smoking cessation, and self-treatment of colds. A somewhat smaller majority reported displaying materials on healthy diet, obesity, diabetes, STIs, contraception, social services, breast cancer, cervical cancer and alcohol abuse. However, material on vaccination was absent from most of their waiting rooms. In general, GPs reported displaying information material more often than therapists.

Table 27.   Availability of information materials in respondents' waiting rooms

Subject of information material	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Cardiovascular disease risks						
• GPs	98	95	94	99	96	194
• Therapists	98	43	89	47	93	90
Healthy diet						
• GPs	75	95	82	99	78	194
• Therapists	72	43	67	46	70	89
Smoking cessation						
• GPs	93	95	93	99	93	194
• Therapists	91	43	85	47	88	90
Obesity						
• GPs	66	95	69	99	68	194
• Therapists	65	43	68	47	67	90
Diabetes						
• GPs	90	95	81	99	85	194
• Therapists	81	43	79	47	80	90
STIs						
• GPs	90	95	92	99	91	194
• Therapists	70	43	81	47	76	90
Vaccinations						
• GPs	48	95	31	99	40	194
• Therapists	42	43	32	47	37	90
Contraception						
• GPs	85	95	89	99	87	194
• Therapists	77	43	80	46	79	89
Self-treatment of colds/coughs						
• GPs	95	95	88	99	91	194
• Therapists	79	43	76	46	76	89
Social services						
• GPs	82	95	87	99	85	194
• Therapists	72	43	78	46	75	89
Breast cancer						
• GPs	70	95	81	99	75	194
• Therapists	65	43	71	45	68	88
Cervical cancer						
• GPs	80	95	84	99	82	194
• Therapists	77	43	76	46	76	89
Alcohol abuse						
• GPs	77	95	71	99	74	194
• Therapists	67	43	65	46	66	89

Medical equipment

The survey asked PC physicians which pieces of medical equipment, from a list of 30 items commonly used in PC, they had at their disposal. (The survey did not ask about the quality of the equipment or other conditions that might limit its use.) Fig. 4, Table 28 and Table 29 summarize the availability of medical equipment in their practices.

Fig. 4.   **Availability of PC practice equipment (% of PC physicians)**
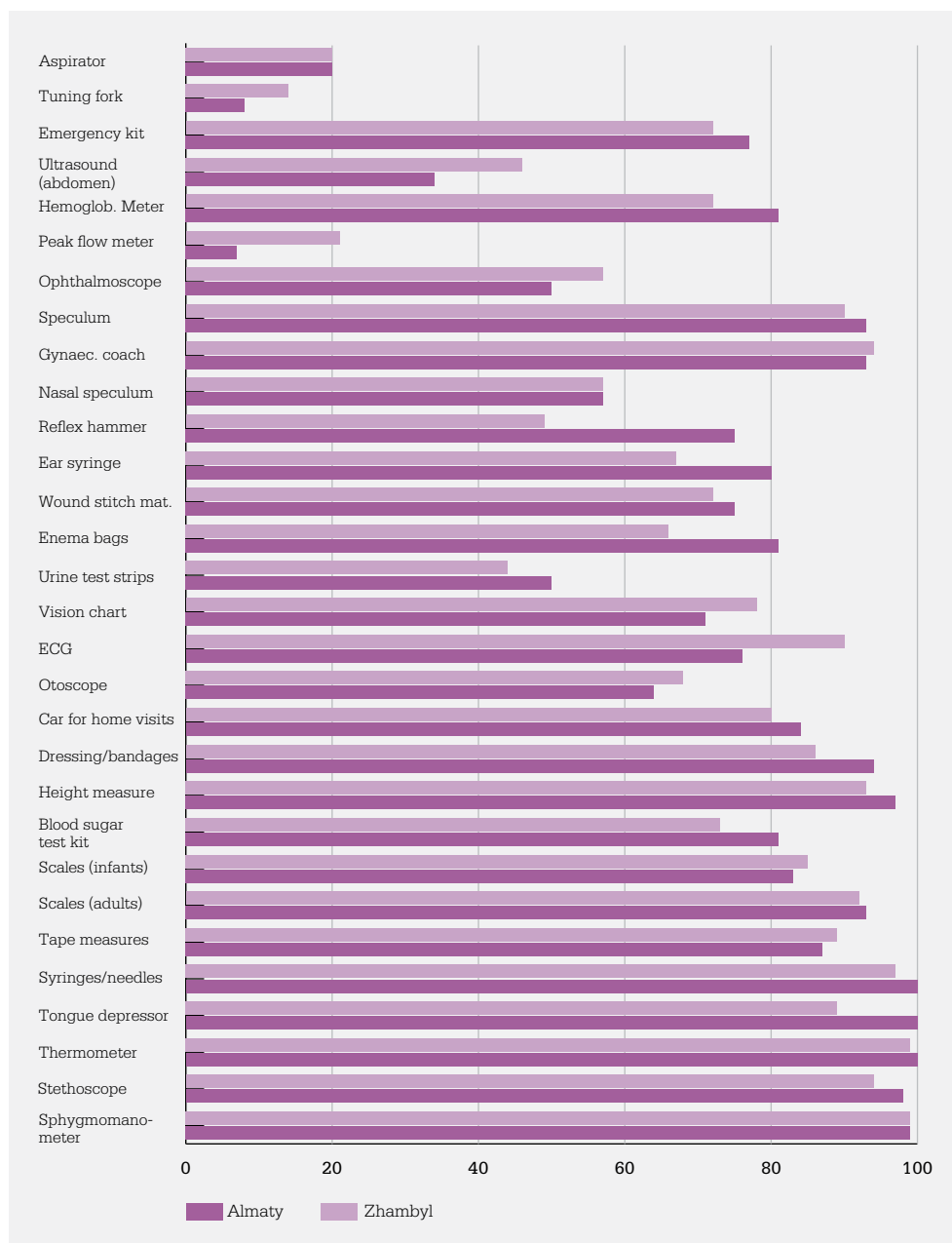
Fig. 4 shows the distribution of all 30 items of equipment, revealing only small differences between the two regions. In Zhambyl, 10 items were available to almost all GPs (≥90%), while in Almaty, 9 items were. In Almaty, 21 items were widely available (≥70%), but in Zhambyl only 15. The relatively small difference in distribution may point to central coordination.

Nevertheless, there is room for improvement in both regions. For instance: one quarter of the PC physicians reported having no emergency kit, and one quarter no materials to stitch wounds. Almost 80% of those surveyed in Zhambyl and more than 90% in Almaty had no peak flow meter available. Furthermore, it appears that physicians in both regions usually had to send diagnostic urine tests and, to a lesser extent, blood samples (hae-

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moglobin) outside their practices, and to refer patients requiring ultrasound diagnosis elsewhere. The necessary equipment was usually not available, even though a large majority of physicians (78% in Almaty, 80% in Zhambyl) indicated having laboratory facilities in their own facility (see Table 30).

Table 28 shows that, overall, PC physicians in Zhambul were somewhat better equipped than their colleagues in Almaty; the proportion of PC physicians having more than 25 items from the list of 30 was larger in Zhambyl region. On average, however, physicians had access to 21 of 30 items in both regions. In Almaty, one respondent had access to only six items, while the worst-equipped physician in Zhambyl only had five. Finally, in both regions hardly any differences were found between GPs and therapists (21.7 versus 21.4 in Almaty, 20.7 versus 21.3 in Zhambyl). With an average of 21.4 items the PC physicians in this study were somewhat more sparsely equipped than those in Belarus, who had 23.9 items at their disposal.

Table 28.   Number of PC equipment items available to PC physicians from a list of 30, by region and type of physician

Items of equipment	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	N	%	N	%	N	%
0–15 • GPs • Therapists	10 4	11 9	15 6	15 13	25 10	13 11
16–20 • GPs • Therapists	12 13	13 30	27 9	27 19	39 22	20 24
21–25 • GPs • Therapists	60 18	63 42	38 18	38 38	39 36	20 40
26–30 • GPs • Therapists	13 8	14 19	19 14	19 30	32 22	17 24
Total • GPs • Therapists	95 43	100 100	99 47	100 100	194 90	100 100
Average number of items per physician (from list of 30) • GPs • Therapists	21.7 21.4		20.7 21.3		21.2 21.4	

Breaking the data down to urban and rural areas, as shown in Table 29, it appears that PC physicians in both are equally well equipped on average, although the variation among the urban ones is much larger. Among urban physicians 30% were very well equipped (at least 26 items on the list) versus 16% who were poorly equipped (no more than 15).

Table 29. Number of PC equipment items available to PC physicians from a list of 30, urban versus rural

Items of equipment	Urban (n=66)		Rural (n=218)		Total (n=284)	
	N	%	N	%	N	%
0–15	11	16	24	11	35	12
16–20	11	17	50	23	61	22
21–25	24	36	110	51	134	47
26–30	20	30	34	16	54	19
Total	66	100	218	100	284	100
Average number of items per physician (from list of 30)	21.8		21.3		21.4	

Most PC physicians reported having access to laboratory facilities within their practices, and most of those who did not had such access outside their practices (Table 30). When asked about X-ray diagnostic equipment, more than half the GPs and one third of the therapists indicated they had access only outside their polyclinic or ambulatory. The finding that 17% of GPs and 6% of therapists had insufficient access to X-ray facilities – and sometimes no access – is ground for concern.

Table 30. PC physicians' access to X-ray and laboratory facilities, by region and type of physician

Type of facility and degree of access	Almaty (n=138)		Zhambyl (n=146)		Total (n=284)	
	%	Valid re-spones	%	Valid re-spones	%	Valid re-spones
Laboratory facility						
• GPs						
» Full access within practice	79	95	82	99	80	194
» Full access outside practice	18	95	14	99	16	194
» Insufficient access	3	95	4	99	4	194
• Therapists						
» Full access within practice	77	43	83	47	80	90
» Full access outside practice	19	43	9	47	13	90
» Insufficient access	5	43	9	47	7	90
X-ray facility						
• GPs						
» Full access within practice	23	95	34	99	29	194
» Full access outside practice	60	95	50	99	55	194
» Insufficient access	17	95	16	99	17	194
• Therapists						
» Full access within practice	49	43	66	47	58	90
» Full access outside practice	47	43	28	47	37	90
» Insufficient access	5	43	6	47	6	90

As shown in Table 31, urban physicians were more likely than rural ones to report having X-ray and laboratory facilities in their practices. Rural physicians were correspondingly more likely to report such facilities (especially X-ray facilities) being insufficiently available.

Table 31. PC physicians' access to X-ray and laboratory facilities, urban versus rural

Type of facility and degree of access	Urban (n=66)		Rural (n=218)		Total (n=284)	
	%	Valid responses	%	Valid responses	%	Valid responses
Laboratory facility						
• Full access within practice	94	66	76	218	80	284
• Full access outside practice	5	66	18	218	15	284
• Insufficient access	1	66	6	218	5	284
X-ray facility						
• Full access within practice	67	66	29	218	38	284
• Full access outside practice	27	66	56	218	49	284
• Insufficient access	6	66	15	218	13	284

Service delivery

The GPs and district therapists surveyed responded to lists relating to three elements in their clinical task profiles: the role of PC physician as the first contact for various health problems, the treatment and follow-up of diseases and the provision of technical medical procedures. The physicians' responses to the list items indicated their involvement in each respective element. (For more details, see the description of study methodology in Chapter 1.)

The rest of this section considers each element in turn.

The PC physician as first contact for patient health problems

The PCET measured the first-contact role with a list of 18 problems. Respondents indicated whether their patients would address them with these problems "(almost) always", "usually", "occasionally" or "seldom/never". They could also say they did not know.

Results have been presented in detail in Tables 32 and 33 (in Annex 1) and summarized in Fig. 5. The percentages in the tables refer to physicians who responded that they would always or usually be the doctor of first contact for a given problem. (The percentages in parentheses refer to those who said they would be so "occasionally".)

Fig. 5. PC physicians' role as first contact with various patient health problems (scores based on 18 items, range 1.00–4.00)
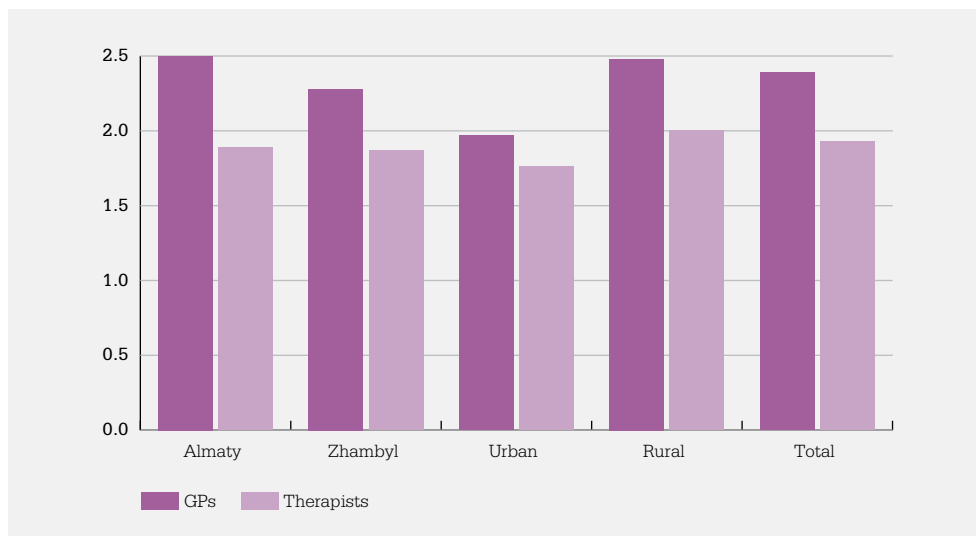
Each response was scored on a scale of 1 ("seldom/never") to 4 ("(almost) always"). After averaging the scores for all 18 items, it appears that GPs have a much more comprehensive role (score 2.39) in first contact with the health-related problems of their practice population than therapists (score 1.93) (see Fig. 5 and Annex 1, Table 32). Comparison of both regions shows that GPs in Almaty have a somewhat greater role as first contact than GPs in Zhambyl. Retrained GPs in Belarus had a somewhat higher average score (2.52) than retrained GPs in this study (2.39).

As could be expected, GPs had a much more comprehensive first-contact role than therapists for paediatric and gynaecological problems (see Annex 1, Table 32). While patients did not use PC physicians very frequently as first contact for relationship and psychosocial problems, they were likelier to use GPs in that role than therapists. GPs in Almaty reported being first contact in a case of alcohol addiction more often than GPs in Zhambyl, who scored about the same as therapists from their region for the same case.

Comparison between urban and rural physicians reveals a consistent difference (see Fig. 5 and Annex 1, Table 33). Rural GPs and therapists both reported greater first-contact roles with the listed health problems than their respective urban colleagues, with the difference in GP scores between GPs being especially marked. Rural GPs have the strongest first-contact position of these four groups of PC physicians, while urban GPs score the same as rural therapists.

Involvement of PC physicians in the treatment of diseases

GPs and therapists rated their involvement in the treatment of 19 diseases and conditions (see Annex 1, Tables 34 and 35). As Fig. 6 shows, the two groups reported almost the exact same overall level of involvement. In Zhambyl the scores were identical, while in Almaty GPs reported slightly stronger involvement. Compared to GPs in Zhambyl, those in Almaty reported more involvement in acute cerebrovascular accidents, diabetes type II and palliative care (see Annex 1, Table 34).

Fig. 6.   PC physicians' role in treatment and follow-up of diseases among their patients (scores based on 19 items, range 1.00–4.00)
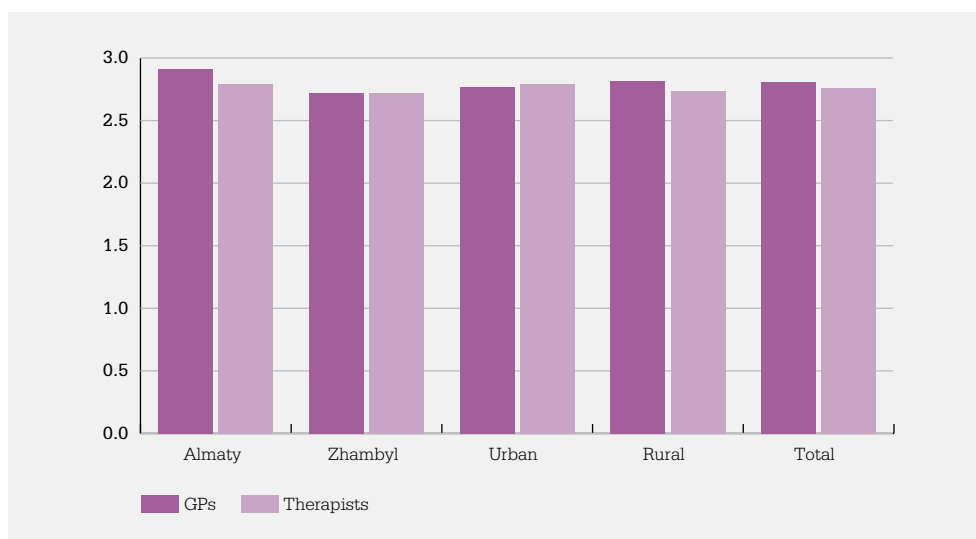
Compared to their Belarus colleagues, the Kazakh therapists reported the same overall involvement in the listed treatment tasks (2.76 in Kazakhstan and 2.79 in Belarus). However, Belarus GPs scored 3.10, distinguishing themselves from the therapists (3.10), which the Kazakh GPs have failed to do yet.

Comparison of urban and rural PC physicians shows a remarkable absence of any clear difference in their involvement in disease treatment and follow-up.

Technical preventive and medical procedures provided in PC

The role of GPs and therapists in providing technical medical procedures was quite modest (see Fig. 7 and Annex 1, Tables 36 and 37). Only 3 procedures from the list of 16 appeared to be routine: intravenous infusion setup, influenza and tetanus immunization and allergy vaccination. Strapping ankles and suturing wounds was performed by around 40% of GPs, distinguishing them from the therapists who practised these procedures much less frequently. Yet PC physicians rarely carried out the other procedures on the list. Breaking down the results by urban and rural practices reveals only that rural GPs were more involved in providing technical medical procedures (see Fig. 7 and Annex 1, Table 37). In urban areas, GP involvement in these tasks was as little as therapist involvement.

Fig. 7. **Physicians' involvement in providing technical medical procedures (scores based on 16 items, range 1.00–3.00)**
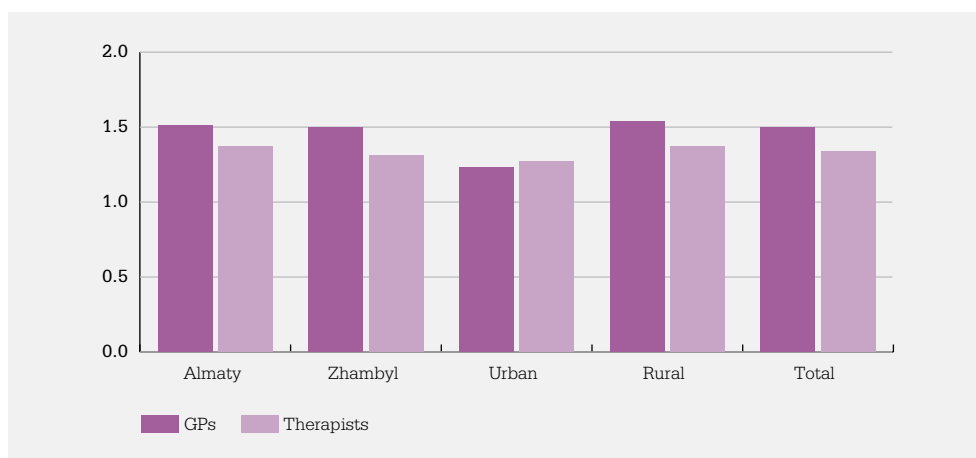
In addition, the GPs surveyed were more strongly involved than therapists in providing services for specific groups of people (Table 38). This difference was more pronounced in Almaty than in Zhambyl, which resulted particularly from the greater involvement of the GPs there in the various screening activities (except TB screening). GPs were also more involved than therapists in monitoring schoolchildren and screening them for STIs and HIV.

Table 38. **Involvement of PC physicians in public health activities targeting specific groups**

Activity	Almaty (n=138)			Zhambyl (n=146)			Total (n=284)		
	% of GPs	% of thera-pists	Valid re-sponses	% of GPs	% of thera-pists	Valid re-sponses	% of GPs	% of thera-pists	Valid re-sponses
STI screening	73	42	95/43	53	53	99/47	62	48	194/90
HIV screening	77	54	95/43	64	62	99/47	70	58	194/90
TB screening	78	79	95/43	83	81	99/47	80	80	194/90
Influenza vaccination for high-risk groups	72	67	95/43	88	94	99/47	80	81	194/90
Rehabilitative care	88	86	95/43	87	81	99/47	88	83	194/90
Monitoring schoolchildren	79	42	95/43	74	45	99/47	76	43	194/90
Cervical cancer screening	78	67	95/43	54	51	99/47	66	59	194/90
Breast cancer screening	88	79	95/43	65	64	99/47	76	71	194/90
Heart disease and hyperten-sion screening	96	95	95/43	91	83	99/47	93	89	194/90
Average	80.9	68.0	—	72.9	68.1	—	76.9	68.0	—

In particular, GPs were generally more involved in the provision of services to mothers and children than therapists, as shown in Table 39. Although their involvement was strong in both places, GPs in Almaty were more involved in these services than those in Zhambyl. Therapists were less frequently involved in these services, except for routine antenatal care, which 86% of the therapists in Almaty and 81% of the therapists in Zhambyl reported providing.

Table 39.   Services for mothers and children, by region and type of PC physician

Service provided to all or most mothers/children	Almaty (n=138)			Zhambyl (n=146)			Total (n=284)		
	% of GPs	% of thera-pists	Valid re-sponses	% of GPs	% of thera-pists	Valid re-sponses	% of GPs	% of thera-pists	Valid re-sponses
Family planning and contraception	82	74	95/43	72	63	99/46	77	69	194/89
Routine antenatal care	96	86	95/43	87	81	99/47	91	83	194/90
Normal immunizations for children younger than 4	84	61	95/43	78	62	98/45	80	61	193/88
Routine paediatric surveillance (till age 4)	84	58	95/43	78	67	98/45	81	63	193/88

Table 40 shows clear differences between urban and rural areas in physicians' provision of maternal and child health services. Rural practitioners are more involved in providing these services than their urban colleagues, and for rural GPs these tasks form part of their normal routine.

Table 40.   Services to mothers and children, urban versus rural

Service provided to all or most mothers/children	Urban (n=66)			Rural (n=218)			Total (n=284)		
	% of GPs	% of thera-pists	Valid re-sponses	% of GPs	% of thera-pists	Valid re-sponses	% of GPs	% of thera-pists	Valid re-sponses
Family planning and contraception	55	56	38/27	82	74	156/62	77	69	194/89
Routine antenatal care	84	64	38/28	93	92	156/62	92	83	194/90
Normal immunizations for children younger than 4	57	50	37/26	87	66	156/62	81	61	193/88
Routine paediatric surveillance (till age 4)	57	46	37/26	87	69	156/62	81	63	193/88

5. PATIENTS ON PRIMARY CARE IN ALMATY AND ZHAMBYL REGIONS

In 100 practices of the PC physicians who participated in the physician survey, a number of patients were asked to complete a questionnaire dealing with their perspectives on PC. The results described here are based on the experiences and opinions these patients reported. Field workers (or regional health officials in some cases) visited the practices and systematically asked every attending patient for cooperation, until 15 questionnaires were completed. In this way, the information gained from the patient survey refers to the same practices as the information from the physicians in Almaty and Zhambyl. For details of the approach used, see Chapter 1. The results presented below will be structured according to the health system functions of the framework that was also described in Chapter 1.

5.1   Respondent characteristics

As Table 41 shows, the patient survey was completed by 1500 patients: 690 respondents in Almaty and 810 in Zhambyl. As is typical for health services, female patients comprised a majority of the clients, and they accordingly filled in almost two thirds of the completed questionnaires in both regions. Both regions have a mixture of urban and rural districts, but in Almaty only 15% of the respondents were from urban practices and in Zhambyl only 2%.

Table 41.   Gender and geographic distribution of patients in Almaty and Zhambyl

Gender	Almaty (n=690)			Zhambyl (n=810)		
	Urban N (%)	Rural[a] N (%)	Urban N (%)	Rural[a] N (%)	Urban N (%)	Rural[a] N (%)
Male	42 (40)	225 (38)	267 (39)	3 (19)	304 (38)	307 (38)
Female	63 (60)	360 (62)	423 (61)	13 (81)	489 (62)	502 (62)
Total	**105 (15)**	**585 (85)**	**690 (100)**	**16 (2)**	**793 (98)**	**809 (100)**

[a] For the tables in this chapter, "rural" includes small towns as well as rural areas.

The respondents were also relatively young. Table 42 shows that the age distribution in both regions was very similar, with respondents in Almaty being slightly younger. One quarter (24%) of respondents in Almaty were 30 years or younger, while one fifth (20%) of respondents in Zhambyl belonged to this age group. The opposite was true with the oldest group of 50 years plus, to which 35% of the respondents from Zhambyl belonged and 32% from Almaty.

Table 42. Patient ages, occupational backgrounds and living situations

Patient characteristic	Almaty (n=690)		Zhambyl (n=810)	
	N	**%**	**N**	**%**
Age				
0–20	44	6	27	3
21–30	124	18	135	17
31–40	137	20	158	20
41–50	164	24	213	26
51–60	122	18	159	20
61+	99	14	118	15
Total	**690**	**100**	**810**	**100**
Occupation				
In school	61	9	54	7
Unemployed/looking for a job	92	14	152	19
Unable to work (disability)	9	1	32	4
Looking after family	82	12	82	10
Employed	255	37	219	27
Self-employed	61	9	48	6
Retired	109	16	121	15
Other	13	2	102	13
Total	**682**	**100**	**810**	**100**
Living situation				
Alone	44	6	84	10
With parents	78	11	96	12
With spouse	146	21	170	21
With family (including children)	405	59	430	53
Other	17	3	30	4
Total	**690**	**100**	**810**	**100**

In Almaty about one third and in Zhambyl approximately one quarter of the patients who filled in the questionnaire were employees. The group of respondents who were unemployed was large, with 14% and 19% in the two regions respectively. Only very few of the respondents – 4% in Zhambyl and 1% in Almaty – said they were unable to work. Between 10% and 12% responded that their occupation was looking after a family. Regional differences in the living situation of respondents were small. In Almaty, more respondents were living in a family with children (59%) than in Zhambyl (53%). Very few of them lived alone, with more in Zhambyl (10%) than in Almaty (6%).

5.2   Accessibility of care

Financial access

With one important exception, a large majority of the respondents reported that the PC services listed in Table 43 were available free. The exception was injections and medicines prescribed by PC physicians. A large majority of respondents in both regions – 92% in Almaty and 82% in Zhambyl – indicated they had to pay for these prescriptions.

Table 43.   Patients who reported that a service required payment or co-payment

Service	**Almaty** (n=690)		**Zhambyl** (n=810)	
	Patients	**%**	**Patients**	**%**
Visit to respondent's GP or therapist	4	1	22	3
Medicines or injections prescribed by respondent's GP or therapist	663	92	666	82
A visit to a specialist after referral by respondent's GP or therapist	64	9	52	6
Home visit by respondent's GP or therapist	13	2	22	3
Regular check-up of infant or young child	7	1	22	3

Many patients also reported that private payments for medicines had made them decide at some point in the previous year to cancel or delay a visit to their doctor (Table 44). Among the respondents from Almaty, 10% had made such a decision, while among those from Zhambyl, a full 19% had.

Table 44.   Patients reporting medicine co-payments kept them from using PC services in the preceding year

Decision	**Almaty** (n=690)		**Zhambyl** (n=810)	
	Patients	**%**	**Patients**	**%**
To cancel or delay a visit to the doctor because respondent could not pay for medicine	71	10	153	19

Geographical access and responsiveness

This section addresses service aspects of PC facilities: geographic access, disabled access, opening hours, convenience and patient-friendliness.

As Table 45 and Fig. 8 show, one in six patients from Almaty and one in four from Zhambyl could reach their preferred PC facilities and a hospital within 20 minutes. Most patients, however, needed to travel between 20 and 40 minutes to get there. Travel times of more than 40 minutes were also reported frequently, especially for visits to the dentist (19% and 31% respectively in Almaty and Zhambyl) and the hospital (31% and 26% respectively). In Zhambyl the more extreme categories were mentioned more frequently, with 23% saying they could reach a dentist within 20 minutes and 31% that it would take more than 40 minutes. Fifteen percent of the patients in Almaty and 26% of those in Zhambyl were within 20 minutes of a hospital.

Table 45.   Patients reporting various travel times to key health providers

Provider and distance	Almaty (n=690)		Zhambyl (n=810)	
	Patients	%	Patients	%
GP or therapist				
• 0–20 minutes	137	20	314	39
• 20–40 minutes	505	73	376	46
• 40–60 minutes	44	6	88	11
• More than 1 hour	4	1	29	4
• Don't know	0	0	3	0
Total	**690**	**100**	**810**	**100**
Pharmacist				
• 0–20 minutes	111	16	218	27
• 20–40 minutes	505	73	416	51
• 40–60 minutes	64	9	131	16
• More than 1 hour	10	1	39	5
• Don't know	0	0	6	1
Total	**690**	**100**	**810**	**100**
Dentist				
• 0–20 minutes	109	16	185	23
• 20–40 minutes	439	64	356	44
• 40–60 minutes	119	17	167	21
• More than 1hour	16	2	78	10
• Don't know	7	1	24	3
Total	**690**	**100**	**810**	**100**
Hospital				
• 0–20 minutes	103	15	209	26
• 20–40 minutes	338	49	373	46
• 40–60 minutes	117	26	129	16
• More than 1 hour	35	5	78	10
• Don't know	37	5	21	3
Total	**690**	**100**	**810**	**100**

Fig. 8.   Patients who have travel times to health care facilities of 20 minutes maximum (%)
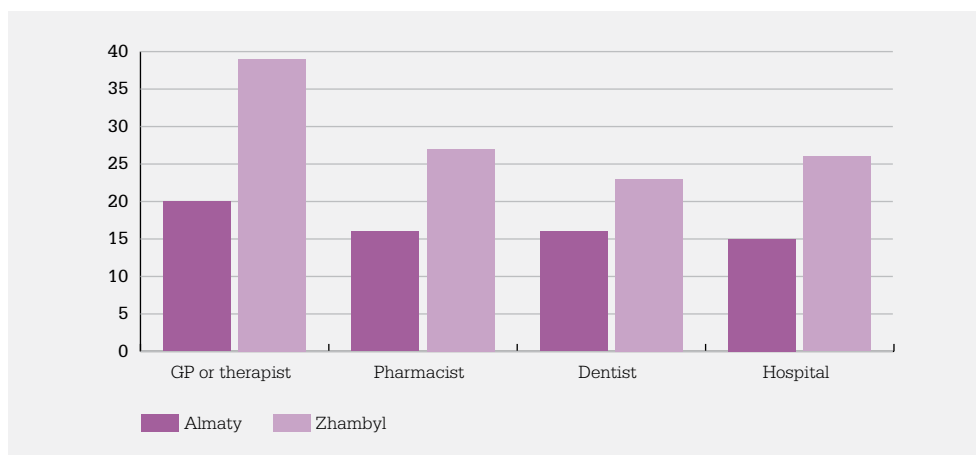
Table 46 provides the results of patient responses to a list of 16 items which together indicate patients experiences and opinions concerning various service aspects of their PC facilities, such as premise accessibility and convenience, staff friendliness, opening hours and availability of service providers. Possible responses to each item were "Yes, I agree", "I agree somewhat", "I do not agree" and "I don't know". Percentages in the table refer to the number who answered "Yes, I agree".

Table 46.   Patients who agreed with statements about the accessibility and quality of visits to their local PC facilities, by region and by type of physician

Statement	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	**%**	**Patients**	**%**	**Patients**	**%**
I can easily reach the poly-clinic/ ambulatory with public transport						
• GPs	393	87	327	59	720	72
• Therapists	205	85	156	62	361	73
The practice/centre is easily accessible for the disabled and people in wheelchairs						
• GPs	170	38	199	36	369	37
• Therapists	102	43	68	27	170	35
The patient waiting room is convenient						
• GPs	392	87	360	65	752	75
• Therapists	178	74	124	49	302	61
My polyclinic/ambulatory has a web site						
• GPs	17	4	59	11	76	8
• Therapists	5	2	8	3	13	3
My polyclinic/ambulatory has a complaint box that I can use to submit a complaint						
• GPs	109	24	311	56	420	42
• Therapists	96	40	122	48	218	44

Statement	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
My polyclinic/ambulatory has a document specifying my rights and obligations as a patient • GPs • Therapists	300 124	67 52	329 112	59 44	629 236	63 48
When the facility is open and I wish to visit a GP or therapist urgently, it is possible to visit the same day • GPs • Therapists	140 107	31 45	391 153	70 61	531 260	53 53
During opening hours it is easy to get a doctor on the telephone for advice • GPs • Therapists	124 88	28 37	311 119	56 47	435 207	43 42
When I visit the practice there is always at least one doctor available • GPs • Therapists	209 122	46 51	417 167	75 66	626 289	62 59
When the polyclinic/ambulatory is closed. there is a telephone number to call if I get sick • GPs • Therapists	124 58	28 24	358 162	64 64	482 220	48 45
In my polyclinic/ambulatory it is possible to visit a GP or therapist on Saturdays or Sundays • GPs • Therapists	69 37	15 15	230 80	41 32	299 117	30 24
In my polyclinic/ambulatory it is possible to visit a GP or therapist after 18:00 (at least once per week). • GPs • Therapists	64 46	14 19	174 51	31 20	238 97	24 20
I am satisfied with the facility's current opening hours • GPs • Therapists	153 105	34 44	397 156	71 62	550 261	55 53
Staff at the reception desk are kind and helpful • GPs • Therapists	430 210	96 88	423 151	76 60	853 361	85 73
Making an appointment with my GP/therapist takes too much time • GPs • Therapists	289 119	64 50	181 72	33 29	470 191	47 39
I need to wait too long in the waiting room to see the doctor • GPs • Therapists	299 34	66 14	198 92	36 36	497 126	49 26

Evaluation of the organization and provision of primary care in Kazakhstan

Most patients (more than 70%) reported that they could easily reach the health centre or polyclinic using public transport. Responses about physical access for the handicapped or wheelchair users were less positive. Both regions have much room for improvement in this respect, since less than 40% of the respondents reported that their facility was easily accessible for such people.

A large majority of patients in Almaty (83%) were positive about the quality of their waiting rooms, while in Zhambyl only 60% were. In both regions, GPs' patients were more positive about waiting rooms than therapists' patients.

Most respondents probably did not consider a web site for the patients of their PC facility relevant. Asked about the existence of such a web site, 52% of the patients in Almaty and 57% of the patients in Zhambyl said they did not to know (not reflected in table). The others' responses suggest that the use of web sites for patient communication and information is very unusual in Kazakhstan.

Complaint boxes were not generally known among patients, but they were better known in Zhambyl (54%) than Almaty (30%). Better known in both places, by 61% and 54% of the respondents respectively, was the existence of a document or display in their PC facility providing information their rights and obligations as patients. GPs' patients were more familiar with such documents than therapists'.

Much could be improved with respect to opening hours and service availability, especially in Almaty. Only one third to one half of the patients there reported having amenities such as the presence of at least one doctor throughout opening hours, the possibility of same-day visits for urgent problems and the ready telephone availability of a doctor during opening hours. In Zhambyl, these same services were reported by between half and three quarters of the respondents. Similarly, about two thirds of the patients from Zhambyl stated the existence of a telephone number that patients could use when they fell ill outside opening hours, but only one quarter of those from Almaty reported such a number.

Visiting a GP or therapist on the weekend day or after 18.00 was rarely reported in Almaty (about 15% for both) but about twice as often in Zhambyl (38% and 28%, respectively). Overall, one third of the patients in Almaty and two thirds of those in Zhambyl stated they were satisfied with current opening hours.

Almost all patients in Almaty and a comfortable majority in Zhambyl found the staff at the PC reception desk kind and helpful. Appreciation of the reception staff was higher among patients of GPs than those of therapists. Nevertheless, 59% of patients in Almaty and 31% in Zhambyl indicated that making an appointment takes too much time.

Finally, waiting times were perceived as too long by half of the patients in Almaty, especially for GPs, and by one third of patients in Zhambyl.

Table 47 shows the same results, disaggregated by urban and rural location. The differences are smaller than the differences between the two regions. Rural respondents are slightly more positive than urban ones about opening hours and getting through to doctors, either in person or by telephone.

Table 47. **Patients who agreed with statements about the accessibility and quality of visits to their local PC facilities, urban versus rural**

Statement	Urban (n=121)		Rural (n=1 379)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
I can easily reach my polyclinic/ambulatory with public transport.	99	82	982	71	1 081	72
The practice/centre is easily accessible for the disabled and people in wheelchairs.	45	37	494	36	539	36
The patient waiting room is convenient.	87	72	967	70	1 054	70
My polyclinic/ambulatory has a web site.	4	3	85	6	89	6
My polyclinic/ambulatory has a complaint box that I can use to submit a complaint.	59	49	579	42	638	43
My polyclinic/ambulatory has a document specifying my rights and obligations as a patient.	77	64	788	57	865	58
When the facility is open and I want to visit a GP or therapist urgently, it is possible to visit for the same day.	51	42	740	54	791	53
During opening hours it is easy to get a doctor on the telephone for advice.	47	39	595	43	642	43
When I visit the practice there is always at least one doctor available.	61	50	854	62	915	61
When the polyclinic/ambulatory is closed, there is a telephone number to call if I get sick.	44	36	658	48	702	47
In my polyclinic/ambulatory it is possible to visit a GP or therapist on Saturdays or Sundays.	26	22	390	28	416	28
In my polyclinic/ambulatory it is possible to visit a GP or therapist after 18:00 (at least once per week).	22	18	313	23	335	22
I am satisfied with the facility's current opening hours.	55	46	756	55	811	54
Staff at the reception desk are kind and helpful.	97	80	1 117	81	1 214	81
Making an appointment with my GP/therapist takes too much time.	61	50	600	44	661	44
I need to wait too long in the waiting room to see the doctor.	31	26	592	43	623	42

5.3 Continuity of care

Longitudinal and interpersonal continuity
On average, respondents visited their PC doctors nearly four times a year, whether GPs or therapists (see Table 48). The visiting pattern was largely identical for both regions. Not having visited the doctor during the past year was exceptional, though it should be noted that the sample population was people who were visiting PC practices. A small majority reported one to three visits, while 30% of the patients reported that they had visited the doctor four to six times in the previous year. Frequent attendees, those with more than 12 visits, were more common in Zhambyl than in Almaty.

Table 48. Frequency of patients visiting PC physicians and nurses during the previous 12 months

Visits to PC providers in the past year	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
PC physicians						
• For patients of GPs						
» 0 visits	1	0	5	1	6	1
» 1–3 visits	215	48	356	64	571	57
» 4–6 visits	163	36	143	26	306	30
» 7–9 visit	51	11	14	3	65	7
» 10–12 visits	18	4	23	4	41	4
» 13 or more visits	2	0	16	3	18	2
• For patients of therapists						
» 0 visits	4	2	0	0	4	1
» 1–3 visits	142	59	164	65	306	62
» 4–6 visits	75	31	60	24	135	27
» 7–9 visit	10	4	13	5	23	5
» 10–12 visits	6	3	6	2	12	2
» 13 or more visits	3	1	10	4	13	3
Total						
• GP patients	450	100	557	100	1 007	100
• Therapist patients	240	100	253	100	493	100
Average frequency of patients visiting PC physicians per year						
• GP patients visiting GPs	4.1 visits		3.7 visits		3.9 visits	
• Therapist patients visiting therapists	3.5 visits		4.0 visits		3.8 visits	
PC nurses						
• For patients of GPs						
» 0 visits (to nurses)	25	6	95	17	120	12
» 1–3 visits	274	61	320	58	594	59
» 4–6 visits	105	23	96	17	201	20
» 7–9 visit	26	6	6	1	32	3
» 10–12 visits	19	4	18	3	37	4
» 13 or more visits	1	0	22	4	23	2
• For patients of therapists						
» No visits to nurses	29	12	39	15	68	14
» 1–3 visits	155	65	157	62	312	63
» 4–6 visits	40	17	30	12	70	14
» 7–9 visit	7	3	9	4	16	3
» 10–12 visits	9	4	6	2	15	3
» 13 or more visits	0	0	12	5	12	2
Total						
• GP patients visiting nurses	450	100	557	100	1 007	100
• Therapist patients visiting nurses	240	100	253	100	493	100
Average frequency of patients visiting PC nurses per year						
• GP patients	3.3 visits		3.3 visits		3.3 visits	
• Therapist patients	2.7 visits		4.0 visits		3.5 visits	

In addition to contacts with their doctors, most patients also visited nurses in the ambulatory or polyclinic. The reported visit frequency for nurses was around 3 in the year preceding data collection. In Almaty, 8% of patients and in Zhambyl 17% stated that they had not consulted with PC nurses during that period. Again, the category of frequent attendees (more than 12 visits) was slightly larger in Zhambyl than Almaty.

Critical aspects in patient evaluations of physicians include communication between doctor and patient, perceptions of the doctor's competence, and trust and confidence in the doctor. The conditions for a well-functioning relationship between doctor and patient also lie at the basis of a positive patient evaluation, for instance personal continuity and the allotment of time to patients during a consultation.

Before details of the patient evaluations are explained below, Tables 49 and 50 address some indicators of continuity: how long patients have been registered with their current doctor, whether they normally see the same doctor each time they visit the facility, and the usual length of consultation.

Conditions for continuity in the doctor–patient relationship were better in Zhambyl, where 44% of the patients said they had been with their current physician for more than three years, than in Almaty, where only 20% could say so (Table 49). Related is the fact that nearly half the respondents (44%) from Almaty registered with their current doctor during the previous year; while in Zhambyl the corresponding figure was one quarter (26%). These data point to considerable physician turnover in Almaty.

Table 49. Patients about their experiences with PC physicians, by region and type of physician

Statement	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
Length of time as a patient of the current GP or therapist						
• GP						
» Less than one year	219	49	151	27	370	37
» 1–3 years	118	26	112	20	230	23
» More than 3 years	92	21	261	47	353	35
» Don't know	20	5	33	6	53	5
• Therapist						
» Less than one year	84	35	60	24	144	29
» 1–3 years	79	33	67	27	146	30
» More than 3 years	53	22	99	39	152	31
» Don't know	24	10	27	11	51	10
When I visit a GP or therapist, I see the same doctor each visit						
• GP	424	89	460	83	884	88
• Therapist	210	88	206	81	416	84
Estimated duration of a consultation						
• GP						
» 0–5 minutes	0	0	13	2	13	1
» 6–10 minutes	115	26	80	14	195	19
» 11–15 minutes	212	47	156	28	368	37
» More than 15 minutes	123	27	308	55	431	43
• Therapist						
» 0–5 minutes	1	0	3	1	4	1
» 6–10 minutes	41	17	38	15	79	16
» 11–15 minutes	91	38	68	27	159	32
» More than 15 minutes	107	45	144	57	251	51
Average length of a consultation						
• GP	16.0 minutes		19.4 minutes		17.9 minutes	
• Therapist	17.4 minutes		18.9 minutes		18.2 minutes	
Estimated time between making an appointment and visiting the GP or therapist						
• GP						
» The visit is the same day.	124	28	323	58	447	44
» I have to wait 1 day.	249	55	51	9	300	30
» 2–3 days.	29	6	17	3	46	5
» More than 3 days.	2	0	8	1	10	1
» I never make appointments.	36	8	122	22	158	16
» I don't know.	10	2	36	7	46	5
• Therapist						
» The visit is the same day.	80	33	150	59	230	47
» I have to wait 1 day.	88	37	30	12	118	24
» 2–3 days.	1	0	9	4	10	2
» More than 3 days.	0	0	3	1	3	1
» I never make appointments.	62	26	50	20	112	23
» I don't know.	9	4	11	4	20	4
My GP or therapist knows my personal situation (e.g. work or home situation)**.**						
• GP	393	87	452	81	845	84
• Therapist	175	73	150	59	325	66
My GP or therapist knows the problems and illnesses that I have had (from my medical records)**.**						
• GP	405	90	446	80	851	85
• Therapist	198	83	184	73	382	76

Statement	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
My GP or therapist takes sufficient time to talk to me.						
• GP	407	90	467	84	874	87
• Therapist	182	76	193	76	375	76
My GP or therapist listens well to me.						
• GP	397	88	487	87	884	88
• Therapist	202	84	197	78	399	81
My GP or therapist deals not only with medical problems but can also help me with personal problems and concerns.						
• GP	205	46	421	76	626	62
• Therapist	68	28	134	53	202	41
My GP or therapist provides clear explanations about my illnesses and prescriptions.						
• GP	326	72	490	88	816	81
• Therapist	131	55	197	78	328	67
My GP or therapist would visit me at home if I asked.						
• GP	221	49	478	86	699	69
• Therapist	111	46	195	77	306	62
After a visit to my GP or therapist, I feel able to cope better with my health problems.						
• GP	351	78	449	81	800	79
• Therapist	142	59	157	62	299	61
When I have a new health problem, I go to my GP or therapist before going to a medical specialist.						
• GP	401	89	480	86	881	88
• Therapist	184	77	199	79	383	78
My polyclinic/ambulatory has sufficient medical equipment.						
• GP	68	15	233	42	301	30
• Therapist	49	20	89	35	138	28

Most patients indicated that they see their own doctor every time they visit their PC centre or polyclinic. Only 8 to 18 percent of the patients responded that that was not always the case. Results concerning the length of the consultations point to sufficient time being allotted to individual patients, with the average consultation lasting 18 minutes. Consultations of 10 minutes or less were mentioned by 23% of the respondents in Almaty and 15% of those in Zhambyl. Consultations taking more than 15 minutes were normal according to one third to one half of all respondents.

Most patients indicated they could visit their GP or therapist the same or the next day after making an appointment. Waiting times of two or more days were exceptional. Therapist patients were more likely than GP patients to say they never made an appointment. The differences between urban and rural areas on wait times were minor (Table 50).

Table 50.   Patients about their experiences with PC physicians, urban versus rural

Statement	Urban (n=121)		Rural (n=1 379)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
Length of time as a patient of the current GP or therapist						
• Less than one year	41	34	473	34	514	34
• 1–3 years	34	28	342	25	376	25
• More than 3 years	38	31	467	34	505	34
• Don't know	8	7	96	7	104	7
When I visit a GP or therapist, I see the same doctor each visit	100	83	1 200	87	1 300	87
Estimated duration of a consultation						
• 0–5 minutes	0	0	17	1	17	1
• 6–10 minutes	19	16	255	19	274	18
• 11–15 minutes	38	31	489	36	527	35
• More than 15 minutes	64	53	618	45	682	46
Average length of a consultation	18.3 minutes		18.0 minutes		18.0 minutes	
Estimated time between making an appointment and visiting the GP or therapist						
• The visit is the same day.	47	39	630	46	677	45
• I have to wait 1 day.	41	34	377	27	418	28
• 2–3 days.	0	0	56	4	56	4
• More than 3 days.	1	1	12	1	13	1
• I never make appointments.	28	23	242	18	270	18
• I don't know.	4	3	62	5	66	4
My GP or therapist knows my personal situation (e.g. work or home situation).	82	68	1 088	79	1 170	78
My GP or therapist knows the problems and illnesses that I have had (from my medical records).	86	71	1 147	83	1 233	82
My GP or therapist takes sufficient time to talk to me.	90	74	1 159	84	1 249	83
My GP or therapist listens well to me.	99	82	1 184	86	1 283	86
My GP or therapist deals not only with medical problems but can also help me with personal problems and concerns.	41	34	787	57	828	55
My GP or therapist provides clear explanations about my illnesses and prescriptions.	66	55	1 078	78	1 144	76
My GP or therapist would visit me at home if I asked.	68	56	937	68	1 005	67
After a visit to my GP or therapist, I feel able to cope better with my health problems.	69	57	1 030	75	1 099	73
When I have a new health problem, I go to my GP or therapist before going to a medical specialist.	98	81	1 166	85	1 264	84
My polyclinic/ambulatory has sufficient medical equipment.	24	20	415	30	439	29

The bottom parts of Tables 49 and 50 summarize patients' evaluation of their PC physicians. A large majority of patients (around 80%) reported that their doctors were familiar with individual situations. They assumed that their doctors know about their past problems and illnesses from their medical records, and that their doctors would also know their personal work and living situation.

Respondents generally appreciated their doctors' communication skills, such as listening and explaining. The patients of GPs generally rated their doctors more highly in these areas than patients of therapists. Patients in Zhambyl (Table 49) and in rural areas (Table 50) were more positive about their doctor than patients in Almaty and urban areas.

Patients felt their doctors were more helpful on medical problems than personal problems and concerns. In Almaty only 40% and in Zhambyl 55% stated that they could present with nonmedical problems. Rural doctors were perceived to be more useful for nonmedical problems than urban doctors.

The inclination of doctors to make home visits if requested by the patients was perceived to be much higher in Zhambyl (83%) than in Almaty (48%), and somewhat higher in rural (68%) than urban areas (56%).

The statement about feeling better able to cope with health problems after visiting the doctor is an overall judgement about the physician's effectiveness. Almost three quarters of the respondents agreed with the statement, with patients of GPs more likely to agree than those of therapists. Differences between the regions on this indicator were small, while rural patients felt this positive attitude towards their doctor often than urban patients.

More than four in five patients from both regions indicated they would go to their GP or therapist with a new health problem before seeking help from a medical specialist.

The area where patients were most critical was towards the equipment in their ambulatory or polyclinic. Almost three quarters disagreed with the statement that the equipment there was sufficient. In Almaty only 17% and in Zhambyl 40% of the patients described it as sufficient. Patients in urban practices were also somewhat less satisfied with the available equipment than patients in rural practices. It is important, however, to relate these patient assessments to the physician reports about equipment availability (Chapter 4). To begin with, it is likely that the patient perceptions were based on more than just the availability of medical equipment. Patients probably took into account the state and quality of the equipment, while the physicians were just asked to indicate availability. Regardless, it can be concluded that most patients would favour new investments in equipment.

Comprehensiveness of care: health promotion
According to the majority of the patients surveyed, especially in Zhambyl, their doctor talked with them about different ways to stay healthy (Table 51). The most frequently mentioned advice was on eating healthy, followed by advice on exercising. Advice related to alcohol use or smoking was mentioned less frequently; in Almaty by half the patients and in Zhambyl by three quarters.

Table 51. Patients reporting healthy behaviours that their PC physicians promoted, by region

Behaviour	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
Eating healthy	519	75	705	87	1 224	82
Exercising	501	73	657	81	1 158	77
Moderating alcohol use	338	49	619	76	957	64
Reducing or stopping smoking	342	50	627	77	969	65

As Table 52 shows, patients did not feel that GPs were involved in these forms of health promotion more often than therapists. On the contrary, in Almaty the respondents described GPs as slightly less involved.

Table 52. Patients reporting healthy behaviours that their PC physicians promoted, by type of physician

Behaviour	Almaty (n=690)		Zhambyl (n=810)	
	Patients	%	Patients	%
Eating healthy				
• GPs	278	74	409	88
• Therapists	241	77	296	86
Taking physical exercise				
• GPs	273	73	384	82
• Therapists	228	73	273	80
Moderating use of alcohol				
• GPs	175	47	356	76
• Therapists	163	52	263	77
Reducing or stopping smoking				
• GPs	117	47	365	78
• Therapists	165	53	262	76

5.4 Choice of provider and coordination of care

Choice of provider

Most Kazakh patients have not had the freedom to choose their PC doctors, as can be seen in Table 53. This freedom appears to have been more limited in Almaty, where 87% of respondents reported being assigned to their doctors, than in Zhambyl, where 71% did. A question about the freedom to change doctors received an equally emphatic response, with 84% of patients in Almaty and 68% in Zhambyl answering that changing was not possible. Another 10% and 14%, respectively, did not know whether or not they could change physicians.

Table 53.   Patients' freedom to choose and change their PC physician

Indicator	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
Number of patients reporting they were assigned to their present physicians	597	87	574	71	1 171	78
Number of patients reporting they could not change physicians	577	84	551	68	1 128	75

Coordination of care

Around three quarters of the respondents, concentrated in Almaty, held positive views about the exchange of information between their own physician and other treating physicians (see Table 54). In Almaty 79% and in Zhambyl 60% of the respondents stated that if they visited another physician than their own GP or therapist, this doctor would have access to all the relevant patient information. In addition, 80% in Almaty and 67% in Zhambyl believed that in referring them to a specialist, their GP or therapist keep the specialist informed. Similarly, 80% and 76% of the respondents, respectively, answered that their GP or therapist would be informed of the results of any specialist treatment.

Table 54.   Patients about their experiences with information-sharing and cooperation in PC, by region

Statement	Almaty (n=690)		Zhambyl (n=810)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
When I visit a doctor other than my own GP or therapist, he or she has access to all the relevant information about me.	547	79	487	60	1 034	69
When referring me to a medical specialist, my GP or therapist informs the other doctor about my condition.	550	80	545	67	1 095	73
If I have been treated by a medical specialist, my GP or therapist will know the results.	550	80	615	76	1 165	78
To see a specialist, I first need to visit my GP or therapist for a referral.	609	88	695	86	1 304	87
My GP or therapist works well with the practice nurse.	435	63	665	82	1 100	73
Sometimes a nurse conducts the consultation, making it unnecessary for me to see my GP or therapist.	535	78	539	67	1 074	72
Specialists from the health promotion centre are available in my polyclinic or ambulatory to provide information about unhealthy living and illness prevention.	588	85	594	73	1 182	79

Patients from both regions were very clear about the need to visit their GP or therapist before being able to consult a medical specialist for free at the secondary or tertiary level. Almost all reported first seeing their PC doctor before visiting secondary care services (Table 49).

There was general agreement among respondents, especially strong in Zhambyl, that PC doctors and nurses worked well together. A majority of patients (78% in Almaty and 67%

in Zhambyl) also reported that sometimes PC nurses conducted patient consultations independently, thus making contact with the GP or therapist unnecessary.

Most patients seem to be aware of the presence of health promotion specialists in their ambulatory or polyclinic. This awareness was more pronounced in Almaty (85%) than in Zhambyl (73%).

Table 55 breaks down the information and cooperation findings in Table 54 by type of PC physician. Overall, the patients of GPs tended to find higher levels of coordination than the patients of therapists. Such differences were more evident in Zhambyl than in Almaty. In Zhambyl GP patients were much more likely than therapist patients to say that their doctors would inform other treating physicians, while in Almaty there was no difference, though only because the therapist patients reported their PC doctors' information sharing much more positively there. GP patients were also more likely to report that their doctors were informed about the results of specialist treatment. Finally, GPs were perceived as cooperating better with nurses than therapists were, especially in Almaty, and nurses in GP practices were reported seeing patients independently more often than therapists' nurses, again especially in Almaty.

Table 55.   Patients about their experiences with information-sharing and cooperation, by type of physician

Statement	Almaty (n=690)		Zhambyl (n=810)	
	Patients	%	Patients	%
When I visit a doctor other than my own GP or therapist, he or she has access to all the relevant information about me.				
• GPs	298	79	337	72
• Therapists	249	79	150	44
When referring me to a medical specialist, my GP or therapist informs the other doctor about my condition.				
• GPs	294	78	326	70
• Therapists	256	82	219	64
If I have been treated by a medical specialist, my GP or therapist will know the results.				
• GPs	317	84	388	83
• Therapists	233	74	227	66
To see a specialist, I first need to visit my GP or therapist for a referral.				
• GPs	329	88	406	87
• Therapists	280	89	289	84
My GP or therapist works well with the practice nurse.				
• GPs	266	71	394	84
• Therapists	169	54	271	79
Sometimes a nurse conducts the consultation, making it unnecessary for me to see my GP or therapist.				
• GPs	312	83	323	69
• Therapists	223	71	216	63
Specialists from the health promotion centre are available in my polyclinic or ambulatory to provide information about unhealthy living and illness prevention.				
• GPs	310	82	356	76
• Therapists	278	89	238	69

Rural patients, in general, reported these information-sharing and communication practices more positively than urban patients (see Table 56). In particular, they were much more likely than urban patients to say that their doctor worked well together with the practice nurse. In rural areas, more patients also reported that the nurse made independent consultations.

Table 56.   Patients about their experiences with information-sharing and cooperation in PC, urban versus rural

Statement	Urban (n=121)		Rural (n=1 379)		Total (n=1 500)	
	Patients	%	Patients	%	Patients	%
When I visit a doctor other than my own GP or therapist, he or she has access to all the relevant information about me.	73	60	961	70	1 034	69
When referring me to a medical specialist, my GP or therapist informs the other doctor about my condition.	82	68	1 013	74	1 095	73
If I have been treated by a medical specialist, my GP or therapist will know the results.	80	66	1 085	79	1 165	78
To see a specialist, I first need to visit my GP or therapist for a referral.	104	86	1 200	87	1 304	87
My GP or therapist works well with the practice nurse.	67	55	1 033	75	1 100	74
Sometimes a nurse conducts the consultation, making it unnecessary for me to see my GP or therapist.	70	60	1 004	73	1 074	72
Specialists from the health promotion centre are available in my polyclinic or ambulatory to provide information about unhealthy living and illness prevention.	97	80	1 085	79	1 182	79

Urban and rural patients reported being equally clear on the need to visit their PC physician before seeing a specialist. They also were equally likely to report (around 80%) the availability of health promotion experts in their PC facility to provide health information and education.

6.SUMMARY

6.1   Overview of findings

Table 57 provides an overview of this study's results and conclusions, structured according to health system functions and selected dimensions from the Primary Care Evaluation Scheme outlined in Chapter 1 (Table 2).

Table 57.   Summary of selected findings from the PCET in Kazakhstan

Dimension	Subtheme	Indicators and findings	Background	Sources
Stewardship				
Policy development	PC as priority area	• Specific legislation developed concerning PC: yes • Ministry of Health department dealing specifically with PC: yes (since 2003)	In 2004, the State Programme for Health Care Reform and Development in the Republic of Kazakhstan for 2005–2010 was launched. This comprehensive programme aimed, among other things, to prioritize the development of PC and prevention.	National-level survey
	Regional variations	Health budgets have been consolidated, with the pooling and purchasing functions for PC assigned to regions, and for hospital care to the national government	By the 1995 Law on Local Self-government, the management and financing functions of health care were delegated to regions. In 2005, budgets and allocation were consolidated at the regional level. It was reversed for the hospital sector in September 2009.	National-level survey
	Subjects of debate	• Incentive-based GP payment scheme • New health reform strategy for the years 2010–2020		National-level survey
Conditions for the care process	Laws and regulation	• State Programme for Health Care Reform and Development 2005–2010 • Resolution No. 1304 (2005), *About measures to improve primary care for the population of Kazakhstan* • Prikaz Nr. 124 (2006), *About functioning of medical organizations providing PHC* [primary health care] *services* • Health Code (2009), which aimed to clean up and harmonize existing legislation		National-level survey
Conditions for responsiveness	Involvement of professionals and patients in policy process	KAFP is an active stakeholder.		National-level survey

Dimension	Subtheme	Indicators and findings	Background	Sources
	Patient rights	% of PC centres and practices that have patient complaint procedures in place (according to doctors): 80%	All health care facilities are obliged to have a complaint procedure in place, including a complaint collection box and a committee. A total of 58% of patients report that their polyclinics and ambulatories have made available a document specifying patient rights and obligations.	National-level, physician and patient surveys
Financing				
Incentives for providers		Employment status of PC physicians: >90% state-employed		Physician survey
Financial access for patients		% of patients reporting co-payments for drugs prescribed in PC: 89%	PC is for most patients free, except for prescribed medicines and injections. Most patients report being charged co-payments for these goods. For 15% of the patients, these fees prevented them from using health care services at some point in the previous year.	Patient survey
Resource generation				
Professional development	Workforce	• % of active physicians working in PC: 15% • % of PC physicians who are GPs: 19% • Average age of GPs: 48 years • Average age of "therapists" (internists): 46 years		Physician survey
	Human resource shortages	In all, 64% of GPs and 59% of therapists reported shortages existing for more than 6 months	Survey results point to severe shortages of GPs and therapists, with more moderate shortages of paediatricians, gynaecologists, nurses and support staff.	Physician survey

	Quality improvement mechanisms	• Hours PC physicians report using for professional reading and information gathering per month:
		  » GPs: 18 hours
		  » therapists: 19 hours
		• % of PC physicians reporting they frequently use clinical guidelines: 87%
				Physician survey

	Human resources planning	• Proportion of GPs who are older than 50 and will thus retire in the near future: 53%		Physician survey
	Organization of professionals	• Medical universities in Kazakhstan with GP (re) training facility: 9 (all)	All medical educational institutes have departments of family medicine, but only two have professors in family medicine.	National-level survey

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Dimension	Subtheme	Indicators and findings	Background	Sources
Resource generation				
Medical equipment		• Average number of PC medical equipment items available to PC physicians (from a list of 30 items): 21 • % of therapists reporting they used a computer: 58% • % of GPs reporting no or insufficient access to X-ray facilities: 17% • % of patients who described equipment in PC practices as insufficient: 71%	Computerization of PC practices is one area requiring further development. Physicians say they use computers most frequently for writing prescriptions and to a lesser extent for keeping patient records. Using them to search for information is quite uncommon. The medical equipment situation is somewhat better in Zhambyl than Almaty. Laboratory facilities are available in most PC practices, more often than X-ray facilities. A large majority of patients say that equipment in practices is not good enough, especially not in Almaty.	Physician and patient surveys
Delivery of care				
Accessibility				
Geographical access		• Patients reporting up to 20 minutes travel to GP or therapist: 30%	Most patients in both regions report they can easily reach their polyclinic or ambulatory using public transport. Nevertheless, the majority need more than 20 minutes to reach either their preferred PC facilities or the hospital. Travel times of more than 40 minutes to the dentist and hospital are frequently reported in both regions.	Patient survey
Organizational access	Practice population	• Reported number of patients per GP: 2 259 patients • Reported number of patients per therapist: 2 479 patients	Practice populations in Zhambyl (averaging 2 471 patients) are larger than those in Almaty (2 267 patients). The size of practice populations is larger than national norms (which for are GPs 2 000, for therapists 2 200).	Physician survey
	Workload	• Office consultations per day per GP: 23 • Office consultations per day per therapist: 23 • Home visits per week per GP: 24 • Home visits per week per therapist: 24 • GP workweek: 37 hours • Therapist workweek: 35 hours	The workload of PC physicians is higher in Almaty than in Zhambyl. In contrast to urban PC physicians, rural ones see somewhat more patients in their office and fewer patients at home, and they work longer hours. There are no substantial differences between GPs and therapists for these indicators (except that GPs reported to work two hours more per week than therapists).	Physician survey

Dimension	Subtheme	Indicators and findings	Background	Sources
	Patient access and service availability	Annual frequency of visits to PC physicians: 3.8 visits per patient Annual frequency of visits to PC nurses: 3.3 visits per patient Average length of patient consultation: 18 minutes % of PC physicians who report offering same-day consultations: 96% % of patients who report being able to get same day consultations from PC physicians: 53% % of PC physicians who report offering evening consultations at least once a week: 41% % of patients who report they can visit their GP or therapist after 18.00 at least once a week: 22%	Patients see their PC physicians almost four times a year and see PC nurses (without seeing their doctors) three times. Most patients report that their physicians spend sufficient time on them. Patients experience obstacles to access both during and outside the normal hours of their PC provider, especially in Almaty. Only one third of the patients in Almaty and two thirds in Zhambyl are satisfied with current opening hours.	National-level, physician and patient surveys
Coordination				
Cohesion in PC	Practice management	Among PC physicians, 31% have one-person practices, which are typically rural.	Two thirds of PC physicians share practices with other PC physicians and/or medical specialists.	Physician survey
	Collaboration	• % of PC physicians who share premises with other PC physicians: 33% • % of PC physicians who meet regularly face-to-face with: » practice nurses: 71% » midwives: 71% » pharmacists: 29%	It is typical for PC doctors in Kazakhstan to share premises with nurses and midwives. Most PC physicians meet regularly with other health professionals of several kinds, including community nurses, other PC physicians, midwives and practice nurses, and excluding only pharmacists. Most patients report that sometimes nurses see them alone, making a visit with their physician unnecessary.	Physician and patient surveys
Coordination with other care levels	Referral system	• Referral rates (% of all office and home care contacts that end in referrals): » GPs: 7.5% » therapists: 8.9% » rural: 7.3% » urban: 11.1%	More than 80% of patients in both regions report they visit their GP or therapist with a new health problem first, before they seek specialist care. PC physicians report high referral rates, with therapists referring more patients than GPs. PC physicians in rural areas refer patients less often than those in urban settings. This tendency reflects the reduced availability of specialist providers and facilities in rural areas. In both regions, the highest proportion of referrals is to specialists in internal medicine and gynaecologists, the lowest to dermatologists and paediatricians.	National-level, physician and patient surveys

Dimension	Subtheme	Indicators and findings	Background	Sources
	Collaboration with secondary level	More than 90% of PC physicians had regular consultations with neurologists, gynaecologists, specialists in internal medicine and surgeons.		Physician survey
Continuity				
Informational continuity		• % of PC physicians reporting that they routinely keep medical records of all patient contacts: GPs:78% Therapists 74% • % of PC physicians reporting routine use of referral letters: GPs: 81% ; Therapists 72% • % of PC physicians reporting to use a computer: GPs: 64% ; Therapists: 47%	Almost one quarter of the PC physicians surveyed do not keep routine clinical records. A small minority are unable to identify risk groups in their files. Referral letters are routinely used by three quarters of the physicians. There appear to be plenty of opportunities for improving the efficiency and usability of information in PC. In both regions, computers are used by only about half of the PC physicians, and then for only very few applications. About a quarter of the patients report that the exchange of information between their physician and other doctors could be improved.	Physician and patient surveys
Longitudinal continuity		• % of patients reporting having been with their GP for at least one year: 66% • % of patients reporting they had not chosen their doctor but were assigned: 78%	Most surveyed patients report being assigned to their PC doctor, and most report not being able to change doctors. The conditions for doctor–patient continuity are better in Zhambyl than in Almaty, where there appears to be high turnover in PC physicians.	Patient survey

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Dimension	Subtheme	Indicators and findings	Background	Sources
Interpersonal continuity		• Differences were found: » between GPs and therapists; » between both regions; and » between urban and rural doctors.	Patients usually see their own GP or therapist whenever visiting their PC centre. Consultations last relatively long. Patients in Zhambyl and rural patients are more positive about their PC doctors than patients in Almaty and urban patients. Most patients are confident that their doctor knows their medical history and current health problems. GP patients are more likely than therapist patients to report that their doctor knows their personal situation and spends enough time with them. Patients generally appreciate their PC doctors' communication skills, such as listening and giving information. Patients report that their doctor is less accessible for consultation on nonmedical problems, though GPs are perceived as more open to such problems than therapists. Around three quarters of patients feel better able to cope with their health problems after consulting with their PC doctors. This sentiment is stronger for rural than for urban doctors, and for GPs than for therapists. Many more patients in Zhambyl are satisfied with their doctors' willingness to visit them at home than in Almaty.	Patient survey
Comprehensiveness				
Practice conditions	Convenience	• Patients reporting poor access to PC premises for disabled visitors: 35%	Access to premises for the handicapped and those using a wheelchair could be improved in both regions. Patients are generally satisfied with how they are treated at the reception desk of their PC facility. Patients in Almaty are much more likely to report positive impressions of the quality of waiting rooms than those in Zhambyl.	National-level and patient surveys

Dimension	Subtheme	Indicators and findings	Background	Sources
	Information materials		PC practices in both regions generally provide enough information leaflets for patients in the waiting room, except for materials on vaccination, which are absent from most practices. The availability of information on obesity and healthy diet could also be improved.	Physician survey
Service delivery	Population groups served	• Consolidated score for GPs as doctor of first contact (potential range 1.00–4.00): 2.39 • Same score for therapists: 1.88	GPs reported being much more likely to be doctors of first contact for patient problems than therapists did. This is particularly the case for paediatric problems, gynaecological problems and contraception. GPs in Almaty report having a somewhat greater role in first-contact care than GPs in Zhambyl. Rural GPs report having a more significant first-contact role than urban GPs, who have about the same consolidated score as rural therapists.	Physician survey
	Involvement of PC physicians in the treatment of diseases	• Consolidated score for the treatment of diseases by GPs (potential range 1.00–4.00): 2.81 • Same score for therapists: 2.76	Both GPs and therapists are strongly involved in the treatment and follow-up of common diseases among their patients. The strongest involvement has been shown by GPs in Almaty, particular for acute cerebrovascular accidents, diabetes type II and palliative care. No difference has been found between urban and rural PC practices.	Physician survey
	Provision of technical medical procedures	• Consolidated score for the provision of technical medical procedures by GPs (potential range 1.00–3.00): 1.50 • Same score for therapists: 1.34 • Routine coverage of public health activities by GPs: 77% • Same for therapists: 68% • Involvement of GPs in cervical cancer screening: 66% • Same for therapists: 59%	GPs and therapists seldom carry out technical medical and preventive procedures. Only 3 of 16 such tasks appear to be routine tasks. Rural GPs handle such procedures more than urban GPs and therapists. GPs are more involved than therapists in public health activities such as monitoring schoolchildren and screening for HIV. Most patients report that their PC physicians pay attention to eating habits and exercise, but less so to alcohol and tobacco use. GPs are slightly less involved in promoting healthy behaviour than therapists. In most waiting rooms, patients are offered information on cardiovascular disease risks and smoking cessation.	Physician and patient surveys

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Dimension	Subtheme	Indicators and findings	Background	Sources
	Provision of reproductive, maternal and child health care	• % of GPs providing routine antenatal care: 92% • % of therapists providing routine antenatal care: 83%	GPs are generally more involved in the provision of services to mothers and children than therapists, especially in Almaty.	Physician survey
Community orientation		• % of physicians who report meeting regularly with local authorities: 66%	In both regions, connections between PC physicians and the community are fairly strong, and two thirds of the doctors report meeting regularly with local authorities. Other sorts of links with the community are less usual.	Physician survey

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ANNEX 1. ADDITIONAL SERVICE DELIVERY TABLES

(Tables 32–37)

Table 32. PC physicians who think they would serve as first contact for specific health-related problems, by region and type of physician

Patient and problem	Almaty (n=138)			Zhambyl (n=146)			Total (n=284)		
	% of GPs[a]	% of therapists[a]	Valid responses	% of GPs[a]	% of therapists[a]	Valid responses	% of GPs[a]	% of therapists[a]	Valid responses
Child with rash	68 (15)	26 (26)	95/43	63 (15)	18 (23)	96/44	65 (15)	22 (24)	191/87
Child with severe cough	60 (25)	30 (23)	95/43	71 (8)	34 (18)	97/44	66 (17)	32 (21)	192/87
Child age 7 with enuresis	56 (18)	14 (26)	95/43	42 (19)	9 (18)	97/44	49 (18)	12 (22)	192/87
Child age 8 with hearing problem	45 (23)	16 (16)	95/43	34 (19)	4 (16)	97/45	40 (21)	10 (16)	192/88
Woman age 18 asking for oral contraception	36 (25)	19 (23)	95/43	26 (22)	20 (16)	97/45	31 (23)	14 (19)	192/88
Woman age 20 for confirmation of pregnancy	54 (20)	35 (23)	95/43	49 (20)	26 (30)	98/46	51 (20)	30 (27)	193/89
Woman aged 35 with irregular menstruation	43 (34)	37 (26)	95/43	41 (34)	26 (33)	98/46	42 (34)	32 (29)	193/89
Woman age 50 with lump in the breast	53 (23)	54 (33)	95/43	43 (34)	28 (47)	99/47	48 (29)	40 (40)	194/90
Woman age 60 with polyuria	50 (23)	51 (26)	95/43	40 (30)	40 (26)	99/49	45 (27)	46 (26)	194/90
Anxious man age 45	37 (35)	37 (40)	95/43	47 (21)	32 (34)	98/47	42 (28)	34 (37)	193/90
Man age 28 with a first convulsion	34 (23)	37 (37)	95/43	41 (19)	36 (28)	98/47	37 (21)	37 (32)	193/90
Physically abused child	23 (12)	0 (9)	95/43	20 (19)	9 (13)	97/46	21 (15)	5 (11)	192/89
Couple with relationship problems	21 (25)	7 (19)	95/43	13 (24)	4 (13)	97/45	17 (25)	6 (16)	192/88
Man with suicidal inclination	12 (22)	5 (7)	95/43	10 (15)	4 (16)	96/45	11 (18)	4 (11)	191/88
Woman age 35 with psychosocial problem related to work	24 (27)	19 (42)	95/43	17 (34)	26 (24)	98/46	21 (31)	23 (33)	193/89
Man age 32 with sexual problems	19 (26)	9 (49)	95/43	16 (22)	11 (22)	98/46	18 (24)	7 (35)	193/89
Man age 52 with alcohol addiction	35 (35)	11 (49)	95/43	19 (28)	20 (35)	98/46	27 (31)	20 (42)	193/89
Man with symptoms of TB	65 (20)	63 (28)	95/43	58 (28)	66 (19)	99/47	61 (24)	64 (23)	194/90
First-contact score[b]	**2.50**	**1.89**	—	**2.28**	**1.87**	—	**2.39**	**1.93**	—

[a] The first number is the % of physicians who say they are "(almost) always" or "usually" the doctor of first contact, while the number in parentheses is the % who say they are "occasionally" the doctor of first contact.
[b] The first-contact score is an average of responses, in which "seldom/never" = 1, "occasionally" = 2, "usually" = 3 and "(almost) always" = 4.

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Table 33.   PC physicians who think they would serve as first contact for specific health-related problems, urban versus rural

Patient and problem	Urban (n=66)			Rural (n=218)			Total (n=284)		
	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses
Child with rash	39 *(11)*	8 *(12)*	36/26	72 (16)	28 *(30)*	155/61	65 *(15)*	22 *(24)*	191/87
Child with severe cough	41 *(14)*	12 (12)	37/26	72 (17)	41 *(25)*	155/61	66 *(17)*	32 *(21)*	192/87
Child age 7 with enuresis	35 *(8)*	- *(12)*	37/26	52 *(21)*	16 *(26)*	155/61	49 *(18)*	12 *(22)*	192/87
Child age 8 with hearing problem	30 *(11)*	- *(8)*	37/26	42 *(23)*	15 *(19)*	155/62	40 *(21)*	10 *(16)*	192/88
Woman age 18 asking for oral contraception	14 *(19)*	15 (15)	37/26	35 *(25)*	21 *(21)*	155/62	31 *(23)*	19 *(19)*	192/88
Woman age 20 for confirmation of pregnancy	34 *(11)*	22 (15)	38/28	56 *(23)*	34 *(32)*	155/62	51 *(20)*	30 *(27)*	193/89
Woman age 35 with irregular menstruation	29 *(37)*	11 (30)	38/27	45 *(33)*	40 *(30)*	155/62	42 *(34)*	32 *(29)*	193/89
Woman age 50 with lump in the breast	37 *(40)*	29 *(57)*	38/28	52 *(26)*	45 *(32)*	156/62	48 *(29)*	40 *(40)*	194/90
Woman age 60 with polyuria	42 *(34)*	50 *(29)*	38/28	46 *(25)*	44 *(24)*	156/62	45 *(27)*	46 *(26)*	194/90
Anxious man age 45	47 *(11)*	32 (46)	38/28	41 *(32)*	36 *(32)*	155/62	42 *(28)*	34 *(37)*	193/90
Man age 28 with a first convulsion	40 *(5)*	32 *(32)*	38/28	37 *(25)*	39 *(32)*	155/62	33 *(21)*	37 *(32)*	193/90
Physically abused child	16 *(8)*	- *(4)*	37/27	23 *(17)*	7 *(15)*	155/62	21 *(15)*	5 *(11)*	192/89
Couple with relationship problems	16 *(11)*	4 *(8)*	37/26	17 *(28)*	7 *(19)*	155/62	17 *(25)*	6 *(16)*	192/88
Man with suicidal inclina-tion	11 *(6)*	4 *(4)*	36/26	11 *(21)*	5 *(15)*	155/62	11 *(18)*	5 *(11)*	191/88
Woman age 35 with psycho-social problem related to work	26 *(29)*	22 *(22)*	38/27	19 *(31)*	23 *(37)*	155/62	21 *(31)*	23 *(33)*	193/89
Man age 32 with sexual problems	18 *(18)*	7 *(22)*	38/27	17 *(26)*	7 *(40)*	155/62	18 *(24)*	7 *(35)*	193/89
Man age 52 with alcohol addiction	18 *(32)*	19 *(30)*	38/27	29 *(31)*	21 *(47)*	155/62	27 *(31)*	20 *(44)*	193/89
Man with symptoms of TB	71 *(16)*	64 *(25)*	38/28	59 *(26)*	65 *(23)*	156/62	61 *(24)*	64 *(23)*	194/90
First-contact score[b]	**1.97**	**1.76**		**2.48**	**2.00**		**2.39**	**1.93**	

[a] The first number is the % of physicians who say they are "(almost) always" or "usually" the doctor of first contact, while the number in parentheses is the % who say they are "occasionally" the doctor of first contact.

[b] The first-contact score is an average of responses, in which "seldom/never" = 1, "occasionally" = 2, "usually" = 3 and "(almost) always" = 4.

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Table 34.   PC physicians who think they would be involved in the treatment and follow-up specific diseases, by region

Disease or condition	Almaty (n=138)			Zhambyl (n=146)			Total (n=284)		
	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses
Hyperthyroid-ism	35 (35)	33 (42)	95/43	22 (28)	32 (30)	99/47	28 (31)	32 (36)	194/90
Chronic bron-chitis	94 (1)	93 (5)	95/43	97 (2)	89 (4)	99/47	95 (2)	91 (4)	194/90
Hordeolum (sty)	57 (23)	40 (23)	95/43	49 (27)	26 (32)	98/47	53 (25)	32 (28)	193/90
Peptic ulcer	79 (13)	81 (14)	95/43	75 (15)	81 (6)	98/47	77 (14)	81 (10)	193/90
Herniated disc lesion	38 (28)	37 (30)	95/43	37 (31)	40 (34)	97/47	38 (30)	39 (32)	192/90
Acute cer-ebrovascular accident	75 (16)	63 (26)	95/43	60 (24)	68 (11)	98/47	67 (20)	66 (18)	193/90
Congestive heart failure	77 (13)	86 (7)	95/43	73 (13)	79 (13)	97/47	75 (13)	82 (10)	192/90
Pneumonia	82 (15)	93 (7)	95/43	84 (12)	79 (11)	98/47	83 (14)	86 (9)	193/90
Peritonsilar abscess	25 (19)	12 (28)	95/43	22 (23)	15 (20)	97/46	23 (21)	14 (24)	192/89
Ulcerative colitis	50 (24)	40 (28)	95/43	39 (25)	50 (17)	98/46	44 (24)	45 (23)	193/89
Salpingitis	36 (27)	28 (19)	95/43	32 (26)	15 (22)	98/46	34 (26)	21 (20)	193/89
Concussion of brain	44 (31)	54 (28)	95/43	46 (27)	35 (24)	98/46	45 (29)	44 (26)	193/89
Parkinson disease	25 (24)	37 (21)	95/43	20 (30)	28 (17)	97/46	22 (27)	33 (19)	192/89
Uncomplicated diabetes (type II)	67 (11)	74 (9)	95/43	48 (28)	52 (23)	98/46	58 (19)	63 (16)	193/89
Rheumatoid arthritis	78 (8)	81 (16)	95/43	81 (11)	81 (4)	98/47	79 (10)	81 (10)	193/90
Depression	36 (33)	37 (35)	95/43	38 (31)	45 (28)	98/47	37 (32)	41 (31)	193/90
Myocardial infarction	76 (15)	77 (16)	95/43	70 (15)	75 (2)	98/47	73 (15)	76 (9)	193/90
Follow-up TB care	88 (3)	77 (7)	95/43	81 (12)	79 (4)	98/47	85 (8)	78 (6)	193/90
Palliative care	78 (17)	70 (19)	95/43	46 (27)	47 (30)	99/47	62 (22)	58 (24)	194/90
Treatment score[b]	**2.91**	**2.79**	—	**2.72**	**2.72**	—	**2.81**	**2.76**	—

[a] The first number is the % of physicians who say they are "(almost) always" or "usually" involved in treatment and follow-up of the given condition, while the number in parentheses is the % who say they are "occasionally" involved.

[b] The treatment score is an average of responses, in which "seldom/never" = 1, "occasionally" = 2, "usually" = 3 and "(almost) always" = 4.

Table 35. PC physicians who think they would be involved in the treatment and follow-up of specific diseases, urban versus rural

Disease or condition	Urban (n=66)			Rural (n=218)			Total (n=284)		
	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses
Hyperthyroid-ism	34 *(24)*	25 *(39)*	38/28	27 *(33)*	36 *(34)*	156/62	28 *(31)*	32 *(36)*	194/90
Chronic bron-chitis	100 *(0)*	93 *(4)*	38/28	94 *(2)*	90 *(5)*	156/62	95 *(2)*	91 *(4)*	194/90
Hordeolum (sty)	30 *(24)*	29 *(21)*	37/28	58 (25)	34 *(31)*	156/62	53 (25)	32 *(28)*	193/90
Peptic ulcer	95 *(5)*	93 (4)	37/28	72 *(16)*	76 *(13)*	156/62	77 *(14)*	81 *(10)*	193/90
Herniated disc lesion	36 *(39)*	54 *(36)*	36/28	38 *(28)*	32 *(31)*	156/62	38 *(30)*	39 *(32)*	192/90
Acute cer-ebrovascular accident	62 *(24)*	71 *(18)*	37/28	69 *(19)*	63 *(18)*	156/62	67 *(20)*	66 *(18)*	193/90
Congestive heart failure	94 *(6)*	89 *(4)*	36/28	71 *(15)*	79 *(13)*	156/62	75 *(13)*	82 *(10)*	192/90
Pneumonia	87 *(11)*	93 *(4)*	37/28	82 *(14)*	82 *(11)*	156/62	83 *(14)*	86 *(9)*	193/90
Peritonsilar abscess	22 *(19)*	7 *(15)*	36/27	24 *(21)*	16 *(27)*	156/62	23 *(21)*	14 *(24)*	192/89
Ulcerative colitis	46 *(38)*	41 *(30)*	37/27	44 *(21)*	47 *(19)*	156/62	44 *(24)*	45 *(23)*	193/89
Salpingitis	32 *(14)*	19 *(15)*	37/27	34 *(30)*	23 *(23)*	156/62	34 *(26)*	21 *(20)*	193/89
Concussion of brain	41 *(32)*	37 *(37)*	37/27	46 *(28)*	47 *(21)*	156/62	45 *(29)*	44 *(26)*	193/89
Parkinson disease	28 *(28)*	37 *(33)*	36/27	21 *(27)*	31 *(13)*	156/62	22 *(27)*	33 *(19)*	192/89
Uncomplicated diabetes (type II)	62 *(22)*	56 *(26)*	37/27	56 *(19)*	66 *(11)*	156/62	58 *(19)*	63 *(16)*	193/89
Rheumatoid arthritis	87 *(8)*	89 *(11)*	37/28	87 *(10)*	77 *(10)*	156/62	79 *(10)*	81 *(10)*	193/90
Depression	54 *(22)*	43 *(32)*	37/28	33 *(34)*	40 *(31)*	156/62	37 *(32)*	41 *(31)*	193/90
Myocardial infarction	84 *(14)*	82 *(11)*	37/28	71 *(15)*	73 *(8)*	156/62	73 *(15)*	76 *(9)*	193/90
Follow-up TB care	81 *(3)*	79 *(4)*	37/28	85 *(9)*	77 *(7)*	156/62	85 *(8)*	78 *(6)*	193/90
Palliative care	58 *(21)*	71 *(14)*	38/28	63 *(22)*	52 *(29)*	156/62	62 *(22)*	58 *(24)*	194/90
Treatment score[b]	**2.77**	**2.79**	—	**2.82**	**2.74**	—	**2.81**	**2.76**	—

[a] The first number is the % of physicians who say they are "(almost) always" or "usually" involved in treatment and follow-up of the given condition, while the number in parentheses is the % who say they are "occasionally" involved.

[b] The treatment score is an average of responses, in which "seldom/never" = 1, "occasionally" = 2, "usually" = 3 and "(almost) always" = 4.

Table 36.   PC physicians who usually provide technical medical procedures, by region

Procedure	Almaty (n=138)			Zhambyl (n=146)			Total (n=284)		
	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses	% of GPs[a]	% of thera-pists[a]	Valid re-sponses
Wedge resec-tion of ingrown toenail	16	12	95/43	30	7	98/45	23	9	193/88
Removal of sebaceous cyst from hairy scalp	6	2	95/43	10	4	98/45	8	3	193/88
Wound sutur-ing	42	16	95/43	40	18	98/45	41	17	193/88
Excision of warts	10	2	95/43	15	7	98/45	12	5	193/88
Insertion of intrauterine device	19	9	95/43	14	7	98/45	17	8	193/88
Removal of rusty spot from cornea	1	7	95/43	4	2	98/45	3	5	193/88
Fundoscopy	10	–	95/43	12	7	98/45	11	3	193/88
Joint injection	16	14	95/43	27	7	98/45	21	10	193/88
Maxillary (si-nus) puncture	4	2	95/43	4	2	98/44	4	2	193/87
Myringotomy (paracentesis)	5	–	95/43	3	2	98/44	4	1	193/87
Application of plaster cast	30	19	95/43	24	22	98/45	26	21	193/88
Strapping of an ankle	48	23	95/43	37	27	97/45	43	25	192/88
Cryotherapy (warts)	13	2	95/43	9	7	98/45	11	5	193/88
Setting up of an intravenous infusion	91	93	99/43	89	91	98/45	90	92	193/88
Immuniza-tion for flu or tetanus	90	93	95/43	89	89	98/46	89	91	193/89
Allergy vac-cination	86	91	95/43	82	78	98/46	84	84	193/89
Technical medical pro-cedure score	**1.51**	**1.37**	**—**	**1.50**	**1.31**	**—**	**1.50**	**1.34**	**—**

[a] The technical medical procedure score is an average of responses from PC physicians, in which "usually done by specialist" = 1, "usually done by practice staff" = 2 and "usually done by myself" = 3.

Table 37. **Involvement of PC physicians and other practice staff members in the provision of technical medical procedures, urban versus rural**

Procedure	Urban (n=66)			Rural (n=218)			Total (n=284)		
	% of GPs[a]	% of therapists[a]	Valid responses	% of GPs[a]	% of therapists[a]	Valid responses	% of GPs[a]	% of therapists[a]	Valid responses
Wedge resection of ingrown toenail	3	4	37/26	28	11	156/62	23	9	193/88
Removal of sebaceous cyst from hairy scalp	–	–	37/26	10	5	156/62	8	3	193/88
Wound suturing	11	4	37/26	48	23	156/62	41	17	193/88
Excision of warts	–	–	37/26	15	7	165/62	12	5	193/88
Insertion of intrauterine device	3	–	37/26	20	11	156/62	17	8	193/88
Removal of rusty spot from cornea	–	–	37/26	3	7	156/62	3	5	193/88
Fundoscopy	3	–	37/26	13	5	156/62	11	3	193/88
Joint injection	14	12	37/26	23	10	156/62	21	10	193/88
Maxillary (sinus) puncture	–	–	37/25	5	3	156/62	4	2	193/87
Myringotomy (paracentesis)	3	–	37/25	5	2	156/62	4	1	193/87
Application of plaster cast	14	8	37/26	30	26	156/62	26	21	193/88
Strapping of an ankle	33	12	36/26	45	31	156/62	43	25	192/88
Cryotherapy (warts)	11	4	37/26	11	5	156/62	11	5	193/88
Setting up of an intravenous infusion	95	96	37/26	89	90	156/62	90	92	193/88
Immunization for flu or tetanus	95	93	37/27	88	91	156/62	89	91	193/89
Allergy vaccination	78	85	37/27	85	84	156/62	84	84	193/89
Technical medical procedure score[a]	**1.23**	**1.27**	—	**1.54**	**1.37**	—	**1.50**	**1.34**	—

[a] The technical medical procedure score is an average of responses by PC physicians, in which "usually done by medical specialist" = 1, "usually done by practice staff" = 2 and "usually done by myself" = 3.

ANNEX 2. GLOSSARY OF PRIMARY CARE TERMS

Accessibility: the ability of patients to receive care where and when it is needed, given the 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. Cross-sectional coordination means the coordination of information and services for an episode of care. Longitudinal coordination means the interlinkages among staff members and agencies over a longer period of treatment *(10)*.

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

Family medicine teams: a family medicine team can vary in composition and size from country to country, but the core team usually encompasses a general practitioner and a nurse, and the entire team can consist of a multidisciplinary group of up to 30 professionals, including community nurses, midwives, feldshers, dentists, physiotherapists, social workers, psychiatrists, speech therapists, dieticians, pharmacists, administrative staff members, managers, et al. *(17)*. In 2003, WHO described a PC team as a group of "fellow professionals with complementary contributions to make in patient care. [It] would be part of a broader social trend away from deference and hierarchy and towards mutual respect and shared responsibility and cooperation" *(33)*. By definition, family medicine teams are patient-centred, and therefore their composition and organizational model is bound to change over time: it is a flexible construct.

General practice: a term now often used loosely to cover the work of not only the general practitioner but other personnel as well, and therefore synonymous with PC and family medicine. Originally, it described the concept and 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 solo practitioner (general practice) versus team-based approach (family medicine) is relevant, the distinction should be made. According to Atun, the general practitioner 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" *(18)*.

Primary care (PC): a key process in the health system, rather than just a level of care or the gatekeeping function. It is intended to be the first contact of the patient with the health system and *accessible, continuous, comprehensive* and *coordinated*. PC is accessible at the time of need; it focuses on the long-term health of a person rather than the duration of disease; it embraces a range of services appropriate to the common problems in the respective population; and it coordinates other specialists that a patient may need *(18)*. PC is a subset of primary health care.

Primary health care: a term that should be used when referring to the broad concept elaborated in the Declaration of Alma-Ata (1978), with its principles of equity, participation, intersectoral action, appropriate technology and a central role in the health system *(34)*.

Performance (or composite goal performance): the extent to which a health system has achieved its goals relative to what it could achieve, given the national context *(1)*.

Prikaz: in Kazakhstan, an administrative directive or decree, issued by a central or regional authority, specifying technical details of how something needs to be carried out.

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

Responsiveness: a measure of how a health system performs relative to non-health aspects, in meeting people's expectations of how service providers treat them. In other words, it is not a measure of how the system responds to health needs, which shows up in health outcomes. Responsiveness to the expectations of the population includes (a) respecting individuals (including respect for their dignity, confidentiality [of information] and autonomy in making health decisions) and (b) orienting clients (including providing them with prompt attention, access to social support networks during care, basic amenities and choice of provider) *(1)*.

Stewardship: a function of a government that exercises its responsibility for the welfare of its population, and that earns the trust and legitimacy that the citizenry has vested in it. It includes overseeing and guiding the development and implementation of national health actions. In the health sector, the chief components of stewardship are health policy formulation (defining the vision and direction of the health system); regulation (setting and upholding fair rules for health sector activities) and intelligence (assessing sector performance and sharing information) *(1, 8)*.

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SUMMARY

Although the strengthening of primary care services is a health reform priority in many countries of the WHO European Region, the background for such reform varies. In western Europe, primary care is emphasized to help address rising costs and changing demand that result from demographic and epidemiological trends. In the central and eastern part of the Region, however, countries that were once part of or closely allied with the Soviet Union are struggling to improve the performance of their entire health systems drastically. These countries are now developing or reorganizing primary care to bring adequate, responsive health services closer to their populations.

In many countries in socioeconomic and political transition, health reforms are part of profound, comprehensive changes in essential societal functions and values. Primary care reforms are not always based on evidence, and progress is often driven by political arguments or professional interests rather than sober assessment. However, policy-makers and programme managers increasingly demand evidence for the progress of reforms and the responsiveness of services.

This report evaluates primary care developments in Kazakhstan, using an approach that assumes the importance of providing accessible, continuous, coordinated and comprehensive health services to the population. This approach recognizes that to improve a health system as whole, it is also critical to consider all four functions in the WHO performance framework for health systems equally: stewardship, resource generation, financing and service delivery.

Relying on the voices of the professionals and patients involved, the report offers a structured overview of the strengths and weaknesses in the Kazakh organization of primary care services, along with a full set of recommendations for interested policy-makers and stakeholders.