

# Health Systems in Transition

Vol. 14 No. 4 2012

## Kazakhstan

Health system review

Alexandr Katsaga • Maksut Kulzhanov  
Marina Karanikolos • Bernd Rechel

Marina Karanikolos and Bernd Rechel (Editors) and Martin McKee (Series editor) were responsible for this HiT profile

## Editorial Board

---

### Editor in chief

Elias Mossialos, London School of Economics and Political Science, United Kingdom

### Series editors

Reinhard Busse, Berlin University of Technology, Germany

Josep Figueras, European Observatory on Health Systems and Policies

Martin McKee, London School of Hygiene & Tropical Medicine, United Kingdom

Richard Saltman, Emory University, United States

### Editorial team

Sara Allin, University of Toronto, Canada

Jonathan Cylus, European Observatory on Health Systems and Policies

Matthew Gaskins, Berlin University of Technology, Germany

Cristina Hernández-Quevedo, European Observatory on Health Systems and Policies

Marina Karanikolos, European Observatory on Health Systems and Policies

Anna Maresso, European Observatory on Health Systems and Policies

David McDaid, European Observatory on Health Systems and Policies

Sherry Merkur, European Observatory on Health Systems and Policies

Philipa Mladovsky, European Observatory on Health Systems and Policies

Dimitra Panteli, Berlin University of Technology, Germany

Bernd Rechel, European Observatory on Health Systems and Policies

Erica Richardson, European Observatory on Health Systems and Policies

Anna Sagan, European Observatory on Health Systems and Policies

Sarah Thomson, European Observatory on Health Systems and Policies

Ewout van Ginneken, Berlin University of Technology, Germany

### International advisory board

Tit Albreht, Institute of Public Health, Slovenia

Carlos Alvarez-Dardet Díaz, University of Alicante, Spain

Rifat Atun, Global Fund, Switzerland

Johan Calltorp, Nordic School of Public Health, Sweden

Armin Fidler, The World Bank

Colleen Flood, University of Toronto, Canada

Péter Gaál, Semmelweis University, Hungary

### Unto Häkkinen, Centre for Health Economics at Stakes, Finland

William Hsiao, Harvard University, United States

Alan Krasnik, University of Copenhagen, Denmark

Joseph Kutzin, World Health Organization Regional Office for Europe

Soonman Kwon, Seoul National University, Republic of Korea

John Lavis, McMaster University, Canada

Vivien Lin, La Trobe University, Australia

Greg Marchildon, University of Regina, Canada

Alan Maynard, University of York, United Kingdom

Nata Menabde, World Health Organization Regional Office for Europe

Ellen Nolte, Rand Corporation, United Kingdom

Charles Normand, University of Dublin, Ireland

Robin Osborn, The Commonwealth Fund, United States

Dominique Polton, National Health Insurance Fund for Salaried Staff (CNAMTS), France

Sophia Schlette, Health Policy Monitor, Germany

Igor Sheiman, Higher School of Economics, Russian Federation

Peter C. Smith, Imperial College, United Kingdom

Wynand P.M.M. van de Ven, Erasmus University, The Netherlands

Witold Zatonski, Marie Skłodowska-Curie Memorial Cancer Centre, Poland

# Health Systems in Transition

**Alexandr Katsaga**, *Independent consultant*

**Maksut Kulzhanov**, *Kazakhstan School of Public Health*

**Marina Karanikolos**, *European Observatory on Health Systems and Policies*

**Bernd Rechel**, *European Observatory on Health Systems and Policies*

## Kazakhstan:

### Health System Review 2012



The European Observatory on Health Systems and Policies is a partnership between the World Health Organization Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

**Keywords:**

DELIVERY OF HEALTH CARE

EVALUATION STUDIES

FINANCING, HEALTH

HEALTH CARE REFORM

HEALTH SYSTEM PLANS – organization and administration

KAZAKHSTAN

© World Health Organization 2012, on behalf of the European Observatory on Health Systems and Policies

All rights reserved. The European Observatory on Health Systems and Policies welcomes requests for permission to reproduce or translate its publications, in part or in full.

Please address requests about the publication to:

**Publications,  
WHO Regional Office for Europe,  
Scherfigsvej 8,  
DK-2100 Copenhagen Ø, Denmark**

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>)

The views expressed by authors or editors do not necessarily represent the decisions or the stated policies of the European Observatory on Health Systems and Policies or any of its partners.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the European Observatory on Health Systems and Policies or any of its partners concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Where the designation “country or area” appears in the headings of tables, it covers countries, territories, cities, or areas. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the European Observatory on Health Systems and Policies in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The European Observatory on Health Systems and Policies does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

Printed and bound in the United Kingdom.

**Suggested citation:**

Katsaga A, Kulzhanov M, Karanikolos M, Rechel B. Kazakhstan: Health system review. *Health Systems in Transition*, 2012; 14(4):1–154.

# Contents

<b>Preface</b> .....	<b>v</b>
<b>Acknowledgements</b> .....	<b>vii</b>
<b>List of abbreviations</b> .....	<b>ix</b>
<b>List of tables, figures and boxes</b> .....	<b>x</b>
<b>Abstract</b> .....	<b>xiii</b>
<b>Executive summary</b> .....	<b>xv</b>
<b>1. Introduction</b> .....	<b>1</b>
1.1 Geography and sociodemography .....	1
1.2 Economic context .....	3
1.3 Political context .....	5
1.4 Health status .....	6
<b>2. Organization and governance</b> .....	<b>13</b>
2.1 Overview of the health system .....	13
2.2 Historical background .....	15
2.3 Organization .....	16
2.4 Decentralization and centralization .....	24
2.5 Planning .....	26
2.6 Intersectorality .....	29
2.7 Health information management .....	29
2.8 Regulation .....	32
2.9 Patient empowerment .....	39
<b>3. Financing</b> .....	<b>41</b>
3.1 Health expenditure .....	42
3.2 Population coverage and basis for entitlement .....	50
3.3 Sources of revenue and financial flows .....	52
3.4 Pooling of funds .....	58
3.5 Purchasing and purchaser–provider relations .....	60
3.6 Payment mechanisms .....	62

<b>4. Physical and human resources</b> .....	<b>67</b>
4.1 Physical resources .....	67
4.2 Human resources .....	70
<b>5. Provision of services</b> .....	<b>87</b>
5.1 Public health .....	88
5.2 Primary/ambulatory care .....	97
5.3 Specialized ambulatory care/inpatient care .....	102
5.4 Emergency care .....	104
5.5 Pharmaceutical care .....	105
5.6 Rehabilitation and long-term care .....	108
5.7 Palliative care .....	109
5.8 Mental health care .....	109
5.9 Dental health care .....	110
5.10 Alternative/complementary medicine .....	111
<b>6. Principal health reforms</b> .....	<b>113</b>
6.1 Analysis of recent reforms .....	114
6.2 Ongoing and future developments .....	117
<b>7. Assessment of the health system</b> .....	<b>121</b>
7.1 Stated objectives of the health system .....	122
7.2 Financial protection .....	123
7.3 User experiences of the health system .....	124
7.4 Health outcomes .....	128
7.5 Equity .....	133
7.6 Health system efficiency .....	140
7.7 Transparency and accountability .....	142
<b>8. Conclusions</b> .....	<b>143</b>
<b>9. Appendices</b> .....	<b>145</b>
9.1 References .....	145
9.2 Web sites .....	149
9.3 HiT methodology and production process .....	151
9.4 The review process .....	153
9.5 About the authors .....	153

## Preface

The Health Systems in Transition (HiT) series consists of country-based reviews that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each review is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, reviews are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a report.

HiTs seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe. They are building blocks that can be used:

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health care reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries; and
- to assist other researchers in more in-depth comparative health policy analysis.

Compiling the reviews poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including

the World Health Organization (WHO) Regional Office for Europe's European Health for All database, data from national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, data from the International Monetary Fund (IMF), the World Bank's World Development Indicators and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate review.

A standardized review has certain disadvantages because the financing and delivery of health care differ across countries. However, it also offers advantages, because it raises similar issues and questions. HiTs can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to [info@obs.euro.who.int](mailto:info@obs.euro.who.int).

HiTs and HiT summaries are available on the Observatory's web site at <http://www.healthobservatory.eu>.

## Acknowledgements

**T**he HiT on Kazakhstan was produced by the European Observatory on Health Systems and Policies. This edition was written by Alexandr Katsaga, Maksut Kulzhanov, Marina Karanikolos and Bernd Rechel. It was edited by Bernd Rechel and Marina Karanikolos of the Observatory's team at the London School of Hygiene & Tropical Medicine. Liza Myglina coordinated the work at country level. The basis for this edition was the previous HiT on Kazakhstan, which was published in 2007, written by Maksut Kulzhanov and Bernd Rechel, and edited by Bernd Rechel.

The Observatory and the authors are grateful to Ninel Kadyrova, Tomica Milosavljevic, Ivana Misic and Sheila O'Dougherty for reviewing the report.

Special thanks go to everyone at the Ministry of Health and its agencies for their assistance in providing information and for their invaluable comments on previous drafts of the manuscript and suggestions about plans and current policy options in the Kazakh health system. The authors are particularly indebted to the following individuals for contributing to the document: Aigul Kaptagayeva, Nadezhda Khe, Saule Dikanbayeva, Tatiana Slazhneva, Bolat Tokezhanov, Askar Yedilbayev, Bakhtiyar Babamuradov, Yelena Kudussova, Galina Grebennikov and Zhanna Kalmatayeva.

Thanks are also extended to the WHO Regional Office for Europe for their European Health for All database, from which data on health services were extracted; to the Organisation for Economic Co-operation and Development (OECD) for the data on health services in western Europe; and to the World Bank for the data on health expenditure in central and eastern European countries. Thanks are also due to national statistical offices that have provided data. The HiT reflects data available in October 2011, unless otherwise indicated.

The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine. The Observatory team working on HiTs is led by Josep Figueras (Director), Elias Mossialos, Martin McKee, Reinhard Busse and Suszy Lessof. The Country Monitoring Programme of the Observatory and the HiT series are coordinated by Gabriele Pastorino. The production and copy-editing process of the HiT was coordinated by Jonathan North, with the support of Caroline White, Sophie Richmond (copy-editing), Pat Hinsley (typesetting) and Mary Allen (proofreading).

## List of abbreviations

CARK	Central Asian republics (Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan) and Kazakhstan
CIS	Commonwealth of Independent States
CRB	Central <i>rayon</i> hospital
DOTS	Directly observed treatment, short-course
EU	European Union
EU15	Countries constituting the European Union before May 2004
FAP	<i>Feldsher</i> -midwifery post
FTE	Full-time equivalent
GDP	Gross domestic product
LCU	Local currency unit
MDR	Multi-drug resistant
MHIF	Mandatory Health Insurance Fund
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
PP	Physical persons
PPP	Purchasing power parity
SCO	Shanghai Cooperation Organization
SDR	Standardized death rate
SUB	Rural village hospital
SVA	Rural physician ambulatories
TB	Tuberculosis
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USSR	Union of Soviet Socialist Republics

# List of tables, figures and boxes

Tables		page
Table 1.1	Population/demographic indicators, 1980–2009 (selected years)	3
Table 1.2	Macroeconomic indicators, 1990–2010 (selected years)	4
Table 1.3	Life expectancy and mortality from all causes, 1990–2009 (selected years)	7
Table 1.4	Main causes of death per 100 000 population, 1985–2009 (age-standardized rates per 100 000) (selected years)	8
Table 1.5	Maternal, child and adolescent health indicators in Kazakhstan (selected years)	9
Table 1.6	Infectious disease incidence in Kazakhstan, 1985–2009 (selected years)	10
Table 3.1	Trends in total health expenditure, 1995–2009 (selected years)	42
Table 3.2	Public spending on health, 2003–2010	47
Table 3.3	Public expenditure on inpatient and outpatient care under the State Guaranteed Benefits Package per capita, by <i>oblast</i> , 2008 (in tenge)	48
Table 3.4	Ratio of <i>oblast</i> expenditure on health per capita to the average country level, 2001–2008	49
Table 3.5	<i>Oblast</i> expenditure on health, 2007	49
Table 3.6	Population expenditure on private health services, 2010 per capita (in tenge)	57
Table 4.1	Health workers (PP) in the public sector per 100 000 population, 2000–2010 (selected years)	70
Table 4.2	Health workers per 100 000 population, 1991–2009 (selected years)	71
Table 4.3	Provision of physicians per 100 000 population, 2002–2010, by region	73
Table 4.4	Provision of physicians in urban and rural areas per 100 000 population, 2007–2010	74
Table 4.5	Physicians (PP) by specialty per 100 000 population, 1991–2009 (selected years)	75
Table 4.6	Provision of mid-level health personnel (including nurses) per 100 000 population, 2004–2010	76
Table 4.7	Number of dentists by <i>oblast</i> , 2008–2010	79
Table 4.8	Educational facilities (absolute numbers), 2007–2009	81
Table 4.9	Physicians and nurses graduated per 100 000 population, 1990–2009	82
Table 4.10	Enrolment to postgraduate studies (clinical residency, Master's and doctoral programmes), 2004/2005–2009/2010	83

Table 5.1	Funding for the healthy lifestyles programme (million tenge), 2004–2009	97
Table 5.2	Primary health care organizations in urban areas, 2005–2009, absolute numbers	100
Table 5.3	Rural primary health care facilities, 2005–2009, absolute numbers	101
Table 5.4	Pharmaceutical entities, 2010, absolute numbers	107
Table 5.5	Pharmacies, December 2010, absolute numbers	107
Table 5.6	Health organizations providing dental care, 2009	111
Table 6.1	Health-related objectives of the Strategic Development Plan 2020	119
Table 7.1	Waiting times for consultations with physicians, 2008	127
Table 7.2	Per capita health expenditure by revenue source and <i>oblast</i> (in tenge), 2007–2008	133
Table 7.3	Utilization of inpatient health services by <i>oblast</i> , 2009–2010	135
Table 7.4	Utilization of outpatient health service by <i>oblast</i> , 2009–2010	135
Table 7.5	Population morbidity: number of diseases first diagnosed by <i>oblast</i> per 100 000 population, 2008–2010	137
Table 7.6	Life expectancy by <i>oblast</i> , 2010	138
Table 7.7	TB morbidity by <i>oblast</i> per 100 000 population (primary diagnosis)	138
Table 7.8	Infant mortality rate per 1 000 live births by <i>oblast</i> , 2008–2009	139
Table 7.9	Maternal mortality per 100 000 live births by <i>oblast</i> , 2008–2010	139
Table 7.10	Per capita expenditure on inpatient and outpatient/polyclinic care under the State Guaranteed Benefits Package by <i>oblast</i> (in tenge), 2007	141

## Figures

		page
Fig. 1.1	Map of Kazakhstan	2
Fig. 1.2	Life expectancy at birth, Kazakhstan and selected regional averages, 1980–2009	7
Fig. 2.1	Overview of the health system	14
Fig. 2.2	Organizational chart of the Ministry of Health	19
Fig. 3.1	Total health expenditure as a share (%) of GDP in the WHO European Region, WHO estimates, 2008	43
Fig. 3.2	Trends in total health expenditure as a share (%) of GDP in Kazakhstan and selected regional averages, WHO estimates, 1995–2008	44
Fig. 3.3	Total health expenditure in PPP\$ per capita in the WHO European Region, WHO estimates, 2008	45
Fig. 3.4	Public sector health expenditure as a share (%) of total health expenditure in the WHO European Region, WHO estimates, 2008	46
Fig. 3.5	Republican expenditure on health, 2010	50
Fig. 3.6	Financial flows in 2011	53
Fig. 3.7	Household expenditure for health per capita, 2005–2009 (in tenge)	57
Fig. 4.1	Number of beds per 100 000 population, by type of institution, 1991–2009	69
Fig. 4.2	Beds in acute care hospitals per 100 000 population in Kazakhstan and regional averages, 1991–2009	69
Fig. 4.3	Average length of stay (days) in acute care hospitals, 1991–2009	70

Fig. 4.4	Physicians (PP) per 100 000 population in Kazakhstan and regional averages, 1991–2009	71
Fig. 4.5	Nurses (PP) per 100 000 population in Kazakhstan and regional averages, 1991–2009	76
Fig. 4.6	Number of physicians and nurses per 100 000 population in the WHO European Region, 2009 or latest available year (in parentheses)	77
Fig. 4.7	Number of dentists (PP) per 100 000 population in Kazakhstan, and regional averages, 1991–2009	78
Fig. 4.8	Number of pharmacists (PP) per 100 000 population in Kazakhstan, and regional averages, 1991–2009	79
Fig. 5.1	Outpatient contacts per person in the WHO European Region, 2009 or latest available year	99

## Boxes

		page
Box 6.1	Health reform milestones	115

## Abstract

Since becoming independent, Kazakhstan has undertaken major efforts in reforming its post-Soviet health system. Two comprehensive reform programmes were developed in the 2000s: the National Programme for Health Care Reform and Development 2005–2010 and the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”. Changes in health service provision included a reduction of the hospital sector and an increased emphasis on primary health care. However, inpatient facilities continue to consume the bulk of health financing. Partly resulting from changing perspectives on decentralization, levels of pooling kept changing. After a spell of devolving health financing to the *rayon* level in 2000–2003, beginning in 2004 a new health financing system was set up that included pooling of funds at the *oblast* level, establishing the *oblast* health department as the single-payer of health services. Since 2010, resources for hospital services under the State Guaranteed Benefits Package have been pooled at the national level within the framework of implementing the Concept on the Unified National Health Care System. Kazakhstan has also embarked on promoting evidence-based medicine and developing and introducing new clinical practice guidelines, as well as facility-level quality improvements. However, key aspects of health system performance are still in dire need of improvement. One of the key challenges is regional inequities in health financing, health care utilization and health outcomes, although some improvements have been achieved in recent years. Despite recent investments and reforms, however, population health has not yet improved substantially.



# Executive summary

## Introduction

**K**azakhstan is a land-locked country in central Asia that became independent with the dissolution of the Union of Soviet Socialist Republics (USSR) in 1991. Covering 2.7 million square km (about the size of the 15 states constituting the European Union up to 2004), the country is the largest of the former Soviet republics after Russia. Kazakhstan is a unitary state with a presidential form of government. The country is subdivided into 16 administrative divisions (*oblasts* and cities). *Oblast* governors are key players in decisions relating to the health system, as are the finance departments at *oblast* level. Following independence, Kazakhstan initially encountered a severe economic recession, followed by a period of recovery between 1996 and 2007. With the deepening of the global economic crisis, Kazakhstan's gross domestic product (GDP) growth slowed to 3.3% in 2008 and 1.2% in 2009, recovering to 7% in 2010. The size of Kazakhstan's population is approximately 16 million. Life expectancy in 2009 was estimated at 63.6 years for males and 73.5 years for females, among the lowest in the WHO European Region. Ischaemic heart disease, stroke and cancer are the main causes of death. Infectious diseases are also a cause of concern, due to high incidence rates of HIV/AIDS and tuberculosis (TB).

## Organization and governance

Policy-making in Kazakhstan is highly centralized in an executive-style government, run by the President. The Ministry of Health is responsible for developing national health policies. Strategic planning is set out in strategic development plans of the Ministry of Health. The most recent plan prioritizes three key areas for the years 2009–2011: improving population health, increasing health system efficiency and developing human resources.

Health care provision and financing have been largely devolved to the *oblast* administrations and their health departments. The 14 *oblast* and Almaty and Astana city health departments are the key bodies administering health services in Kazakhstan and run most hospitals and polyclinics. Parallel health systems run by some ministries and government agencies have been inherited from the Soviet period and are still largely in place. The role of professional associations and non-governmental organizations (NGOs) in the development of health policies, legislation and regulation is increasing.

## Financing

In 2009, total health expenditure amounted to an estimated 4.5% of GDP, which was one of the lowest shares in the WHO European Region. Health revenue comes from two main sources: the government budget (at national and *oblast* level) and out-of-pocket payments (official user fees and informal payments). Financing according to state budgets was reintroduced in Kazakhstan in 1999, after a failed attempt to create a mandatory health insurance system. In 2008 public expenditure on hospital care was 2.6 times higher than expenditure on outpatient services. Republican expenditure on health is mainly spent on services under the State Guaranteed Benefit Package (44%) and ear-marked transfers to local budgets (38%). The bulk (60%) of *oblast* expenditure on health in 2007 was devoted to services included in the State Guaranteed Benefit Package, while the remaining 40% covered services outside the package. Only 0.17% of *oblast* health expenditure was devoted to health promotion.

The State Guaranteed Benefits Package includes emergency care, and specified outpatient and inpatient services. A new outpatient drug benefit has also been introduced that entitles children, adolescents and women of reproductive age to free outpatient pharmaceuticals. For the rest of the population, medicines remain the main type of benefit that require co-payments. User charges are set at *oblast* level, usually covering non-essential health services. Patients also often pay for medicines and medical supplies in hospitals, and for pharmaceuticals, aids or dental care in outpatient settings. The share of informal payments is assumed to be high, although the exact scale is difficult to estimate.

Partly resulting from changing perspectives on decentralization, levels of pooling kept changing. After a spell of devolving health financing to the *rayon* level in 2000–2003, beginning in 2004 a new health financing system was set up that included pooling of funds at the *oblast* level, establishing the *oblast* health department as the single-payer of health services, and improving the health

purchasing mechanisms through a new provider payment system. Since 2010, resources for hospital services under the State Guaranteed Benefits Package have been pooled at national level within the framework of implementing the Concept on the Unified National Health Care System.

## Physical and human resources

Similar to other countries of the former USSR, Kazakhstan inherited an oversized hospital infrastructure from the Soviet period. It has since reduced the number of hospitals and hospital beds significantly and also has started to renew its health infrastructure, but the ratio of hospital beds per population is still higher than in the countries constituting the European Union before May 2004 (EU15) and differs greatly across *oblasts*. There has also been a decline in the average length of stay in hospitals in recent years.

In terms of human resources, the country faces several challenges, including in terms of their actual numbers, specialty mix and distribution across the country. Rural and remote areas continue to experience a shortage in health personnel, while larger cities are much better staffed. There is also an imbalance towards specialist services, to the detriment of primary health care facilities. The need for certain categories of health professionals, such as specialists in health management or health economics, is particularly acute, especially as health care providers have received greater autonomy to manage their resources. The Ministry of Health has started to address these issues and plans to develop a new system of human resource management. It has also embarked on reforms of medical education, with the aim of bringing it closer to international standards. One of the challenges is that salary levels, in particular for nurses, remain low.

## Provision of services

The provision of health services in Kazakhstan has evolved on the basis of the legacy of the Soviet health system, with its overemphasis on hospital services and its neglect of primary health care, disease prevention and health promotion. Throughout the system, the tendency was to refer patients to higher levels of care. This delivery system is in the process of being reorganized. The eventual intention is that primary care will be delivered by general and family physicians and that many small hospitals will be closed.

At present, health services are fragmented and do not ensure continuity of care. There are no strong linkages between primary and secondary care, and many services are organized in parallel vertical structures, such as TB services, sanitary-epidemiological services or the health systems operated by other ministries and government agencies. Poor horizontal integration of services leads to duplication and inefficiencies.

The standardization of health services across the country is one of the key objectives of current health reforms. In 2009 the Ministry of Health approved standardized types and volumes of health services at five levels of care. In the same year two key health policy documents were adopted: the Code on People's Health and the Health Care System and the Concept on the Unified National Health Care System. Both documents envisage country-wide measures for improving the health of the population, with particular emphasis on prevention and the shared responsibility of the state and individuals for health.

## Principal health reforms

After gaining its independence in 1991, Kazakhstan was faced with the inability to maintain an extensive and inefficient health system overly oriented towards hospital care. Similar to some other countries of the former USSR, initial health reforms were chaotic and volatile. Lack of trained administrative and health management personnel and frequent changes in the organizational structure of the health system impeded progress in health reforms. Since 1996 the Ministry of Health has changed its internal structure several times, with Ministers of Health and their teams changing on average every two years. In 1999 the Ministry of Health was abolished as an independent administrative body and subsumed under larger ministries, to be restored in 2002.

Health financing reforms have seen the creation of a national Mandatory Health Insurance Fund (MHIF) in 1996, which operated as a parallel structure alongside the previous system of decentralized funding and administration of health organizations. After abolition of the MHIF in 1999, the health system was funded from the republican (national) and *oblast* level, but in 2001, in line with broader administrative decentralization, health financing and administration were decentralized to the *rayon* level. These changes resulted in the creation of inefficient and difficult to manage micro-health systems, negatively impacting the overall efficiency of the health system and access

of the population to health services. At present, health funds are pooled at the national and *oblast* level, operated by the Ministry of Health and *oblast* health departments respectively.

The structure of the peripheral health system has changed from a disintegrated *rayon*-level system with rigid subordination to the national level, to an integrated *oblast*-level system with greater autonomy, and again to the current split of hospital and primary health care between national and *oblast* levels. Primary health care was first strengthened, then discredited, and then promoted again. The medical education system has initiated comprehensive reforms to reflect the needs of the health system for practitioners of family medicine and general practice. Efforts are also being undertaken to introduce evidence-based medicine approaches in clinical practice. In addition, new national stakeholders such as the National Medical Holding and the Medical Pedagogical Association have become important actors in the health system.

## Assessment of the health system

Despite progress in recent years, key aspects of the performance of Kazakhstan's health system are still in need of major improvements. The government aims to improve the financial protection of the population through the State Guaranteed Benefits Package and outpatient drug benefits to vulnerable groups of the population. It has also increased public expenditure on health. However, private out-of-pocket expenditure still accounted for 36% of total health expenditure in 2007, potentially exposing poorer groups of the population to catastrophic expenditures on health. According to data of the National Statistical Agency (2008), in 2008 7.4 % of the population did not use health services because of high costs.

Despite recent investments and reforms, population health has not yet improved substantially. Health challenges include low life expectancy, high infant and maternal mortality, high rates of TB and a growing burden of non-communicable diseases. While information on amenable mortality is not readily available, five-year survival rates for patients with a primary diagnosis of cancer were low, amounting to 50.2% in 2009.

Quality of care has been recognized as an area in need of major improvements and Kazakhstan has embarked on promoting evidence-based medicine and developing and introducing new clinical practice guidelines based on WHO standards, as well as facility-level quality improvement. Preliminary results of

the National Programme for Health Care Reform and Development 2005–2010 indicated progress in quality improvement, in particular with regard to maternal and child health and TB, but also a strong need for further efforts.

One of the key challenges in the country is regional inequities in health financing, health care utilization and health outcomes, although some improvements have been achieved in recent years. Between 2001 and 2008 the difference in health financing per capita between the richest and poorest *oblast* decreased from 4.2 to 2.1 times. Residents of the cities of Almaty and Astana have advantages in accessing health services, as these two cities host the most advanced national clinical centres, whereas the geographical accessibility of health services in remote areas is much more challenging, considering the country's vast and scarcely populated territory. In 2010 life expectancy at birth varied between 66.3 in North Kazakhstan *oblast* and 73.2 in Astana city. There were also strong regional variations in infant and maternal mortality.

The allocative efficiency of Kazakhstan's health system is diminished by a continued reliance on inpatient care, which consumed 53.4% of total public expenditure on health in 2008, whereas primary health care only received 16%. There is also much scope for improving technical efficiency, in view of a high ratio of hospital beds per population, poor performance indicators of inpatient care and many narrowly specialized health facilities.

As in other health systems of the region, transparency and accountability remain major challenges in Kazakhstan, as illustrated by the continued existence of informal payments for health services and a limited involvement of the public in health policy-making.

# 1. Introduction

**K**azakhstan is a land-locked country in central Asia that became independent with the dissolution of the USSR in 1991. Covering 2.7 million square km (about the size of the 15 states constituting the European Union up to 2004), the country is the largest of the former Soviet republics after Russia. Kazakhstan is a unitary state with a presidential form of government. The country is subdivided into 16 administrative divisions (*oblasts* and cities). *Oblast* governors are key players in decisions relating to the health system, as are the finance departments at *oblast* level. Following independence, Kazakhstan initially encountered a severe economic recession, followed by a period of recovery between 1996 and 2007. With the deepening of the global economic crisis, Kazakhstan's GDP growth slowed to 3.3% in 2008 and 1.2% in 2009, but recovered to 7% in 2010. The size of Kazakhstan's population is approximately 16 million. Life expectancy in 2009 was estimated at 63.6 years for males and 73.5 years for females, among the lowest in the WHO European Region. Ischaemic heart disease, stroke and cancer are the main causes of death. Infectious diseases are also a cause of concern, due to high incidence rates of HIV/AIDS and TB.

## 1.1 Geography and sociodemography

Kazakhstan is located in the central Asian steppe. It was the last Soviet republic to declare independence, on 16 December 1991. Kazakhstan has a long border with Russia to the north; it adjoins China to the east, and Kyrgyzstan, Uzbekistan and Turkmenistan to the south. Kazakhstan is a land-locked country that borders on two large inland seas: the Aral Sea and the Caspian Sea. The terrain stretches across steppes and deserts to the high mountains in the south-east including the Tian Shan and Altai ranges. The capital, formerly Almaty (previously Alma-Ata), was moved in December 1997 to Astana (Aqmola) in the north (Fig. 1.1).

**Fig. 1.1**  
Map of Kazakhstan



Source: United Nations Cartographic Section.

In addition to its geographic diversity, the country is ethnically very diverse, with a higher proportion of Russians than in the other central Asian republics. The majority of the population are said to be not religious, but the main religions are Sunni Muslim and Russian Orthodox. The official state languages are Kazakh and Russian, which is used in everyday business. In 2009, 41.8% of the population lived in urban areas.

The size of Kazakhstan's population has decreased from 16.3 million in 1990 to 15.9 million in 2009 (Table 1.1), mainly due to out-migration of ethnic Russian and other groups. Since economic recovery began in 2000, there has been substantial, although poorly recorded, immigration from other central Asian republics, mainly Kyrgyzstan, Tajikistan and Uzbekistan.

**Table 1.1**

Population/demographic indicators, 1980–2009 (selected years)

	1980	1990	1995	2000	2005	2009
Population, total (thousands)	14 898	16 348	15 816	14 884	15 147	15 925
Population, female (% of total)	51.80	51.60	51.70	52.00	52.20	52.40
Population ages 0–14 (% of total)	32.40	31.50	29.70	27.60	24.30	23.70
Population ages 65 and above (% of total)	6.10	5.90	7.20	6.80	7.90	7.10
Population growth (annual %)	1.15	0.60	-1.75	-0.30	0.89	1.59
Population density (people per sq. km of land area)	5.50	6.10	5.86	5.51	5.61	5.90
Fertility rate, total (births per woman)	2.90	2.72	2.26	1.80	2.22	2.60
Birth rate, crude (per 1 000 people)	23.90	21.70	16.70	14.70	18.40	22.70
Death rate, crude (per 1 000 people)	8.00	7.70	10.20	10.10	10.40	9.70
Age-dependency ratio (% of working-age population)	62.60	59.50	58.50	52.60	47.40	44.60
Rural population (% of total population)	45.90	43.70	44.10	43.70	42.90	41.80
Literacy rate (%) in population aged 15+ <sup>a</sup>	97.70	99.00	99.20	99.40	99.50 <sup>b</sup>	99.70

Source: World Bank, 2011.

Notes: <sup>a</sup> From WHO Regional Office for Europe, 2011; <sup>b</sup> Year 2004 instead of 2005.

The birth rate dropped from 21.7 births per 1000 population in 1990 to 14.7 in 2000, increasing again to 22.4 in 2009 (Table 1.1). The total fertility rate (the number of children a woman is likely to bear in her lifetime) declined from 2.7 in 1990 to 2.6 in 2009. Although the population structure in Kazakhstan is slightly older than in the other central Asian republics, 23.7% of the population were below 15 years in 2009.

## 1.2 Economic context

With the dissolution of the USSR, Kazakhstan initially encountered a severe economic recession. With the collapse of trade among the former Soviet republics and the transition to a market economy, demand and production collapsed. Prices were liberalized in 1992 and the country witnessed a period of hyperinflation, exceeding 3000% in 1992 (Becker & Urzhumova, 2005). In 1993, Russia ended the rouble zone and stopped supplying other former Soviet republics with roubles, necessitating the creation of national currencies. In Kazakhstan, the national currency – the tenge – was introduced in November 1993.

Kazakhstan's economy began to stabilize in 1996, but new stagnation was triggered by the Russian economic crisis in 1998. Recovery began in 1999 and accelerated in 2000 (see Table 1.2), largely due to Kazakhstan's booming energy sector. In subsequent years, GDP growth rates, at close to 10% per year, remained high, placing the country among the fastest growing economies

worldwide. However, growth was unbalanced and became unsustainable, with the extractive sector accounting for more than 70% of exports and about 40% of state revenues. With the collapse of commodity prices and the deepening of the global economic crisis, Kazakhstan's GDP growth slowed to 3.3% in 2008 and 1.2% in 2009, but then increased again to 7.0% in 2010.

**Table 1.2**

Macroeconomic indicators, 1990–2010 (selected years)

	1990	1995	2000	2005	2009	2010
GDP (billions, current US\$)	26.90	20.40	18.30	57.10	115.00	143.00
GDP, PPP (billions, current international \$)	83.70	58.00	71.30	131.80	182.00	197.00
GDP per capita (current US\$)	1 647	1 288	1 229	3 771	7 241	8 764
GDP per capita, PPP (current international \$)	5 116	3 657	4 792	8 699	11 429	12 050
GDP growth (annual %)		-8.20	9.80	9.70	1.20	7.00
General government expenditure (% of GDP) <sup>a</sup>		25.60	23.20	27.00	23.50	
Cash surplus/deficit (% of GDP)			0.09	2.58	-1.95	
Tax revenue (% of GDP)			10.22	17.15	8.06	
Central government debt, total (% of GDP)			21.62	7.05	9.52	
Industry, value added (% of GDP)		31.37	40.46	40.10	40.28	
Agriculture, value added (% of GDP)		12.89	8.69	6.79	6.44	
Services etc., value added (% of GDP)		55.74	50.85	53.11	53.27	
Labour force, total (in thousands)	7 820	7 723	7 549	7 961	8 557	
Unemployment, total (% of total labour force)			10.60	8.10	6.60	
GINI index <sup>b</sup>					30.10	
Official exchange rate (LCU per US\$, period average)		60.95	142.13	132.88	147.50	
UNDP Human development index	0.65		0.614	0.696	0.711	0.714

Source: World Bank, 2011.

Notes: <sup>a</sup> From WHO, 2011; <sup>b</sup> Data for 2007; PPP – purchasing power parity.

Kazakhstan was a major grain producer for the former USSR and continues to have a large agricultural sector, especially in the more arable south. Although the agricultural sector was estimated to contribute only 6.4% to GDP in 2009, it remains one of the largest employers in the country.

Since 1991 Kazakhstan has pursued market-oriented economic policies. Small and medium enterprises, as well as state and collective farms, were almost fully privatized, and the gas, oil and mineral sector was opened to foreign investors. In 2009, 6.6% of the workforce was unemployed. The Gini index measuring social inequality was 30.1 in 2009 (Table 1.2).

### 1.3 Political context

Kazakhstan is a unitary state with a presidential form of government. Nursultan Nazarbayev became leader of the Communist Party of Kazakhstan in 1989 and has ruled the country as President since 1991. The President is elected by popular vote for a seven-year term and appoints the Prime Minister, the Cabinet of Ministers and the regional governors. The last presidential elections were in April 2011, when President Nazarbayev was re-elected for a fourth seven-year term with 95% of the vote.

A first post-Soviet constitution was adopted by Kazakhstan on 28 January 1993. A new constitution was approved in a nationwide referendum on 30 August 1995, greatly increasing the powers of the presidency and sidelining the legislature. Since then, only the President can initiate constitutional amendments, appoint and dismiss the government, dissolve the Parliament, call referenda and appoint administrative heads of regions and cities.

The Parliament consists of two houses. The upper house (Senate) has 39 members who serve six-year terms, with seven senators appointed by the President, and other members appointed by *oblast* councils (two members from each of the 14 *oblasts*, the capital Astana and the city of Almaty). The lower house (*Majilis*) has 77 members who serve five-year terms, based on electoral districts and filled by popular election. At present, 10 members of Parliament are elected under a party-list system, with the remainder elected in single-seat constituencies (EIU, 2007). The last elections for the *Majilis* were held in August 2007. The Nur Otan party, chaired by President Nazarbayev, received 88.05% of the vote and no other party crossed the 7% threshold, handing all elected seats in the lower house to Nur Otan.

The country is subdivided into 14 regions (*oblys* in Kazakh, *oblast* in Russian) and two cities (Almaty, and the capital Astana), totalling 16 administrative divisions. The *oblasts* are further subdivided into 175 *rayons* (districts). The President appoints *oblast akims* (governors). *Oblast* administrations have been traditionally strong; *akims* wield considerable power and are also key players in decisions relating to the health system, as are the *oblast* departments of finance. Local councils, the *maslihat*, have been elected since 1994 under a form of local democracy, but they have few powers in comparison with *oblast akims* who can override council decisions.

Kazakhstan is a member of the United Nations and several regional organizations: the Commonwealth of Independent States (CIS), the Shanghai Cooperation Organization (SCO), the Eurasian Economic Community

(together with the Russian Federation, Belarus, Kyrgyzstan and Tajikistan) and the Central Asian Economic Community (with Kyrgyzstan, Uzbekistan and Tajikistan). It is also member of several financial organizations active in the health sector, including the International Monetary Fund, the International Bank for Reconstruction and Development, the European Bank for Reconstruction and Development, the Asian Development Bank, and the Islamic Development Bank.

Kazakhstan has ratified the following United Nations conventions and instruments relevant to health systems and policies: the Convention on the Rights of the Child, the Convention on the Elimination of All Forms of Discrimination against Women, the International Convention on the Elimination of All Forms of Racial Discrimination, the Convention relating to the Status of Refugees, the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights. It has also ratified the United Nations Educational, Scientific and Cultural Organization (UNESCO) Regional Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in Asia and the Pacific, the Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, the Single Convention on Narcotic Drugs, and the WHO Framework Convention on Tobacco Control. In 2010 Kazakhstan became the first former Soviet republic to chair the Organization for Security and Co-operation in Europe (OSCE).

## 1.4 Health status

Trends in life expectancy in Kazakhstan are broadly similar to those observed in the CIS overall, although the decline in life expectancy after 1991 was steeper and life expectancy in Kazakhstan has remained below the CIS average (Fig. 1.2). Life expectancy dropped from 68.81 in 1990 to 64.4 in 1996, and has since increased again to 68.67 in 2009 (Fig. 1.2). However, this still fell over a year short of its 1990 level and was 12.2 years lower than average life expectancy in the EU15, which was recorded at 80.8 years in 2009.

Kazakhstan has a large gender gap in life expectancy. In 2009, males could expect to live 63.6 years, while female life expectancy was 73.5 years (Table 1.3). Male life expectancy also fell much more steeply than female life expectancy in the first half of the 1990s, from 63.9 years in 1990 to 58.93 years in 1996, while neither of the genders has yet regained life expectancy levels seen in 1990. There are also substantial regional variations in life expectancy.

The most prosperous areas (Almaty city and the capital Astana) have a substantial advantage in terms of life expectancy over other, more deprived areas of the country. Age-standardized all-cause mortality in Kazakhstan in 2009 was 1677 per 100 000 population for males and 929 for females, which are among the highest rates in the WHO European Region (Table 1.3).

**Table 1.3**

Life expectancy and mortality from all causes, 1990–2009 (selected years)

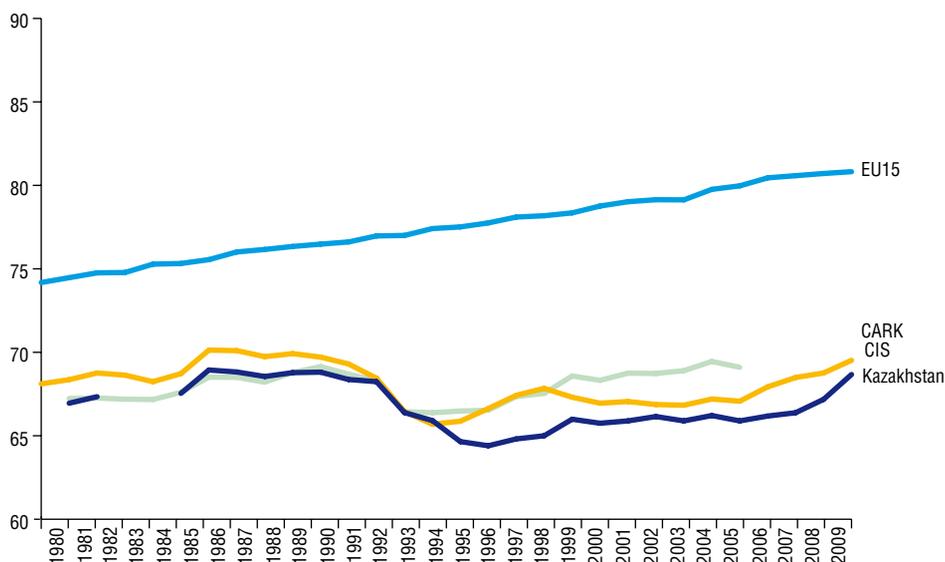
	1990	1995	2000	2005	2009
Life expectancy at birth, in years, male	63.8	59.7	60.2	60.3	63.6
Life expectancy at birth, in years, female	73.1	70.4	71.1	71.8	73.5
Mortality (SDR) for all causes, per 100 000, male	1 606	2 103	2 072	2 058	1 677
Mortality (SDR) for all causes per 100 000, female	888	1 107	1 038	1 086	929

Source: World Bank, 2011 (for life expectancy) and WHO Regional Office for Europe, 2011 (for mortality data).

Note: SDR – standardized death rate

**Fig. 1.2**

Life expectancy at birth, Kazakhstan and selected regional averages, 1980–2009



Source: WHO Regional Office for Europe, 2011.

Disability-adjusted life expectancy at birth in 2007 was estimated at 52.7 years for males and 59.7 years for females (WHO Regional Office for Europe, 2011).

The decrease in life expectancy in Kazakhstan in the 1990s was largely due to an increase in mortality from cardiovascular disease, in particular among middle-aged men. Overall mortality from circulatory diseases increased from 598 per 100 000 population in 1990 to 846 in 2005, falling again to 626 in 2009 (Table 1.4).

**Table 1.4**

Main causes of death per 100 000 population, 1985–2009 (age-standardized rates per 100 000) (selected years)

<b>Cause of death</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2009</b>
Infectious diseases (A00–B99)	33.95	24.11	46.10	39.74	31.21	19.41
TB (A15–A19)	18.37	13.53	32.06	30.81	26.36	14.04
AIDS/HIV (B20–B24)	–	–	–	–	0.46	0.83
Circulatory diseases (I00–I99)	617.14	597.91	799.44	787.94	846.48	626.37
Ischaemic heart disease (I20–I25)	331.16	307.27	420.31	402.74	381.42	238.50
Cerebrovascular diseases (I60–I69)	192.98	202.40	240.06	239.57	221.36	180.41
All cancers (C00–C97)	205.45	215.5	203.24	190.61	172.72	155.30
Colon cancer (C18)	13.32	14.73	14.14	15.45	14.82	13.86
Larynx, trachea, bronchus and lung cancer (C32–34)	43.58	51.00	46.76	41.75	35.78	31.05
Breast cancer (C50)	15.33	15.74	17.51	22.18	21.04	19.70
Cervical cancer (C53)	10.15	9.52	7.99	9.21	8.39	9.35
Diabetes (E10–E14)	5.80	8.90	16.11	13.16	10.29	9.46
Mental and behavioural disorders (F00–F99)	2.51	1.56	6.17	3.93	4.43	3.10
Respiratory diseases (J00–J99)	141.07	100.82	132.94	102.42	81.69	64.57
Diseases of the digestive system (K00–K93)	44.62	38.42	50.12	53.09	64.59	58.04
Transport accidents (V01–V99)	17.97	28.39	19.33	14.07	25.58	20.98
Suicides (X60–X84)	27.96	22.93	33.61	33.01	26.79	24.47

Source: WHO Regional Office for Europe, 2011.

Age-adjusted cancer mortality rates (at 155 per 100 000 in 2009) are comparable to those in the EU15, but significantly higher than the central Asian average of 107 per 100 000 population in 2005 (WHO Regional Office for Europe, 2011).

Alcohol consumption, smoking, diets high in fats and low in antioxidants, and poor detection and treatment of hypertension are major contributing factors to cardiovascular mortality (McKee & Chenet, 2002). Kazakhstan also has very high death rates due to external causes (accidents, injuries, poisonings and traumas). Age-standardized mortality rates increased from 118 per 100 000 in 1991 to 166 in 2001 and then decreased to 115 by 2009, which was equal to the CIS average, but considerably higher than the central Asian republics and Kazhakstan (CARK) average (81 in 2005) and four times higher than the EU15 average of 33 per 100 000

(WHO Regional Office for Europe, 2011). In 2009, external cause mortality in Kazakhstan was among the highest in the WHO European Region, only surpassed by Russia and Lithuania (WHO Regional Office for Europe, 2011).

Like other countries of eastern Europe and central Asia, Kazakhstan has recorded a significant increase in the incidence of diabetes in recent years. The incidence rate increased from 35 per 100 000 population in 1995 to 148 in 2009, which was below the CIS average of 187, but above the CARK average of 83 per 100 000 (WHO Regional Office for Europe, 2011).

Infant mortality has decreased since 1990, reaching an estimated 25.6 per 1000 live births in 2009 (Table 1.5). In January 2005, the Ministry of Health issued a decree to adopt the WHO definition of live birth, which provides a broader definition of live birth than the Soviet version. Following the country's transition to international criteria of live birth and still birth, the officially recorded infant mortality rate increased to 21.5 per 1000 live births in 2008 and the under-5 mortality rate to 23.5. In 2009 these indicators declined to 18.2 and 21.8 per 1000 live births respectively. Estimated infant and under-5 mortality is slightly higher (Table 1.5).

**Table 1.5**

Maternal, child and adolescent health indicators in Kazakhstan (selected years)

Years	1990	1995	2000	2005	2009 <sup>a</sup>
Infant deaths per 1 000 live births	51.1	48.0	38.4	30.7	25.6
Maternal deaths per 100 000 live births (modelled estimate)	78.0	76.0	59.0	45.0	45.0
Abortions per 1 000 live births <sup>b</sup>	701.7	807.2	616.05	450.4	316.9
Adolescent fertility rate (births per 1 000 women aged 15–19)	–	–	34.2	29.5	29.5
% of all live births to mothers, age under 20 years <sup>b</sup>	–	8.7	6.7	7.1	–
Mortality rate, under-5 (per 1 000)	60.3	56.3	44.3	34.8	28.7

Source: World Bank, 2011.

Notes: <sup>a</sup> 2008 for maternal mortality; <sup>b</sup> from WHO Regional Office for Europe, 2011.

According to national statistics, maternal mortality rates are very high in Kazakhstan, with 37.2 deaths recorded per 100 000 live births in 2009 (more than six times the EU15 average). Virtually all births take place in health facilities, mostly in maternity homes. However, actual maternal mortality rates can be assumed to be higher, with World Bank estimates of 45 maternal deaths per 100 000 live births in 2009 (Table 1.5). High maternal mortality rates are due to high fertility rates, untreated gynaecological problems, iron-deficient diets, including those high in fats and low in vegetables and fruit, and diets that reduce the uptake of iron.

As in other countries of the former USSR, abortion has traditionally been the main method of birth control. However, between 1992 and 2009 the rate of abortions per 1000 live births decreased from 1020 to 317, which compared to 229 per 1000 live births in the EU15 in 2006.

Like other countries in central Asia and the former USSR, Kazakhstan has since the early 1990s witnessed epidemics of sexually transmitted diseases, HIV/AIDS and TB. The incidence of TB increased throughout the 1990s, peaking at 185 per 100 000 population in 2002, and decreasing to 129 per 100 000 by 2009 (Table 1.6). Although this situation mirrors trends in central Asia and the former USSR as a whole, TB rates in Kazakhstan are higher than in any other country of the WHO European Region. A growing concern is multi-drug resistant TB, which is much more difficult and expensive to treat.

**Table 1.6**

Infectious disease incidence in Kazakhstan, 1985–2009 (selected years)

	1985	1990	1995	2000	2005	2009 <sup>a</sup>
TB incidence per 100 000	79	66	68	174	168	129
Absolute number of new HIV infections	0	4	5	347	964	2 081
Syphilis incidence per 100 000	14	1	123	161	61	46
Gonococcal infection incidence per 100 000	113	105	126	–	68	48

Source: WHO Regional Office for Europe, 2011.

Note: <sup>a</sup> 2007 for syphilis and gonococcal infections.

The incidence of other communicable diseases also increased dramatically (Aris, 2005). The incidence of syphilis increased from 1.45 per 100 000 population in 1990 to 269.5 in 1997, decreasing again to 45.9 in 2007. However, the incidence rate of hepatitis A decreased in Kazakhstan from 444 per 100 000 in 1990 to 40 in 2008 (WHO Regional Office for Europe, 2011).

An exponential increase has been recorded in recent years in the number of new HIV infections. As in other countries in the former USSR, the epidemic is mainly driven by the inflow of heroin from Afghanistan and the growth in injecting drug use (Rechel & McKee, 2007). In Kazakhstan, the number of registered injecting drug users has increased five-fold since the early 1990s (Godinho et al., 2005).

The possible effects of severe environmental degradation and pollution are a major public health concern in Kazakhstan. The basin of the shrinking Aral Sea is heavily salinated since its feeder rivers are siphoned off in irrigation schemes, and the remaining water is polluted by factories and agriculture. The air around the Aral Sea is polluted with salts, pesticides and chemicals.

The already limited supply of fresh water in Kazakhstan is made worse by various forms of contamination. The rapid upsurge of industrial production and the lack of measures for environmental protection has also resulted in extensive air pollution in large industrial centres such as Ust-Kamenogorsk and Karaganda.

Problems of poor sanitation and contaminated water (salinity, toxins and bacteria) have increased in urban and rural areas. Water filtration and purification systems have broken down in many areas. In 2008, 58% of homes were connected to a water supply system, with a higher share in urban (82%) than in rural areas (24%).

The radiation exposure from nuclear testing in the Semipalatinsk area, which once served as the USSR's main testing ground for nuclear weapons, also used to be high. Between 1953 and 1963, when the Nuclear Test Ban Treaty banned all testing in the atmosphere, a large number of surface and atmospheric nuclear tests were carried out at Semipalatinsk (Semey). Underground testing continued until August 1991, when the site was closed down. The current impact of nuclear testing on population health remains unclear.



## 2. Organization and governance

Policy-making in Kazakhstan is highly centralized in an executive-style government, run by the President. The Ministry of Health is responsible for developing national health policies. Strategic planning is set out in strategic development plans of the Ministry of Health. The most recent plan prioritizes three key areas for the years 2009–2011: improving population health, increasing health system efficiency and developing human resources (Government of Kazakhstan, 2008).

Health care provision and financing have been largely devolved to the *oblast* administrations and their health departments. The 14 *oblast* and Almaty and Astana city health departments are the key bodies administering health services in Kazakhstan and run most hospitals and polyclinics. Parallel health systems run by some ministries and government agencies have been inherited from the Soviet period and are still largely in place. The role of professional associations and NGOs in the development of health policies, legislation and regulation is increasing.

### 2.1 Overview of the health system

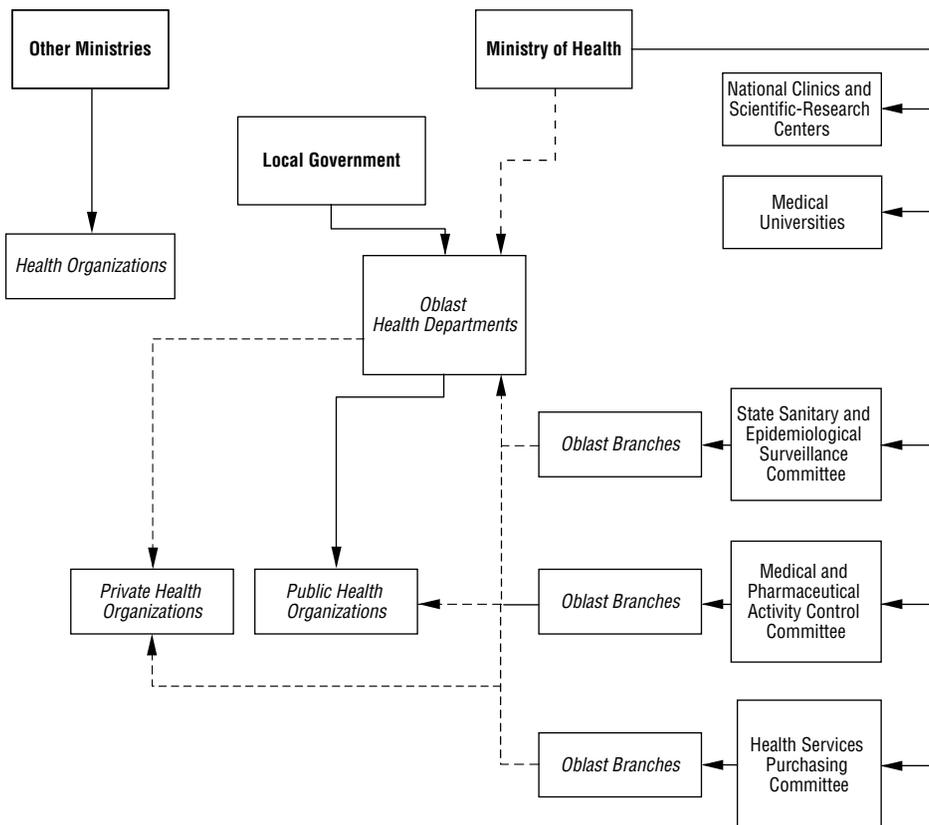
When Kazakhstan became independent in 1991, it inherited a health system from the Soviet period that was state-owned and centrally planned; one of its key principles was that health services should be free and accessible to everyone. Major changes in the structure and regulation of the health system were initiated in the mid 1990s, ranging from attempts to devolve power to the *rayon* level to the introduction of mandatory health insurance and the restructuring of primary health care. Not all of these envisaged changes were implemented. Most responsibilities, including the pooling of funds, were only devolved to the *oblast* level, while the present structure of service provision was only outlined in 2004.

The Ministry of Health is responsible for developing national health policies. Health care provision and financing have been largely devolved to the *oblast* administrations and their health departments. The Ministry of Economic Affairs and Budget Planning and the Ministry of Finance regulate health financing mechanisms and allocate the health budget. Other major actors in the health system are health service providers (state owned, autonomous and private), professional unions and associations, and some NGOs.

The core strategic planning in the health system happens at the ministerial level, with the approval of the government. The main legislative document, regulating the structure, financing and provision of health services is the Code on People's Health and the Health Care System (President of Kazakhstan, 2009). A broad overview of the health system is given in Fig. 2.1.

**Fig. 2.1**

Overview of the health system



Note: Dotted lines indicate regulatory oversight, solid lines indicate direct administration and reporting.

## 2.2 Historical background

After present-day Kazakhstan became an autonomous republic of the USSR in 1920, the original emphasis was on communicable disease control and the development of a rural primary health care infrastructure. During the 1950s to 1970s, the focus shifted to specialist and hospital care, and many hospitals and polyclinics were built, with less and less spending on primary care. The over-investment in doctors and hospitals resulted from Soviet health care regulations, which emphasized large numbers of hospital beds and doctors, rather than the quality and outcomes of health care.

In the 1980s, the system began to deteriorate and its management problems became apparent. The health sector had traditionally been assigned a lower priority than other sectors of the economy that were considered more “productive”. As budgets became tighter, the supply of health services could not meet demand and health organizations were forced to unofficially transfer some of their costs to the population in the form of informal payments.

Structural problems included a centralized system of management and budgeting, which did not allow health managers any flexibility. Budgets were allocated according to inputs, such as numbers of staff and hospital beds, with no incentives to improve efficiency or quality of care.

After independence, there were initially few changes to the health system, as priority was given to political and economic reforms. However, various options were debated and pilot projects set up in the 1990s to test new approaches, such as restructuring primary care, setting up a health insurance system, and introducing new provider payment mechanisms and user fees. The pilot projects were set up in two *oblasts* (Zhezkazgan and Semipalatinsk), with more limited pilot activities also taking place in South Kazakhstan and Almaty *oblasts*. In 1998, Zhezkazgan was merged into Karaganda *oblast* and Semipalatinsk was merged into East Kazakhstan *oblast*. As a result of these mergers, the health reforms there were stalled, and it took a long time for the reform process to return to a more systematic approach. Over time, Karaganda became recognized as the lead *oblast* on health reforms in Kazakhstan.

The pace of reforms increased in the second half of the 1990s, although clear health policy directions were still lacking and the policy environment remained fluid. A comprehensive programme of health reforms was adopted in 2004, envisaging changes in all aspects of the health system. In 2010 the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” was adopted by presidential decree (President of Kazakhstan, 2010). The

programme built on the preceding National Programme for Health Care Reform and Development (Ministry of Health, 2004) and formulated key priorities for the further development of the health system. In addition, in 2010 Kazakhstan initiated the implementation of the Concept on the Unified National Health Care System (Ministry of Health, 2009c) (see Chapter 6).

## 2.3 Organization

Policy-making in Kazakhstan is highly centralized in an executive-style government, run by the President. National health policies are set by the government and implemented by national and local authorities.

### 2.3.1 Ministry of Health

There were frequent changes in the organizational set-up of the Ministry of Health. In 1997, the Ministry was transformed into the Committee of Health within the Ministry of Education, Culture and Health. In 1999, the Committee of Health was transformed into the Agency of Health, and only in 2002 was the Ministry of Health restored. These organizational changes in the status and structure of the Ministry of Health were part of the wider public administration and civil service reform carried out in the country.

The Ministry of Health is now attempting to develop a stronger role in health policy-making. Its main functions are formulating policies on key aspects of the health system, regulating the health sector through legislation, and coordinating intrasectoral and intersectoral collaboration. In addition, the Ministry of Health is responsible for service delivery through national clinical centres. At times, this organizational set-up has resulted in a lack of clarity between the functions of regulation and service delivery (Katsaga and Zuez, 2006).

Currently the Ministry of Health is undergoing the next stage of administrative reforms. In compliance with the Concept on the Unified National Health Care System (Ministry of Health, 2004) the Ministry of Health has assumed the function of a single payer for all health services. In 2010 the Ministry of Health, through its Health Purchasing Committee, started to finance most hospitals in the country through budgetary funds centralized at the national level. Primary health care facilities and some hospitals, such as TB dispensaries and psychiatric hospitals, continue to be funded through *oblast* budgets.

According to the Code on People's Health and the Health Care System, approved by President's Decree No. 193-IV ZRK of 18 September 2009, the Ministry of Health performs the following key functions:

- implementation of national health policies;
- development of health planning systems;
- approval of health service delivery arrangements;
- development and approval of health care legislation and regulations;
- development and approval of health care standards;
- monitoring and evaluation;
- coordination of health system activities;
- organization of continuous education, training and retraining of medical and pharmaceutical staff;
- approval of appointments of heads of local health administrations;
- joint agreement with heads of local executive bodies on programmes for achieving performance targets;
- development of intersectoral cooperation;
- regulation of prices of drugs and medical services provided by state health organizations;
- purchase of health services within the State Guaranteed Benefits Package, in line with budget programmes;
- organization of the accreditation of health care entities;
- interaction with NGOs regarding the implementation of national health policies;
- state supervision of the activities of health entities;
- compilation of the list of drugs and medical supplies purchased from a single distributor responsible for procuring and supplying drugs and medical supplies;
- ensuring the preparedness of organizations responsible for the prevention and management of emergency situations.

The Minister of Health is appointed by presidential decree and is accountable to the Prime Minister. The Minister of Health is responsible for the overall governance of the Ministry of Health and for supervising the work of the administrative department. The Minister nominates vice-ministers and

chairpersons of committees, who are then appointed and dismissed by the government. The distribution of responsibilities among the vice-ministers is done by ministerial order and is prone to change.

The Ministry of Health is divided into a number of departments and units (Fig. 2.2). It has established three committees to implement health policy at the national and regional level:

- the Committee of Medical and Pharmaceutical Activity Control;
- the Committee of State Sanitary-Epidemiological Surveillance;
- the Health Services Purchasing Committee.

The three committees have a vertical structure with representation in all *oblasts*. Chairpersons of the committees are accountable to the Minister of Health. The committees are funded from the republican budget.

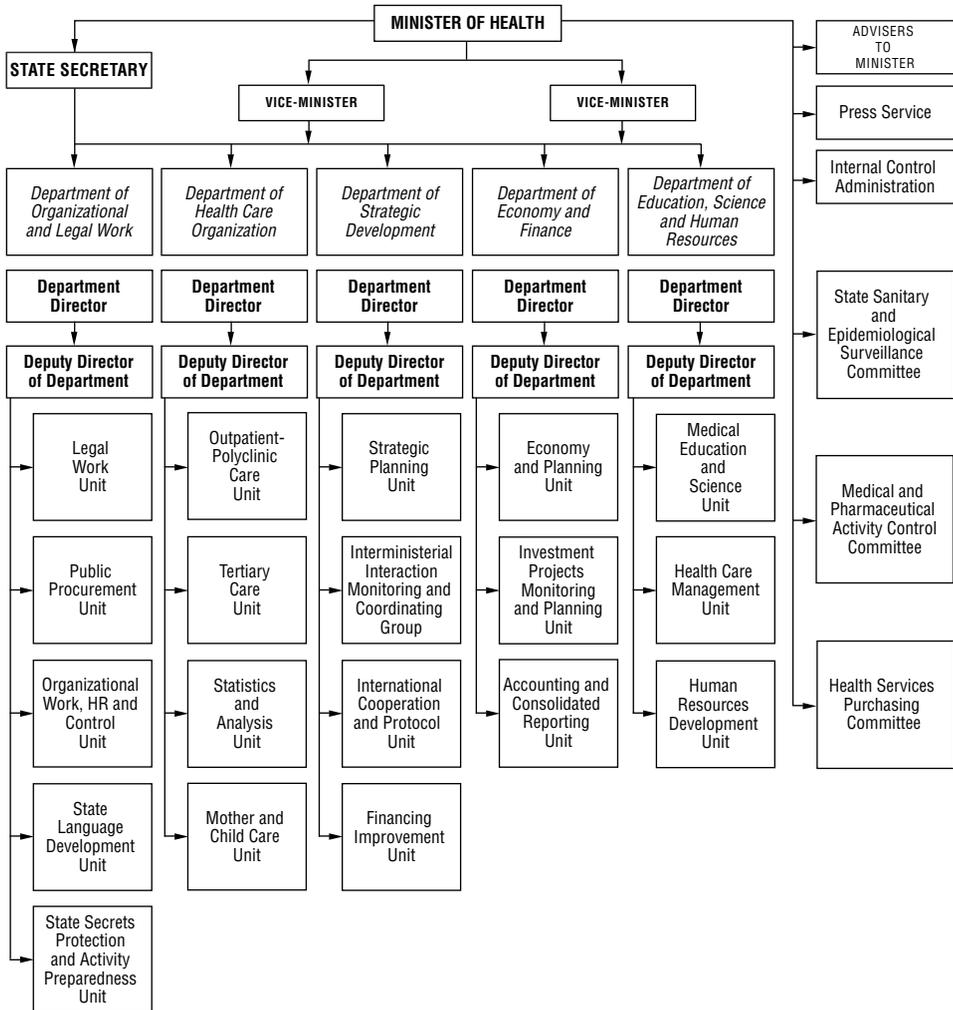
### 2.3.2 *Oblast* and city administrations

The 14 *oblast* and Almaty and Astana city health departments are the key bodies administering health services in Kazakhstan and run most hospitals and polyclinics. *Oblast* health departments are structural subdivisions of *oblast* administrations. The directors of *oblast* health departments are appointed by the *oblast akims* (governors) to whom they are accountable, in coordination with the Ministry of Health. *Oblasts* own and manage all state-owned health care providers in their territory. The directors of *oblast* health departments appoint and dismiss the heads of health organizations and supervise their activities.

*Oblast* administrations collect the majority of government revenue and keep a significant portion. They (including the *oblast* finance and health departments) are thus quite powerful, although there is considerable variation in power and revenue across *oblasts*. Between 2005 and 2009, health funds from the *oblast* and *rayon* level were pooled at the *oblast* level, except expenditures for tertiary care, and decisions on the allocation of funds were made by the *oblast* administrations, who acted as single-payers in their respective territories.

In 2010 the consolidation of the health budget at the national level was initiated, in line with the Concept on the Unified National Health Care System (Ministry of Health, 2009c). In the first stage of the process, the health budgets for general hospital care were pooled nationally. The next stage envisages the consolidation of primary health care funds at the national level. Pooling of health funds at the national level, however, faces several challenges. *Oblast*

**Fig. 2.2**  
Organizational chart of the Ministry of Health



Source: Ministry of Health, 2011b.

authorities implicitly or explicitly obstruct the reform, as it reduces their power and ability to influence financial flows and eliminates their instruments to implement *oblast*-specific social and health policies.

The key functions of *oblast* health departments are:

- implementation of a single-payer function within *oblasts* (as far as this has not been pooled at national level);

- planning of health expenditure within local budgets;
- contracting and paying health care providers;
- controlling the expenditure of state-owned health care providers;
- calculating the financing base rates and tariffs, based on methodologies approved by the Ministry of Health;
- creating and maintaining the unified health information system at the *oblast* level;
- appointing and dismissing the heads of state-owned health organizations on their territory.

*Oblast* administrative bodies (*akimats* and *maslihats*) assume the following key responsibilities:

- ensuring the realization of residents' rights to the State Guaranteed Benefits Package, in compliance with established state standards;
- appointing and dismissing the heads of *oblast* health departments;
- planning and approving local expenditures according to health programme budgets;
- implementing intersectoral collaboration in the area of health protection;
- deciding on the establishment of state-owned health facilities.

### 2.3.3 *Rayon* administrations

*Rayons* are subordinate to *oblast* administrations and have no financial authority. In accordance with the Budget Code, *rayon*-level responsibility is limited to arranging the transport of patients with limited mobility to health service providers.

### 2.3.4 Ministry of Economic Development and Trade

The Ministry of Economic Development and Trade was established in 2004. It assumed the responsibility for budget planning and allocation in the health sector, which had previously been vested in the Ministry of Finance. The Ministry of Economic Development and Trade allocates funds to the Ministry of Health and *oblasts*, including funds for health services and capital investments.

### 2.3.5 Ministry of Finance

With the introduction of the Budget Code in 2004 and the establishment of the Ministry of Economic Development and Trade, the role of the Ministry of Finance has been reduced to budget execution. It is now responsible for controlling the spending of *oblast* health departments and health care providers.

### 2.3.6 Ministry of Labour and Social Protection

The Ministry of Labour and Social Protection sets the national pay scale and various remuneration incentives, including extra payments for work with dangerous or hazardous substances. It is also responsible for formulating and monitoring the implementation of labour laws. The Ministry has medico-social expert commissions that grant or revoke disability status to individuals. The Ministry also provides prosthetic and other compensatory aids for people with disabilities.

### 2.3.7 Autonomous health enterprises

Some state-owned health care organizations (such as certain hospitals, large polyclinics and primary health care groups) are now legally able to become juridical entities with the capacity to manage their own funds. This became possible following the introduction of the Law on Self-government in 1995, and subsequent amendments and decrees.

Currently there are three major types of state-owned health care providers in the country, with various degrees of managerial autonomy.

- *State institutions* are public health care providers financed by budgetary sources. They do not have any autonomy in the management of finances and are not allowed to charge fees for services. State institutions are usually hospitals for treating socially significant diseases (e.g. TB) or psychiatric hospitals.
- *State enterprises* are public health care providers financed according to contracts with the single payer, on the basis of the volume of services provided (hospitals and outpatient clinics) or on a capitation basis (primary health care organizations). They have some autonomy in financial management and are allowed to charge fees for services. State enterprises are mostly general hospitals, primary health care organizations and diagnostic clinics.

- *State economic enterprises* are, as the state enterprises, public health care providers financed according to contracts with the single-payer, on the basis of the volume of services provided (hospitals and outpatient clinics) or on a capitation basis (primary health care organizations). However, in contrast to state enterprises, state economic enterprises have greater autonomy to manage their internal resources, using a more flexible staff compensation schedule within the payroll ceiling approved by the single-payer. Supervisory boards for state economic enterprises were established in 2011.

The *oblast* administrations (subject to various exceptions) usually decide which facilities should remain state owned and funded, and which facilities should be reorganized into state enterprises. In contrast to state institutions, which are controlled by an upper level of management and financed entirely through the state budget, state enterprises can charge fees for services and have some financial autonomy. The Concept on the Unified National Health Care System (Ministry of Health, 2009c) envisages increasing the autonomy of health care providers by changing state institutions into state enterprises and state enterprises into state economic enterprises. In 2009 there were 5811 state enterprises (including state economic enterprises), 1805 state institutions, and 837 private health care organizations in Kazakhstan (Ministry of Health, 2011b). Most state institutions are small rural outpatient facilities. In addition, health care entities in the form of joint stock companies with a high level of autonomy are being established in the country.

### 2.3.8 Private health care providers

Pharmacies and dentists have mostly become private profit-making organizations, while hospitals, sanatoriums and large polyclinics continue to be mainly state owned. However, between 1999 and 2004, the number of private hospitals almost doubled, and the number of private facilities almost tripled. The share of the private sector is increasing, and in 2009, 16.4% of all physicians were working in the private sector.

### 2.3.9 Parallel health systems

During the Soviet period and in the first years after independence, some ministries and government agencies ran their own comprehensive network of health facilities financed from the republican budget. These included the Ministry of Internal Affairs, the Ministry of Defence, the administrations of the government and President, Kazakh railways, and several national state-owned

companies. Some of these parallel health systems have been closed down in recent years. More detailed data on the health infrastructure, the number of health workers employed and health expenditure for these systems are not available. The parallel health systems are formally required to report to the Ministry of Health but they may not always do so in practice.

### **2.3.10 Unions, professional associations and civil society**

The 1994 Law on Trade Unions allowed the freedom to register and form trade unions, and new unions appeared in addition to the previous monopoly unions. The Trade Union Federation of Kazakhstan covers about 50 unions. This includes the Health Workers Union, one of the largest unions in the country, covering 95% of health workers in 1998. Membership is practically automatic and membership fees are deducted from salaries. The Trade Union Federation still owns substantial assets, such as hotels, office buildings and health spas. The Health Workers Union maintains a close working relationship with the government and is consulted on policy documents, although without being an ex officio member of policy committees.

The Concept on Developing the Civil Society in the Republic of Kazakhstan for 2006–2011, adopted by President's Edict on 25 July 2006, prioritizes the development of the non-governmental sector. The Association of Physicians and Pharmacists, the Kazakhstan Association of Family Physicians, the Diabetes Association of the Republic of Kazakhstan, and the Aman Saulyk Public Association are among the most active medical professional and non-governmental associations. NGOs are actively involved in health promotion activities targeted at the general population, chronic patients or most-at-risk groups, and are funded by the government and other sources. Twenty-five NGOs have been awarded grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria to implement the HIV and AIDS Prevention Project in Kazakhstan.

Law No. 36-III ZRK of 12 April 2005 on the State's Social Procurement Arrangements has created a legal foundation for a sustainable and effective partnership between the state and civil society. The Ministry of Health has had positive experiences of expanding collaboration in this area. Medical professional associations and NGOs now contribute significantly to the development of health policies, legislation and regulation, through their participation in consultative bodies and working groups, roundtables, conferences and public hearings. They have, for example, contributed to the development of the Code on People's Health and the Health Care

System (President of Kazakhstan, 2009). In 2009 the Ministry of Health approved the Arterial Hypertension Management Guidelines developed by the National Institute of Cardiology and Internal Diseases in collaboration with the Kazakhstan Association of Family Practitioners, the Karaganda Drug Information Centre and international experts. The Kazakhstan Medical Pedagogical Association actively participates in the development and implementation of state programmes aimed at improving child and maternal health, reproductive health and health promotion. In the future, the Ministry of Health envisages a gradual delegation of functions to professional associations, such as the evaluation and assessment of the competence of health workers, the accreditation of health facilities, and the development and implementation of clinical guidelines and protocols.

## 2.4 Decentralization and centralization

While the administrative set-up of Kazakhstan's health system is highly centralized compared to some federal or highly decentralized systems in western Europe, it is less centralized than that of most other countries in central Asia or the CIS, and the *oblasts* have a great amount of autonomy. Since Kazakhstan's independence in 1991, the health system has experienced significant decentralization, but some of this has been subsequently revised, with significant consequences for health financing and levels of pooling. Decentralization was mainly achieved through the privatization of facilities and the devolution of administrative and financial responsibilities from the national to the *oblast* level, and at times (between 2000 and 2003) even to the *rayon* level. Relationships between the national and the regional level have often changed, with powers shifting in both directions. In general, however, there has been a delegation of power from the national to the regional level. The movement of the capital from Almaty to Astana further affected the relationship between the national and regional level, as it created a void for a number of years.

Many state-owned industrial and agricultural facilities, such as factories and large collective farms, have been privatized since 1991. In the health system, privatization has been more limited and, as in neighbouring Uzbekistan (Ahmedov et al., 2007), mostly involved pharmacies and dental care. By 1997, over 90% of pharmacies had been privatized (UNDP, 1997). In October 2006, 95.8% of pharmaceutical organizations were private (Ministry of Health, 2007b).

The devolution of responsibilities from the national to the *oblast* level was embedded in the 1995 Law on Local Self-government, which delegated health management and financing functions to the *oblast* level. According to this law, the level of budget consolidation was determined by the *oblast akim* (governor). Until 2004, in some *oblasts* the budget was centralized at *oblast* level, whereas in most *oblasts* the budget was decentralized to the *rayon* level. Between 2005 and 2009, following the Budget Code of Kazakhstan, the budgets of all *oblasts* were consolidated at *oblast* level and allocation decisions were made by the *oblast* health administrations. *Oblast* authorities were responsible for planning and operational management, in line with unified rules established at the national level. They held responsibility for:

- the operational management of *oblast* health systems, based on national rules and norms;
- the planning and allocation of resources for health service delivery within the State Guaranteed Benefits Package;
- the payment of health care providers.

Administrative reforms and the National Programme for Health Care Reform and Development 2005–2010 (Ministry of Health, 2004) aimed to grant the Ministry of Health greater powers, many of which it had lost in the 1990s. In 2009, the government gave the Ministry of Health greater authority, accompanied by increased centralization of health care administration and financing functions. These decisions were instigated following a number of emergency situations (such as an outbreak of HIV/AIDS in South Kazakhstan in 2006), which revealed governance problems at the regional level. Other major reasons for the process of recentralization were strong regional variations in health funding and payment systems, as well as in health infrastructure. The decision was made to create a unified national health system, with a consolidated health budget at the national level.

Within the Ministry of Health, the Health Services Purchasing Committee was established as one of the core elements of the new system. The committee has a vertical structure with branches in all *oblasts* and will be responsible for purchasing all health services in the country. Another new body that has been created is the National Medical Holding, a joint stock company which incorporates six national medical centres and Astana Medical University under a single management roof. A single drug distributor, responsible for the procurement of all drugs for state owned health organizations, has also been established.

## 2.5 Planning

### 2.5.1 Strategic planning

Kazakhstan has drawn up several national strategic documents, including the mid- to long-term development strategies: Kazakhstan 2010, Kazakhstan 2020 and Kazakhstan 2030. Based on the strategic priorities set out in these documents, sectoral ministries develop more detailed strategic documents for their respective sectors.

In 2004 the Ministry of Health developed a National Programme for Health Care Reform and Development 2005–2010 (see Chapter 6). Detailed operational plans were drawn up and approved for two implementation stages: 2005–2008 and 2008–2010. A new strategic development document, the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010), was adopted in November 2010.

In addition to these core strategic development documents, all ministries, including the Ministry of Health, produce and implement detailed three-year strategic plans that identify key goals and targets for strategic development. Since 2009, the *oblasts* have started developing similar strategic plans that have come into effect beginning in 2010.

The Strategic Development Plan of the Ministry of Health for 2009–2011 (Government of Kazakhstan, 2008) provides an assessment of population health and the health care delivery system, analyses health indicators and suggests interventions to address priority issues. The plan also includes specific objectives and tasks with respective indicators, and an assessment of potential risks for implementation. While the National Programme for Health Care Reform and Development 2005–2010 sets out the broad strategy, the Strategic Development Plan focused on the required interventions to achieve the desired results. The key directions of the Strategic Development Plan of the Ministry of Health for 2009–2011 were:

- improving the health of the population, including through improvements in maternal and child health, reducing the burden of “socially significant diseases” and injuries, and improving lifestyles and nutrition;
- improving the administration and management of the health system, through revised management and financing systems, investing in health infrastructure, and improving access to services and pharmaceutical care;

- developing human resources and medical science, including through improving staff qualifications and the quality of health research.

The budget of the Ministry of Health is formed according to the above-mentioned strategic documents and in consideration of the priorities set forth in presidential addresses to the nation and other documents. The Ministry of Health Order No. 63 of 2 February 2009 approved the health care budget for 2010–2012, while Order No. 157 of 10 March 2010 approved the health care budget for 2011–2014.

### 2.5.2 Human resource planning

In Kazakhstan, there are no comprehensive mechanisms for human resource management and planning that take into account the distribution and allocation of staff to facilities. The Ministry of Health and the government have acknowledged this problem, and the development of capacity to plan human resources is one of the priorities of the World Bank-funded Health Sector Technology Transfer and Institutional Reform Project and the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”.

The Ministry of Health is currently establishing a human resource development strategy. The strategy pursues the following key objectives:

- to improve the existing human resource management system, including the development of forecasting and planning mechanisms in the health system;
- to coordinate human resource development and medical education strategies aimed at improving the quality and continuity of training of health personnel through all levels of medical education;
- to implement human resource development mechanisms aimed at training, maintaining and efficiently utilizing available resources.

The Ministry of Health plans to develop a new system of human resource management aimed at using health personnel according to their specialty profile and level of training. Forecasting and planning measures are being developed, with the aim of ensuring that sufficient numbers of medical staff will be in place. The creation of better work conditions, a system of incentives and social support (in the form of benefits), supervision and support of professional development are important priorities of the human resource development strategy.

### 2.5.3 Capital investment planning

The Ministry of Economic Affairs and Budget Planning is responsible for capital investment planning in all sectors of the economy, including health. Investment planning is regulated by government decrees that establish the rules for capital investment planning. While in general the capital investment process is well organized, the inadequate capacities of the Ministry of Health in this area, as well as the lack of expertise on sector-specific projects in the Ministry of Economic Affairs and Budget Planning, have a negative impact on the quality and value of capital investments in the health sector.

For example, the national project “100 Schools, 100 Hospitals” that is currently being implemented aims to construct over 100 facilities (mostly hospitals) in the health sector over a few years, making it a highly ambitious and costly project. However, the project is not embedded in a long-term health care development master plan, so that investments are not linked to health care needs of the population nor to broader health system objectives. In other cases, capital investment projects are driven by vested political interests, such as when in recent years a number of large clinical centres were built in the capital Astana, some of which have now been incorporated in the National Medical Holding. The excess capacities and costly medical equipment of these facilities are not utilized efficiently.

The overall share of capital investment funding in the national health budget increased more than threefold between 2003 and 2008, and further increases were planned for 2009 and 2010 (Department of Economy and Finance, Ministry of Health, personal communication, 2010). At the *oblast* level, capital investments are implemented through ear-marked “transfers for development” from the republican to the *oblast* budget. Only an insignificant part of capital investments at the *oblast* level is funded directly from *oblast* budgets.

### 2.5.4 Budget planning

Kazakhstan has a modern and well-regulated system of budget planning (World Bank, 2009). The Budget Code is the major legal document that determines the process and procedures for budget planning and execution. It includes budget execution schedules. The Ministry of Economic Development and Trade issues annual decrees with detailed calendar plans for budget execution.

The Ministry of Economic Development and Trade is responsible for developing macroeconomic forecasts and calculating revenues and expenditures, with a further breakdown of available resources by economic

sector. In 2009, the Ministry of Economic Development and Trade established budget limits for each of the ministries, including the Ministry of Health. In the health sector, these limits were established based on historical spending levels and the strategic priorities of the government to increase health sector funding.

## 2.6 Intersectorality

Health is not yet systematically taken into account by other ministries and agencies. Health impact assessment is not yet adequately developed and is not a compulsory procedure for the development of projects outside the health system. However, some NGOs are making efforts to attract public attention to potentially dangerous projects and industries. The Republican Centre for Health Development, established in 2011, aims to become more active in intersectoral collaboration.

## 2.7 Health information management

### 2.7.1 Information systems

A unified health information system was established in Kazakhstan in 2007. In 2008 Medical Information Centres were set up in all *oblasts* of the country. All centres were equipped and staff training in information technologies commenced. The key functions of the Medical Information Centres are:

- coordinating the implementation, maintenance and development of the unified health information system according to set goals and objectives;
- ensuring the functioning of the health information infrastructure;
- developing a unified system for medical and statistical reporting and accounting, using new data collection and processing technologies;
- providing the information required for paying health care providers and programmes, including data on demographic characteristics of the population, enrolment with primary health care facilities, the volume of consultative or diagnostic services, performance indicators for primary health care facilities, indicators for paying hospital care, and calculating capitated payment and performance-based bonuses for primary health care providers;

- receiving and processing statistical reports from health facilities, and monitoring the statistical reporting and accounting in *oblast* health facilities, particularly in rural areas;
- contributing to the development of indicators on the performance of health facilities and the health status of the population, and developing proposals for improving the efficiency of health facilities.

In 2009 the Republican Medical Information and Analytical Centre was created under the Ministry of Health to ensure the overall coordination of the regional branches, collect aggregated data at the national level and generate analytical reports for the Ministry of Health. In 2011 the centre was merged with the Health Development Institute to become the Republican Centre for Health Development.

The Health Informatics Centre was created in 2009 with the aim of implementing the Unified Health Management Information System. However, in 2011 this management information system was moved under the umbrella of the newly established Republican Centre for Health Development.

The Ministry of Health envisages the introduction of individual medical smart cards for all citizens of the country, with the aim of improving the quality of medical examination, treatment and follow-up. A recently created interactive electronic map of health facilities contains comprehensive information on health infrastructure and population health. A phased implementation of telemedicine in rural health facilities has started in 2004, extending to 14 *oblasts* in 2010 (President of Kazakhstan, 2010).

The World Bank-funded Health System Technology Transfer and Institutionalization Reform Project and the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” envisage the further development of the health information system. The State Health Care Development Programme for 2011–2015 foresees the following measures:

- integrating clinical algorithms, protocols and standards into the unified health information system;
- ensuring health workers across the country, particularly in remote rural areas, have access to the resources of the health information system;
- developing electronic health services and implementing a system for distance learning and certification;

- creating a blood bank and donors' bank for the management of stocks and blood components, and integrating the blood bank into the unified health information system;
- developing a register for “socially significant diseases”;
- developing a national network for telemedicine.

Implementation of a National Health Accounts system started in 2006 under the newly established Committee on Health Care Quality Control. All public and private health facilities provide annual statistical reports to the Ministry of Health, which feed into the National Health Accounts system.

Initial efforts to regulate health accounting in Kazakhstan date back to 2004 when, in light of the National Programme for Health Care Reform and Development 2005–2010, the government established a multisectoral national working group. This group developed approaches and specific recommendations for the introduction of health accounts in Kazakhstan, using the International Classification for Health Accounts (OECD, 2000). The Ministry of Health outsourced responsibility for data collection and analysis to Medinform Ltd for producing National Health Accounts reports for 2007 and 2008. Routine production of National Health Accounts stalled in 2009–2010, but has been revitalized since the approval of the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”. In the framework of the World Bank-funded Health Sector Technology Transfer and Institutional Reform Project, the institutionalization of National Health Accounts is expected to be achieved, on the basis of the System of Health Accounts that was established in Kazakhstan in 1993 by the Agency for Statistics as the main statistical system for national accounting (Gotsadze, 2010).

## **2.7.2 Health technology assessment**

The Committee of Control over Medical and Pharmaceutical Activity under the Ministry of Health coordinates and controls the implementation of new methods of diagnostics and treatment. The Republican Centre for Health Development coordinates development of clinical practice guidelines and, when requested by the Ministry of Health, evaluates the effectiveness of health technologies.

## 2.8 Regulation

The country's health system is currently regulated by the Code on People's Health and the Health Care System (President of Kazakhstan, 2009). The Code is a comprehensive legal document regulating a broad range of issues related to the functioning of the health system. While integrating and systematizing all existing health legislation and realigning it with the regulation of other economic sectors, the Code also cancelled outdated or more specific laws and acts that used to regulate various aspects of the health system. The development of the Code was a huge undertaking for the Ministry of Health and involved other ministries, the government, professional and public associations, and international experts. The Code went through several readings in Parliament.

The Code regulates relationships in the health system to ensure the constitutional right of the population to health protection, harmonize the health system with international norms and standards, and improve the quality of health services and provision of drugs, medical supplies and equipment (President of Kazakhstan, 2009). Adoption of the Code has driven the revision of lower-level legislation, including government decrees, orders of the Ministry of Health and legal acts of local executive bodies.

One of the priorities of health reforms was to improve the system of health administration and management, as envisaged by the National Programme for Health Care Reform and Development 2005–2010. Between 2005 and 2009 major improvements in the management of the health sector were made through a shift from administrative ways of regulation to a system of economic incentives, including the pooling of funds at *oblast* level, the creation of a single-payer, incentive-driven provider payment systems, greater autonomy of health care providers in managing their resources, and increasing the role of the population through free choice of providers.

### 2.8.1 Quality control

The current quality control system faces a number of challenges. Health workers and managers often have no incentive to improve their performance, and quality improvement proposals are not implemented. In addition, internal and external quality control measures are not interlinked, and the parallel health services linked to other ministries or agencies do not form part of the Ministry of Health quality control system.

The current quality control system started to emerge in 1996. As part of the implementation process of the mandatory health insurance in the period

1996–1998, a system of assessing the quality of health services was developed. It was mainly punitive, stipulating fines and penalties for poorly performing providers. Although the system of penalties was discontinued, the analysis and evaluation of health services continued, with increasing emphasis on patient satisfaction surveys and the compliance of health services with medical standards (Ministry of Health, 2004). The Ministry of Health Order No. 898 of 28 December 2004 established new rules for the quality control of services provided by health facilities. According to these rules, the Ministry of Health is responsible for:

- developing national policies on quality assurance and accreditation;
- developing the legislation for the accreditation of health organizations;
- developing the legislative basis for quality control of health services, including intra-hospital management and efficiency of health organizations;
- overseeing adherence to licensing rules permitting medical practice.

The Medical and Pharmaceutical Activity Control Committee under the Ministry of Health was established by Ministry of Health Order No. 565 of 23 October 2009. The committee subsumed the Pharmaceutical Committee and the Committee for Health Services Quality Control, assuming their core functions. In the area of quality assurance and control, the Committee has the following key responsibilities:

- ensuring implementation of the national policy on health care quality and drugs, medical supplies and medical equipment;
- accreditation of legal and physical entities involved in health services, irrespective of forms of ownership and departmental affiliation;
- licensing medical practice performed by republican organizations and private providers, as well as of organizations whose work extends beyond a single *oblast* (medical licensing for other health care providers is done by *oblast* health authorities);
- certification of managers of state institutions and organizations working in the health sector;
- controlling the level and quality of delivered health care;
- defining compliance of the different types of health care with existing licences;
- dealing with complaints of citizens about low-quality care.

The Committee aims to adopt a systematic approach and to use objective indicators and independent experts. The quality control system makes use of the following procedures:

- comprehensive planned investigations, conducted not more than once a year;
- unplanned investigations based on complaints of citizens, conducted at the request of health care authorities, other state authorities or the Parliament;
- targeted investigations, conducted continuously throughout the year based on specified goals;
- joint investigations, conducted by several state authorities to ensure compliance of health service providers with health legislation.

The Committee aims to promote the development of independent medical expertise and has the power to accredit individuals or organizations with the status of independent experts.

New certification rules for health workers were approved by Ministry of Health Order No. 660 of 6 November 2009. The rules were developed in compliance with the new Code on People's Health and the Health Care System. Heads of *oblast* health administrations, heads and deputies of republican administrations, and heads of public health facilities are subject to mandatory certification. In order to ensure an unbiased and competent certification, attestation committees have been established. These committees have a minimum of seven members, including representatives of state bodies, health facilities, medical science and NGOs. The certification process includes a computer-based test with 100 questions and an interview with the Attestation Committee.

Within the framework of implementing the Concept on the Unified National Health Care System, in 2009 the Ministry of Health initiated a national accreditation system for health organizations. Ministry of Health Order No. 103 of 26 February 2009 approved the respective accreditation standards. Within the World Bank Health Sector Technology Transfer and Institutional Reform Project, a new Accreditation Centre has been established under the Health Care Development Centre. In 2010, 1319 health organizations applied for accreditation and 1205 were accredited.

## 2.8.2 Regulation and governance of human resources

The Code on People's Health and the Health Care System (President of Kazakhstan, 2009) regulates all aspects of the health system, including human resources. According to this document, the government is responsible for developing the major strategic directions in the health sector. The Ministry of Health is responsible for implementing these strategies. In terms of human resources, it is charged with:

- developing an overall human resource policy in the health sector;
- organizing undergraduate and postgraduate training, continuous education and retraining of medical and pharmaceutical personnel;
- defining standards for the training of specialists with higher and postgraduate education, for continuous education and the retraining of health professionals;
- organizing and conducting the attestation of health organizations and managers;
- approving forms and training programmes for medical specialties, and developing and approving staffing standards of health organizations.

*Oblast* health departments are responsible for:

- approving *oblast* health care programmes and ensuring their implementation;
- ensuring that health organizations in the public sector have adequate staffing;
- ensuring the provision of human resources in health organizations and assessing the expertise of health workers;
- when necessary, determining and ensuring additional staffing of health organizations in the public sector above minimum rates approved by the Ministry of Health;
- determining and ensuring social support plans for medical personnel and pharmacists allocated to work in rural areas;
- implementing undergraduate and postgraduate training, and the continuous education and retraining of medical personnel, including pharmacists.

### 2.8.3 Regulation and governance of pharmaceuticals

The main actors in the pharmaceutical market of Kazakhstan are the Ministry of Health, the Medical and Pharmaceutical Activity Control Committee under the Ministry of Health, the Medical Industry Committee, and the National Centre of Pharmaceutical Expertise. The Code on People's Health and the Health Care System regulates functions and responsibilities of all participants of the pharmaceutical system.

The Ministry of Health is the highest administrative body, implementing the following key functions:

- developing the national drug policy;
- approving the Essential Drugs List;
- organizing intra- and intersectoral coordination with regard to pharmaceuticals;
- developing and approving a list of diseases and population groups eligible for free or discounted drugs, baby formula and diet food products;
- approving standards in the pharmaceutical area, including pharmaceutical education;
- approving the State Pharmacopoeia and the State Drugs Registration List.

The Pharmaceutical and Medical Control Committee under the Ministry of Health is responsible for:

- implementing the national policy on the distribution of drugs;
- carrying out the registration, re-registration and withdrawal of registration of drugs, and granting permissions for the use of drugs in medical practice;
- carrying out control and surveillance of pharmaceutical activities of individuals and organizations in the area of drugs circulation;
- granting licences and supervising adherence to legislation of licence holders;
- issuing permissions for advertisement of drugs;
- coordinating the import and export of drugs, medical equipment and medical supplies;
- overseeing international cooperation in the area of drugs distribution.

The National Centre of Expertise on Drugs, Medical Supplies and Medical Equipment under the Ministry of Health has the following responsibilities:

- certification of drugs;
- control of quality and bioequivalence of drugs;
- registering side-effects.

The Committee for the Control of Drug Trade and Trafficking under the Ministry of Interior is responsible for:

- implementation of the state policy on drug trade and trafficking;
- licensing of activities related to narcotic drugs;
- coordinating the control of the illegal use of narcotic drugs, psychotropic substances and precursors.

In order to implement the Code on People's Health and the Health Care System, basic regulatory legislation has been introduced, governing the circulation of drugs, medical supplies and medical equipment. In response to the problems of the pharmaceutical sector, the Ministry of Health has recently approved a Concept on Drug Policy, envisaging:

- an annual growth of the assortment and volumes of local pharmaceutical products;
- the reinstatement of a vertical structure of public administration in the pharmaceutical sector;
- the organization of appropriate control systems for drugs, medical supplies and equipment;
- the transition of drug certification functions to government bodies;
- regulation of registration and advertisement procedures for food supplements.

Government measures aim to stimulate the domestic production of high-quality pharmaceutical products. The registration, certification and quality assurance of drugs, medical supplies and medical equipment, as well as their advertising, have been streamlined, and a National Drug Information Centre established. The government has also initiated a harmonization of legislative procedures with European Union (EU) standards; Kazakhstan became an official observer of the Commission of European Pharmacopoeia and a full member of the WHO international programme for monitoring adverse side-effects in drugs. Two volumes of the *State pharmacopoeia of Kazakhstan* have been developed and approved. Price regulation of drugs purchased through the state budget reduced their price by an average of 30%. A drug formulary

system has also been introduced, with the aim of ensuring rational drug use, based on therapeutic efficacy, pharmaco-economics and the monitoring of side-effects.

The creation of a unified system of drug distribution has been initiated. The system enables significant savings in public expenditure and an increase in the share of domestically manufactured drugs. Long-term contracts are agreed with domestic manufacturers, including for high-tech products (such as vaccines, insulin or blood products). This allows the upgrading of existing facilities and the construction of new ones, in accordance with international standards of good manufacturing practice, at an estimated cost of more than \$30 billion tenge (US\$ 206 million). It is expected that these investments will ensure an increase in the share of domestically produced drugs to 50% by 2014.

The introduction of a drug formulary system in 2009 (Ministry of Health, 2009f) allows the procurement of drugs for hospitals based on drug formulary lists that are compiled by physicians of all specialties within a hospital and approved by *oblast* health departments. Drug formularies are based on the principles of evidence-based medicine, with the aim of guaranteeing quality, effectiveness, safety, rational drug use and accessibility.

The Outpatient Drugs Benefit Package, introduced in 2005, was a major step in strengthening primary health care. The package has been gradually expanding since 2005 to cover more groups of patients, and diseases such as acute respiratory infections and acute diarrhoea in children, arterial hypertension, pneumonia, ulcers and other diseases. Surveys conducted by the Karaganda Drug Information Centre in 2006 and the NGO Aman Saulyk in 2008 have shown that the Outpatient Drugs Benefit Package is in high demand both with patients and physicians, but that the range of drugs, their accessibility in pharmacies, and the distribution and logistics are inadequate. Other challenges are that the mechanism of planning and financing the Outpatient Drugs Benefit Package is not flexible enough, and that the methods used for assessing demand at *oblast* level are inadequate. The results are irrational consumption of purchased drugs and a limited choice for patients, who depend on a small number of pharmacies and a limited range of drugs purchased within the programme.

In February 2009 the national company Samruk Kazyna Pharmatsiya was created under the National Welfare Fund Samruk Kazyna to assume the function of a single national distributor responsible for the procurement and distribution of drugs within the State Guaranteed Benefits Package. The institution of a single distributor was created with the aim of improving the

provision of drugs for the population within the State Guaranteed Benefits Package, and supporting the development of the domestic pharmaceutical industry through a closer collaboration of the private and public sectors.

The new single distributor is responsible for the following main areas of activity:

- organization of open tenders for drug procurement within the State Guaranteed Benefits Package;
- organization of drug storage in line with good distribution practices and national legislation;
- organization of the logistic processes for the provision of drugs to state health organizations;
- creation of an information system that aims to integrate logistic processes between the single distributor, clients and suppliers, and compiles up-to-date information on drug turnover and supplies.

## 2.9 Patient empowerment

The rights and responsibilities of patients are set out in the Code on People's Health and the Health Care System (President of Kazakhstan, 2009). According to this document, patients are entitled to:

- services included in the State Guaranteed Benefits Package in accordance with the list of benefits approved by the government;
- drugs and supplies included in the State Guaranteed Benefits Package; specific groups of patients are eligible for free-of-charge or discounted drugs and curative products in an outpatient setting, in accordance with the approved list of drugs and products;
- free choice of health facilities;
- additional health services not included in the State Guaranteed Benefits Package, paid privately or through voluntary health insurance;
- health care abroad funded from the state budget, where this is medically indicated;
- compensation for harm inflicted through wrong administration of treatment, drugs, supplies and medical equipment by health workers;
- a document confirming temporary disability status;

- free-of-charge information from state bodies, organizations and the attending physician on prevention, diagnosis, treatment, rehabilitation, research and factors impacting health (such as environmental status, work, life and leisure conditions, nutrition and food safety);
- information on the safety and quality of drugs, medical supplies and medical equipment from state bodies, independent expert organizations, and entities operating in the drug, medical supplies and medical equipment industry;
- dispute the actions of health and pharmaceutical workers in a health facility or in court;
- request the involvement of independent experts.

The Medical and Pharmaceutical Activity Control Committee is responsible for considering complaints related to the quality of provided health services, while *oblast* health departments are responsible for the protection of patient rights at *oblast* level. Overall, however, patient rights have so far remained limited and need further institutionalization and promotion.

### 3. Financing

In 2009, total health expenditure amounted to an estimated 4.5% of GDP, which was one of the lowest shares in the WHO European Region. Health revenue comes from two main sources: the government budget (at national and *oblast* level) and out-of-pocket payments (official user fees and informal payments). Financing according to state budgets was reintroduced in Kazakhstan in 1999, after a failed attempt to create a mandatory health insurance system. In 2007 public expenditure on hospital care was 2.3 times higher than expenditure on outpatient services. Republican expenditure on health is mainly spent on services under the State Guaranteed Benefit Package (44%) and ear-marked transfers to local budgets (38%). The bulk (60%) of *oblast* expenditure on health in 2007 was devoted to services included in the State Guaranteed Benefits Package, while the remaining 40% covered services outside the package. Only 0.17% of *oblast* health expenditure was devoted to health promotion. Most private out-of-pocket spending is on pharmaceuticals and medical consumables.

The State Guaranteed Benefits Package includes emergency care, and specified outpatient and inpatient services. A new outpatient drug benefit has also been introduced that entitles children, adolescents and women of reproductive age to free outpatient pharmaceuticals. For the rest of the population, medicines remain the main type of benefits that require co-payments. User charges are set at *oblast* level, usually covering non-essential health services. Patients also often pay for medicines and medical supplies in hospitals, and for pharmaceuticals, medical aids or dental care in outpatient settings. The share of informal payments is assumed to be high, although the exact scale is difficult to estimate.

After a spell of devolving health financing to the *rayon* level in 2000–2003, a new health financing system was set up in 2004 that included pooling of funds at the *oblast* level, establishing the *oblast* health department as the single-payer

of health services, and improving the health purchasing mechanisms through a new provider payment system. Since 2010, resources for hospital services under the State Guaranteed Benefits Package have been pooled at the national level.

### 3.1 Health expenditure

Health expenditure in absolute terms has grown rapidly in recent years, largely driven by high GDP growth rates. In 2009, however, total health expenditure reached only 4.5% of GDP, with the public sector contributing 59.2% of total expenditure on health. Private expenditure consisted almost exclusively (up to 98.8%) of out-of-pocket payments, while private health insurance only contributed to 0.18% of private health expenditure in 2009 (Table 3.1).

**Table 3.1**

Trends in total health expenditure, 1995–2009 (selected years)

Expenditure	1995	2000	2005	2009
Total expenditure on health PPP per capita (NCU per US\$)	165.3	194.7	352.9	553.8
Total expenditure on health as % of GDP	4.6	4.2	4.1	4.5
Government expenditure on health as % of total expenditure on health	64.0	51.0	62.0	59.2
Private expenditure on health as % of total expenditure on health	36.0	49.0	38.0	40.8
Government health expenditure as % of general government expenditure	11.5	9.2	9.3	11.3
Government health expenditure as % of GDP	3.0	2.1	2.5	2.7
Out-of-pocket payments as % of total expenditure on health	35.5	48.5	37.5	40.3
Out-of-pocket payments as % of private expenditure on health	98.7	98.9	98.6	98.8
Private health insurance as % of total expenditure on health	0.1	0.1	0.1	0.1
Private health insurance as % of private expenditure on health	0.2	0.2	0.2	0.2

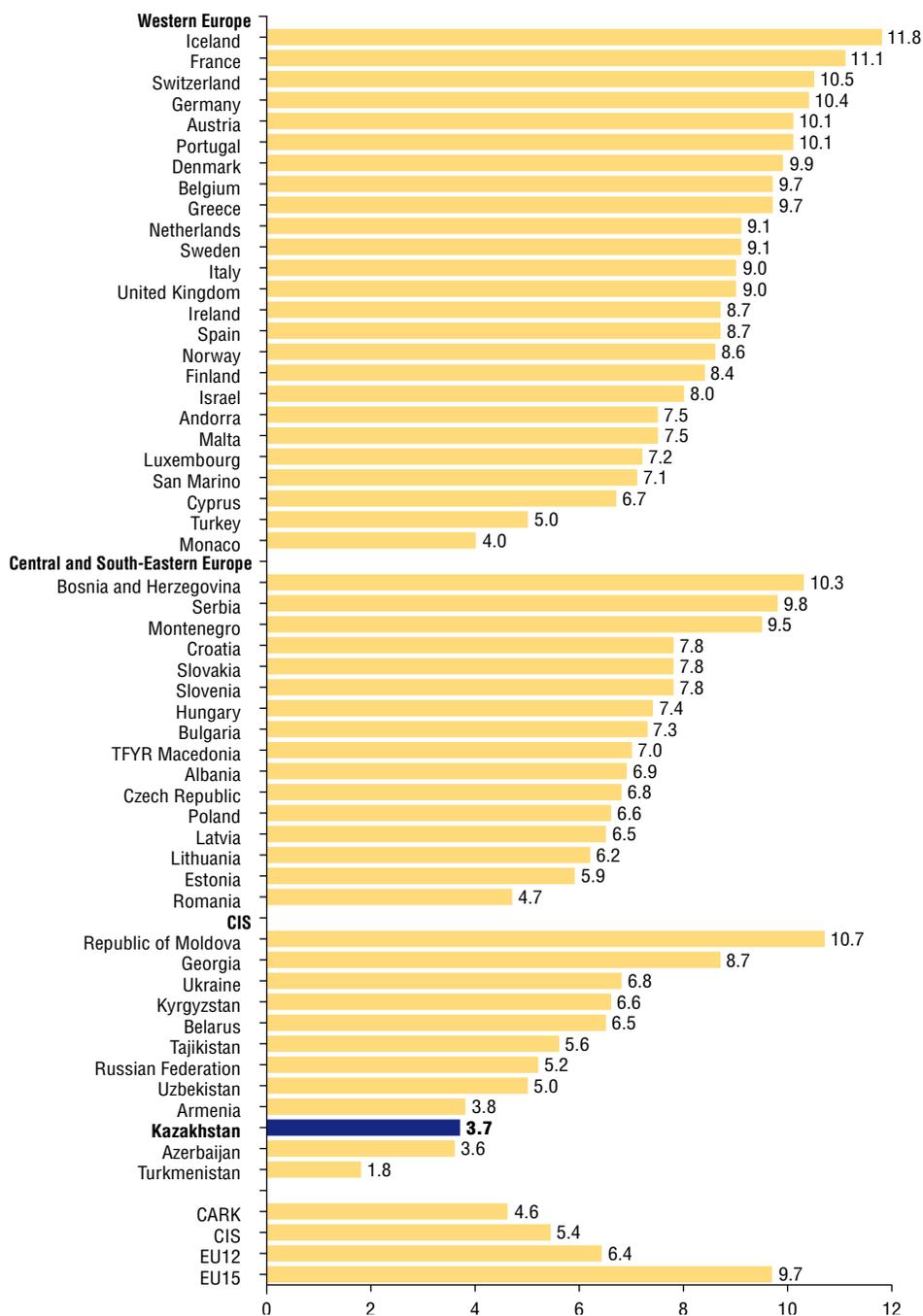
Source: WHO, 2011.

Kazakhstan's total health expenditure as a share of GDP in 2008 was one of the lowest in the WHO European Region (Figs 3.1 and 3.2).

Although spending a lower share of GDP on health than several other central Asian countries, in view of its overall higher GDP per capita, total health expenditure in PPP\$ per capita was higher in Kazakhstan in 2008 than in the rest of central Asia (Fig. 3.3). Public sector expenditure as a share of total health expenditure in 2008 was higher in Kazakhstan than in most other countries of the CIS (Fig. 3.4).

**Fig. 3.1**

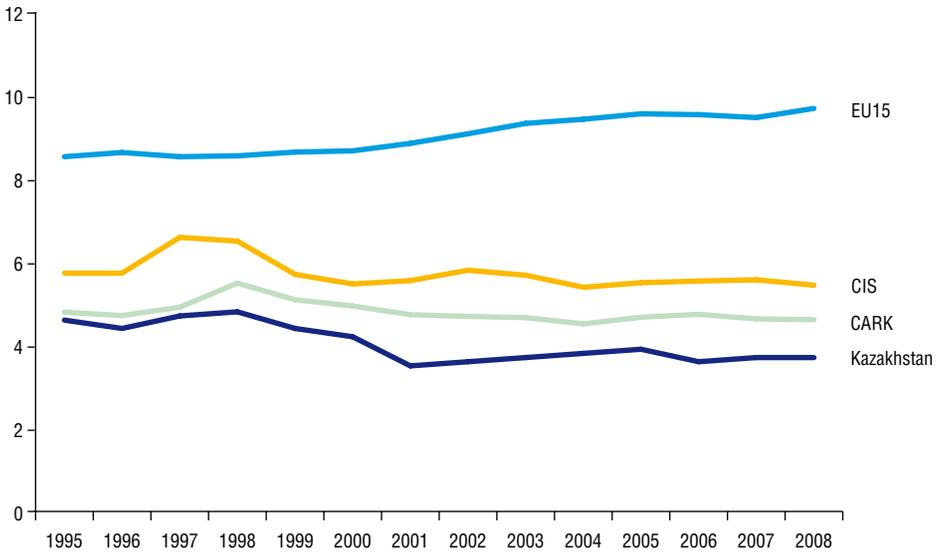
Total health expenditure as a share (%) of GDP in the WHO European Region,  
WHO estimates, 2008



Source: WHO Regional Office for Europe, 2011.

**Fig. 3.2**

Trends in total health expenditure as a share (%) of GDP in Kazakhstan and selected regional averages, WHO estimates, 1995–2008



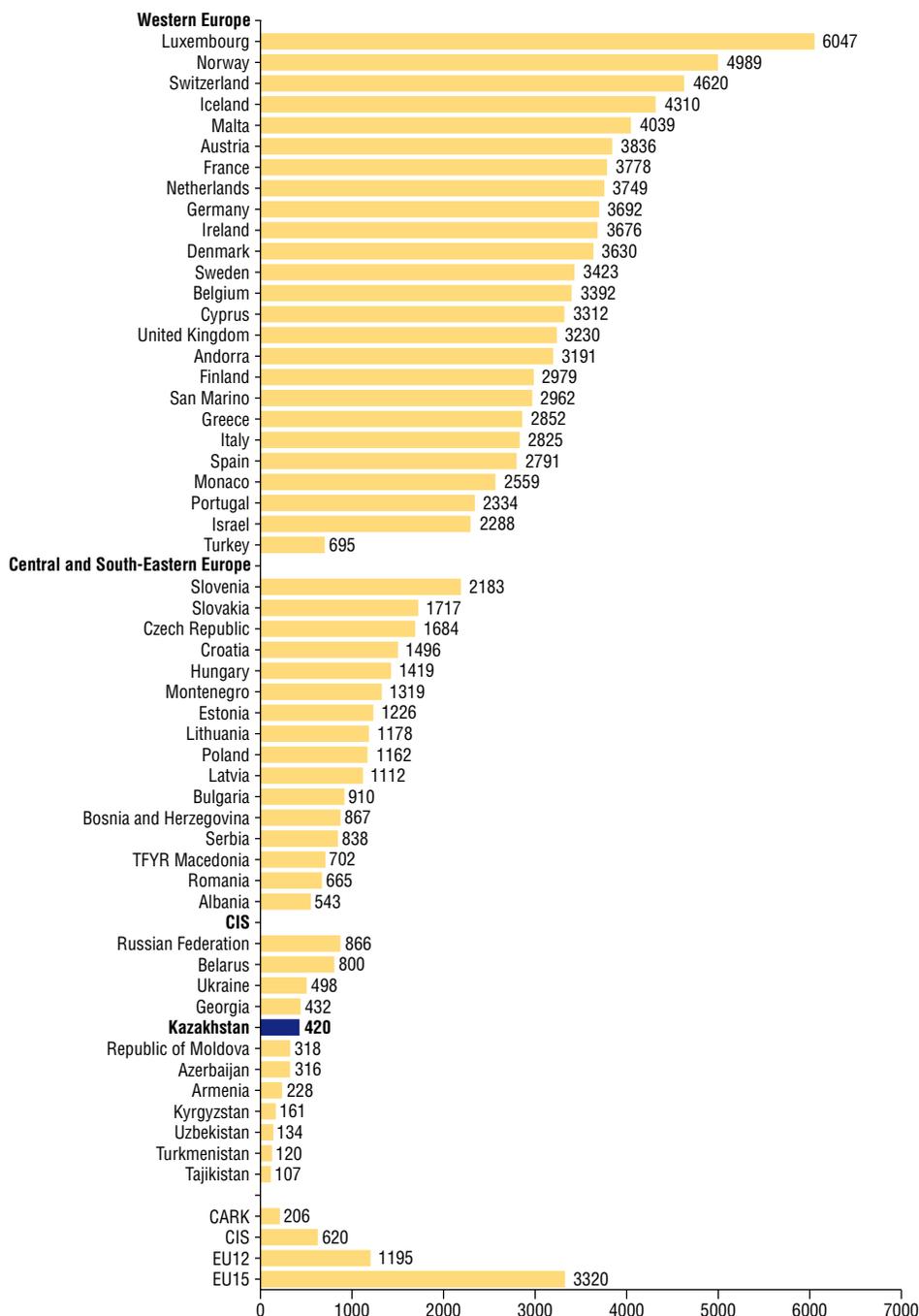
Source: WHO Regional Office for Europe, 2011.

Total public spending on health increased in absolute terms from 92.9 tenge per capita in 2003 to 563.7 tenge in 2010. One reason for this significant increase was that the government aimed to protect the health system against the consequences of the global economic crisis that started in 2007–2008. In 2010 health became one of the largest expenditure items in the state budget, ranking second after expenditure on social protection and education.

Traditionally, *oblasts* accounted for the bulk of public spending on health, amounting to 77.2% in 2003, but this share decreased to 32.9% in 2010, with the republican budget accounting for 67.1%. Parallel health systems run by other ministries or large public companies accounted for 1.1% of total public funding in 2010. Most public spending is on the State Guaranteed Benefits Package, amounting to 59.5% of total public funding in 2009 (Table 3.2).

**Fig. 3.3**

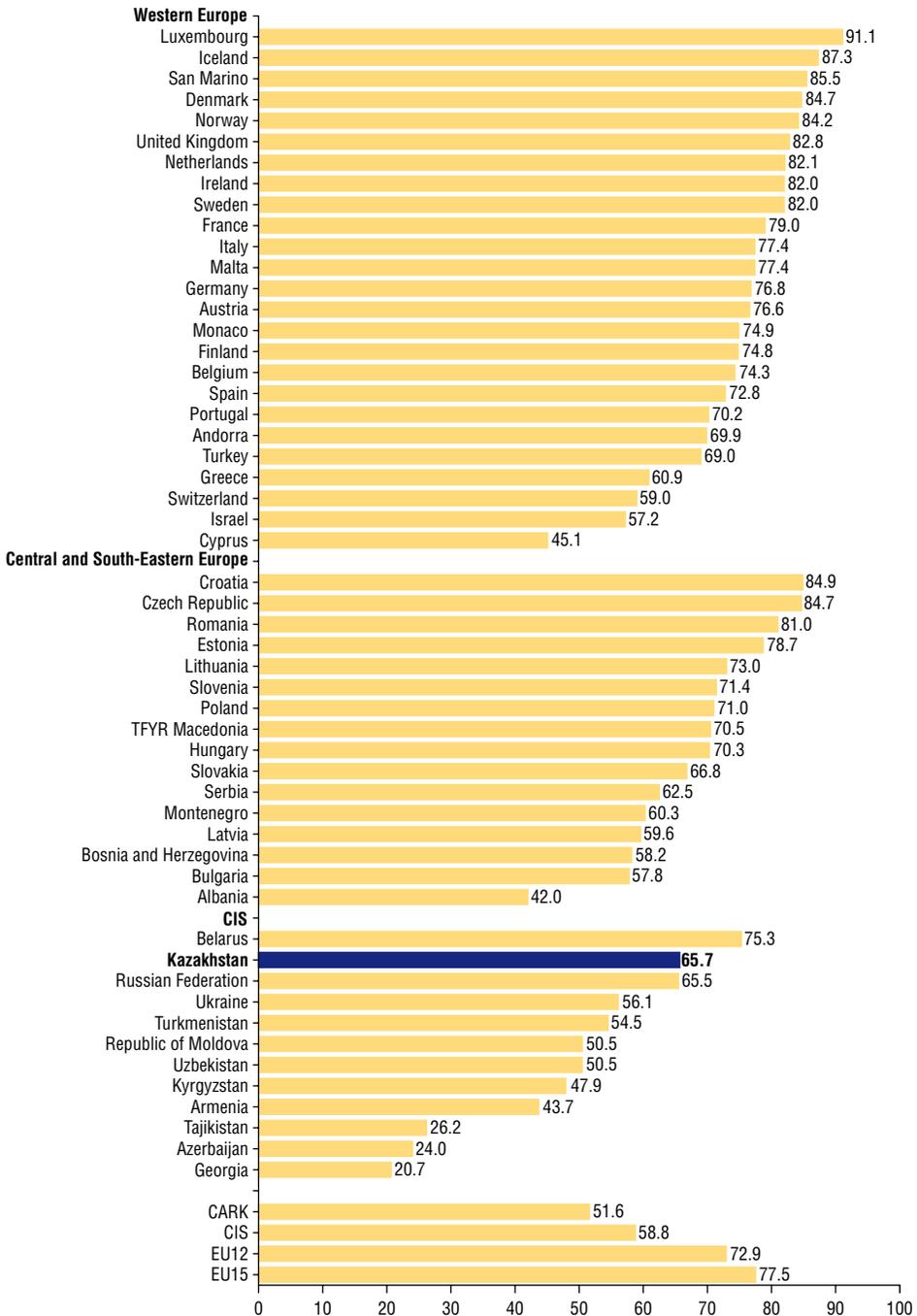
Total health expenditure in PPP\$ per capita in the WHO European Region, WHO estimates, 2008



Source: WHO Regional Office for Europe, 2011.

**Fig. 3.4**

Public sector health expenditure as a share (%) of total health expenditure in the WHO European Region, WHO estimates, 2008



Source: WHO Regional Office for Europe, 2011.

**Table 3.2****Public spending on health, 2003–2010**

	2003	2004	2005	2006	2007	2008	2009	2010
Total public spending on health (in billion tenge)	92.9	134.7	191.4	235.5	315.4	378.1	466.8	569.7
<i>Oblast</i> spending (in billion tenge)	71.7	102.5	130.3	147.3	201.9	251.3	276.9	185.6
Share of <i>oblast</i> spending as % of total public spending	77.2	76.1	68.1	62.5	64.0	66.5	60.2	32.9
Republican spending (in billion tenge)	19.1	29.3	57.2	83.8	107.6	120.4	183.3	378.1
Share of republican spending as % of total public spending	20.6	21.8	29.9	35.6	34.1	31.8	39.8	67.1
Parallel health systems (in billion tenge)	2.1	2.9	3.9	4.4	5.9	6.4	6.6	6.0
Share of parallel health system spending as % of total public spending	2.3	2.2	2.0	1.9	1.9	1.7	1.4	1.1
Spending on the State Guaranteed Benefits Package (in billion tenge)	64.8	90.4	118.5	134.9	195.3	226.7	273.1	354.2
Share of State Guaranteed Benefits Package in total public spending (%)	69.7	67.1	61.9	57.3	61.9	60.0	59.5	62.2

Source: Ministry of Health of Republic of Kazakhstan, Department of Economy and Finance, personal communication, 2011

Private expenditure on health as a share of total health expenditure amounted to 40.8% in 2009, a decline from 49.0% in 2000 (Table 3.1). Almost all private expenditure is made out-of-pocket, so that the level of risk pooling is extremely low. In 2007, 16.2% of private payments were for hospital services, 82.7% were for outpatient services, 0.9% were for day care and the remaining 0.16% were for home-based care. Private expenditure on outpatient services comprised primary health care services (14%) and dental and other services (86%) (Ministry of Health, 2008).

### 3.1.1 Structure of health expenditure

The share of outpatient care in public expenditure on health remains low. According to National Health Accounts data (Ministry of Health, 2009e), primary health care expenditure in 2008 made up around 28.4% of the State Guaranteed Benefits Package funded from *oblast* budgets, or around 15% of overall public expenditure on health.

In 2008 public expenditure on hospital care was 2.6 times higher than expenditure on outpatient services. The high level of expenditure on hospital care is due to several factors:

- a relatively high level of unnecessary hospitalizations, as a significant proportion of inpatients could have been treated in alternative settings;
- a high average length of stay in acute-care hospitals;
- a hospital infrastructure that is too extensive.

The ratio of hospital to outpatient care expenditure varies across oblasts, ranging from 1.2 in Mangystau *oblast* to 5.5 in Kostanai (Table 3.3).

**Table 3.3**

Public expenditure on inpatient and outpatient care under the State Guaranteed Benefits Package per capita, by *oblast*, 2008 (in tenge)

<i>Oblast</i>	State Guaranteed Benefits Package total expenditures	Inpatient care	Outpatient care	Inpatient to outpatient care ratio
Astana city	23 768	17 843	5 925	3.0
Kyzylorda	19 530	13 895	5 635	2.5
Mangystau	18 787	10 142	8 645	1.2
Almaty city	18 705	13 827	4 878	2.8
West Kazakhstan	17 746	13 930	3 816	3.7
East Kazakhstan	17 704	11 156	6 548	1.7
Pavlodar	17 369	11 923	5 447	2.2
Aktobe	16 401	9 434	6 967	1.4
Akmola	16 294	11 159	5 134	2.2
Karaganda	15 732	12 637	3 095	4.1
North Kazakhstan	14 905	9 975	4 930	2.0
Kostanai	14 348	12 148	2 201	5.5
Zhambyl	13 478	8 804	4 674	1.9
Atyrau	10 981	7 421	3 561	2.1
Almaty	8 212	8 059	2 300	3.5
South Kazakhstan	7 730	5 796	1 934	3.0
<b>Kazakhstan overall</b>	<b>14 529</b>	<b>10 535</b>	<b>3 995</b>	<b>2.6</b>

Source: Ministry of Health, 2009e.

Another challenge in health expenditure in Kazakhstan is inequities in spending across the country's regions, although there is an encouraging trend towards greater equity (see Chapter 7). While in 2001 the difference in health expenditure from *oblast* budgets per capita between the *oblasts* with the highest and lowest levels of spending was 4.2 times, by 2008 the variation had declined to 2.1 (Table 3.4).

The bulk (60%) of *oblast* expenditure on health is devoted to services included in the State Guaranteed Benefits Package, while the remaining 40% cover services outside the package (Table 3.5). *Oblast* expenditure on health promotion is extremely low, amounting to only 0.17% of the *oblast* health budget. The three largest cost items in *oblast* health budgets are salaries and benefits for health workers (47%), the procurement of drugs and food (21%), and capital investment (15%).

**Table 3.4**

Ratio of *oblast* expenditure on health per capita to the average country level, 2001–2008

	2001	2002	2003	2004	2005	2006	2007	2008
Akmola	1.18	1.12	1.20	1.18	1.16	1.10	1.09	1.05
Aktobe	0.80	0.81	0.84	0.82	0.81	0.77	0.91	0.96
Almaty	0.47	0.51	0.52	0.62	0.60	0.67	0.66	0.64
Atyrau	1.16	1.08	1.04	1.01	0.98	0.99	0.96	0.91
East Kazakhstan	0.97	1.01	1.04	1.05	1.02	1.03	1.01	1.03
Zhambyl	0.75	0.70	0.80	0.85	0.90	0.91	0.86	0.86
West Kazakhstan	1.14	1.22	1.16	1.18	1.09	1.09	1.09	1.02
Karaganda	0.89	0.90	0.93	0.91	1.00	1.01	0.99	1.00
Kostanai	0.87	0.88	0.88	0.86	0.92	0.88	0.92	0.94
Kyzylorda	1.16	1.25	1.31	1.30	1.24	1.26	1.26	1.21
Mangystau	1.96	1.76	1.57	1.39	1.28	1.22	1.10	1.06
Pavlodar	0.97	1.04	1.01	1.03	1.06	1.09	1.08	1.03
North Kazakhstan	0.92	0.93	0.92	1.05	1.04	1.06	1.10	1.05
South Kazakhstan	0.67	0.69	0.72	0.79	0.79	0.76	0.72	0.82
Almaty city	1.12	1.13	1.06	0.98	1.00	1.03	1.00	1.05
Astana city	0.95	0.99	1.00	0.97	1.11	1.14	1.25	1.37
<b>Ratio (maximum to minimum)</b>	<b>4.20</b>	<b>3.45</b>	<b>3.01</b>	<b>2.23</b>	<b>2.11</b>	<b>1.89</b>	<b>1.89</b>	<b>2.13</b>
<b>Standard deviation</b>	<b>0.84</b>	<b>0.65</b>	<b>0.54</b>	<b>0.36</b>	<b>0.32</b>	<b>0.27</b>	<b>0.27</b>	<b>0.32</b>

Source: Ministry of Health of Republic of Kazakhstan, Department of Economy and Finance, personal communication, 2009.

**Table 3.5**

*Oblast* expenditure on health, 2007

Expenditure type	Amount (in 1 000 tenge)	%
Expenditure beyond the SGBP	135 447 020	38.97
Inpatient care (under the state procurement order)	79 230 711	22.79
Inpatient care (for "socially significant diseases")	46 647 016	13.42
Manufacture of blood products	2 491 440	0.72
Promotion of healthy lifestyles	579 280	0.17
Primary health care	56 402 163	16.23
Drug benefits	11 188 725	3.22
Emergency care	10 093 074	2.90
Disaster medicine	556 201	0.16
Patient transportation	9 502	0.00
HIV/AIDS	1 354 426	0.39
Forensic medicine	402 689	0.12
Diabetic products	3 178 905	0.91
<b>Total</b>	<b>347 581 151</b>	<b>100.00</b>

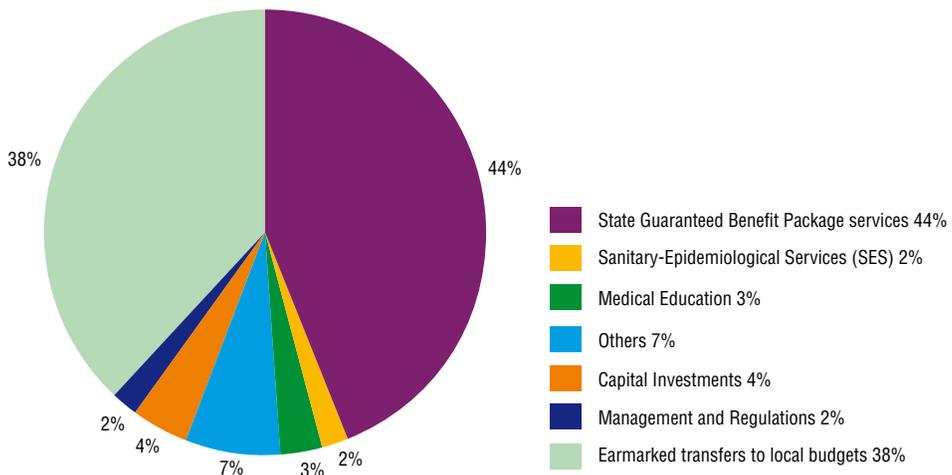
Source: Ministry of Health of Republic of Kazakhstan, Department of Economy and Finance, personal communication, 2008.

In 2008 about 59% of the republican budget for health consisted of ear-marked transfers to *oblast* health budgets: 36% of the republican budget were allocations to capital investments at *oblast* level, and 23% were allocations to cover recurrent costs of *oblast* health budgets. Only about 41% of the republican health budget was executed at the national level; 10% of the republican budget was allocated for funding services provided in public health facilities under the State Guaranteed Benefit Package and 6% was allocated to medical education.

With the introduction of a Unified National Health Care System and consolidation of the health budget for inpatient care at the national level, the structure of public expenditure on health has changed. By 2010, expenditure for the State Guaranteed Benefits Package had grown to 44% of the republican health budget (Fig. 3.5).

**Fig. 3.5**

Republican expenditure on health, 2010



Source: Ministry of Finance, 2011.

### 3.2 Population coverage and basis for entitlement

In the Soviet period, health services were, in principle, free and accessible to everyone. Following Kazakhstan's independence and the collapse of public spending on health, the level of health services provided for free decreased

and out-of-pocket payments (both formal and informal) increased dramatically. However, as in other countries of the region (Khodjamurodov & Rechel, 2010; Rechel & Khodjamurodov, 2010; Rechel et al., 2011a), the introduction of benefit packages was not straightforward. The insurance model that was in place in Kazakhstan between 1996 and 1998 increased public expectations. It introduced two types of benefit packages:

- the Guaranteed Benefits Package;
- the Basic Benefits Package.

The Guaranteed Benefits Package of services was provided by the state for all citizens. These services included emergency treatment for life-threatening conditions, the blood transfusion service, admissions to specialist national hospitals and research institutes (such as for cancer and psychiatric care), services for specified population groups (such as people with disabilities, war veterans, pensioners and children), and programmes for communicable diseases such as TB. Public health services, such as immunizations and activities of the sanitary-epidemiological services, were also included.

Under the insurance scheme in place between 1996 and 1998, the Basic Benefits Package was available to the insured, although in theory insurance was compulsory for the whole population. The Basic Benefits Package included ambulatory care and most inpatient care. Overall, however, a clear distinction between the two benefit packages was lacking, resulting in confusion and perverse incentives for providers.

Following the discontinuation of the mandatory health insurance system in 1998, a list of health services provided free of charge from public providers was adopted in 2000. One of the objectives of the National Programme for Health Care Reform and Development 2005–2010 was the introduction of a State Guaranteed Benefits Package of services provided free of charge. This package was to be established on the basis of available state finances, equal access to health services, and a shared responsibility for health between the state, the individual and the employer (Ministry of Health, 2004). The Ministry of Health Decree No. 815 of 17 November 2004 specified rules for the provision of the State Guaranteed Benefits Package and established limits for the volumes of free-of-charge inpatient services. Government Decree No. 853 of 28 September 2007 approved the State Guaranteed Benefits Package for the period 2008–2009, while the subsequent State Guaranteed Benefits Package for 2010–2011 was approved by Government Decree No. 2136 of 15 December 2009.

The State Guaranteed Benefits Package covers health services specified in periodical legislative acts and is paid for from the republican budget. The package includes emergency care, outpatient care and inpatient care and is envisaged to be revised every two years. User fees for services included in the State Guaranteed Benefits Package are illegal, and user fees are only allowed for services outside the State Guaranteed Benefits Package. Health services not included in the State Guaranteed Benefits Package have to be covered by out-of-pocket payments, voluntary health insurance, employers or from other sources. A new outpatient drug benefit has also been introduced. Children, adolescents and women of reproductive age are now entitled to pharmaceuticals free of charge.

Pharmaceuticals remain the main type of benefits that require consumer co-payments. Patients admitted to inpatient care have their pharmaceuticals covered by the hospital (although in practice many hospitals could not always afford to supply these), while patients in ambulatory care (except socially vulnerable groups and certain diagnostic groups such as cancer patients) must buy their own medications. These regulations result in an undesirable incentive for people to seek inpatient rather than outpatient care. The coverage of pharmaceuticals also varies considerably across *oblasts*.

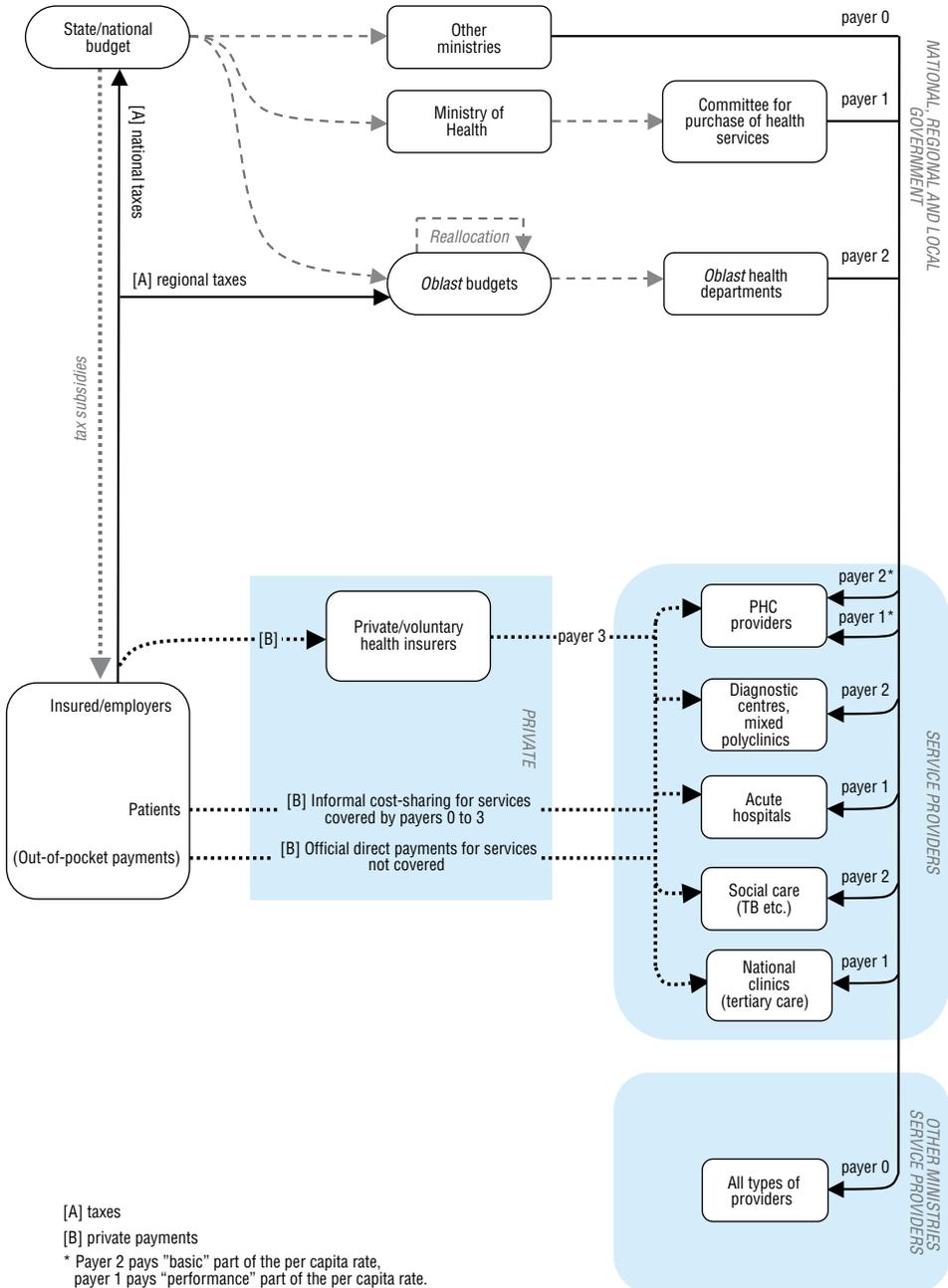
### 3.3 Sources of revenue and financial flows

Health revenue comes from two main sources: the government budget (at national and *oblast* level) and out-of-pocket payments (official user fees and informal payments) (see Fig. 3.6). Voluntary health insurance and international assistance are additional, although less important, sources of revenue. The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010) envisages the introduction of formal co-payments, the introduction of compulsory medical insurance for foreign citizens and the promotion of voluntary health insurance.

#### 3.3.1 Budgetary sources

In the National Programme for Health Care Reform and Development 2005–2010 (Ministry of Health, 2004), the Kazakh government conceded that structural reforms of the health sector, such as those in health financing, sometimes lacked consistency. There have been several stages in the reorganization of Kazakhstan’s health financing system since the country’s independence in 1991, including a short-lived and ill-fated experiment with a mandatory health insurance system.

**Fig. 3.6**  
Financial flows in 2011



Following the Soviet period, Kazakhstan began the 1990s with a wholly state-funded health system, except for largely unofficial out-of-pocket payments by users. As in many other countries of the region (Rechel & McKee, 2009; Rechel et al., 2011a), the fiscal crisis encountered by Kazakhstan in the early 1990s triggered the search for complementary sources of revenue. Following adoption of the Law on Mandatory Health Insurance, a Health Insurance Fund was established in 1996 and a compulsory national system of health insurance was set up for the whole population, with the exception of the military and their parallel health services. The employer deducted 3% of the salary for those in work (in effect a payroll tax), the *oblast* administration paid for socially vulnerable groups (including children, students, unemployed and pensioners), while the self-employed were required to pay their own insurance. The insurance scheme was administered through branch offices in the country's 14 *oblasts* and Almaty city (Kulzhanov & Healy, 1999).

Between 1996 and 1998, 24.5 billion tenge was added to the health system through the mandatory health insurance system. However, in 1998 the mandatory health insurance system was discontinued, for several reasons. The Health Insurance Fund had large revenue shortfalls and in 1998 defaulted on some commitments. In 1996, the Fund contributed 15% to the overall health budget rather than the envisaged 25%, and in 1998 it contributed about 40% to the overall health budget, although half of the latter amount came from state allocations for those not in the workforce. There were various reasons for the shortfall in revenue. Many enterprises had large debts and could not pay payroll tax. In addition, about one quarter of the population was outside the system (such as the self-employed and small farmers), and many of those did not pay health insurance contributions. Most importantly, the *oblasts* did not pay their required contributions for those not in the workforce. By the end of 1998, *oblast* administrations owed the Fund 27 billion tenge, which in turn led to the Fund defaulting on contracts and owing health facilities 8 billion tenge. Furthermore, in 1998, the country was affected by the financial crisis in Russia and the International Monetary Fund and the World Bank recommended that Kazakhstan close down all non-budgetary funds, including the MHIF, and to move towards targeted, budgetary financing. Finally, confidence in the Fund collapsed with allegations of corruption and misappropriation of reserve funds (Kulzhanov & Healy, 1999). In 1999, strict financing according to state budgets was reintroduced and extra-budgetary funds such as the MHIF were discontinued. While this alleviated the immediate economic concerns, the problems of the old financing system resurfaced, such as system inefficiencies and strict line-item budgeting.

The National Programme for Health Care Reform and Development 2005–2010 envisaged the introduction of a new health financing policy, with the aims of using resources more efficiently, improving the linkage between different levels of care, reinvesting resources saved through rationalization, and decreasing regional differences in health financing. A national monitoring system for the rational use of resources has been established, together with a system of financial incentives and punishments.

The following programmes have been given priority in terms of health financing:

- primary health care services;
- construction and reconstruction of primary health care facilities and mother and child health facilities;
- procurement of medical equipment and means of transportation for primary health care, childbirth and emergency care services, according to specified minimum standards;
- inpatient services for patients referred by primary health care providers;
- health services to patients suffering from “socially significant and hazardous” diseases;
- provision of pharmaceuticals to specified population and disease categories;
- provision of health services in emergency situations.

### 3.3.2 Out-of-pocket payments

Hospitals and other health care organizations now officially charge for services outside the State Guaranteed Benefits Package. User charges for goods and services by public providers were legalized in 1995. *Oblast* administrations decide the level and extent of such payments and many have drawn up price lists for services outside the State Guaranteed Benefits Package. The price lists usually envisage full payments for health services not regarded as essential, such as cosmetic surgery and some dental care. Many providers, however, simply needed user payments in order to provide goods and services that were in short supply due to budget deficits. Patients often pay for food and drugs in hospitals, although these are supposed to be provided free of charge; patients are also routinely given a list of medicines and medical supplies to bring with them to the hospital. Patients usually pay for pharmaceuticals, aids or dentures from outpatient services and polyclinics.

Informal or “under-the-table” payments are a reality in almost all countries of central and eastern Europe and the former USSR. However, by definition, they are difficult to measure. The Kazakh Ministry of Health has recognized that there are high informal payments in the country and identified several reasons for this, including low official salaries of health workers, public underfunding of the State Guaranteed Benefits Package, poor monitoring of its implementation, and the lack of a clear distinction between covered services and services that have to be paid by patients (Ministry of Health, 2004).

Informal payments generally have a greater impact on poorer groups of the population, who might defer treatment or self-medicate. They also lead to inefficient service provision, as patients are forced to buy drugs at retail rather prices than wholesale (Ensor & Savelyeva, 1998). The Household Budget Surveys in 2001 and 2002 showed that persons from lower income groups tend to use health services less often, spend less on health than the more affluent, and rely more on self-treatment (World Bank, 2004). A survey conducted in 2001 found that 35% of those reporting illness in the previous year did not seek care because they were unable to afford it (Balabanova et al., 2004). By 2010, this share had declined to 4.1% (Balabanova et al, 2011).

Data on expenditure for private health services provide some indication of the level of out-of-pocket payments. Table 3.6 summarizes data generated through a recent Household Survey. The survey found considerable variation across *oblasts*, with the highest levels of payment in cities and industrially developed areas. Furthermore, 70% of respondents stated that they were not issued any official receipt documenting their payment.

Despite a decreasing share of private expenditure as a percentage of total health expenditure, in absolute terms, household expenditure on health continues to increase (Fig. 3.7).

### 3.3.3 Voluntary health insurance

The government is promoting the introduction of voluntary health insurance as a means of expanding the sources of health financing, with contributions of both individuals and employers. The government is also encouraging contracts between enterprises and health care providers for preventive medical examinations of employees. The voluntary health insurance market in Kazakhstan is currently dominated by contracts with companies, such as large industrial enterprises, the financial sector, and the gas and oil sector. In 2009, 1.2% of the population was covered by voluntary health insurance. Insurance companies have between 4 and 13 “standard” insurance products, excluding

those tailored to the needs of individual companies. The minimum insurance premium is US\$ 70 (with a benefit cap of US\$ 900); the maximum premium is US\$ 2000 (with a benefit cap of US\$ 30 000) (Lievens et al., 2010).

**Table 3.6**

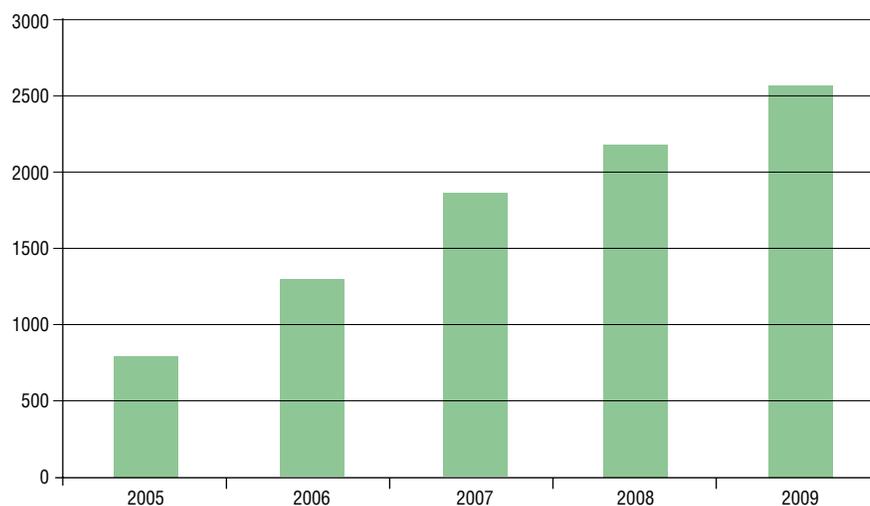
Population expenditure on private health services, 2010 per capita (in tenge)

Akmola	1 929
Aktobe	3 957
Almaty	2 500
Atyrau	2 261
East Kazakhstan	2 450
Zhambyl	1 924
West Kazakhstan	2 254
Karaganda	3 720
Kostanai	3 179
Kyzylorda	2 295
Mangystau	6 619
Pavlodar	3 575
North Kazakhstan	2 048
South Kazakhstan	1 657
Almaty city	6 185
Astana city	10 424
<b>Kazakhstan overall</b>	<b>3 154</b>

Source: Agency of Statistics, 2011.

**Fig. 3.7**

Household expenditure for health per capita, 2005–2009 (in tenge)



Source: Agency of Statistics, 2010.

In 2007 the expenditure of health insurance companies on health services for the covered population amounted to 0.9% of total health expenditure. Of this amount, 66.8% was spent on hospital services and 33.2% on outpatient services. In terms of expenditure on hospital services, 79.2% was spent on “qualified health services” (according to the health service classification of the Code on People’s Health and the Health Care Systems (President of Kazakhstan, 2009) and 20.2% was spent for services provided by tertiary care hospitals. Most (83.3%) expenditure on outpatient services was on primary health care services, followed by dental care (15.6%), consultations and diagnostic services (2.1%) and home care services (0.1 %) (Ministry of Health, 2008).

As mentioned above, the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” envisages introduction of compulsory medical insurance for foreign citizens and the further development of voluntary health insurance for services beyond the State Guaranteed Benefits Package.

### **3.3.4 External sources of funding**

Cooperation with other countries and international organizations is one of the key development strategies of Kazakhstan’s health sector. By 2009 agreements on international cooperation had been signed with over 50 countries and international organizations, including WHO, the United States Agency for International Development (USAID), the United Nations Children’s Fund (UNICEF) and the World Bank.

In 2009, external sources of funding accounted for 0.2% of total health expenditure (Gotsadze & Ensor, 2010). Relevant external agencies include the World Bank, WHO, UNICEF, the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the Asian Development Bank, the EU, the Global Fund to Fight Aids, Tuberculosis and Malaria, the International Red Cross and USAID. Donor-supported initiatives include pilot projects on primary care, health financing and new provider payment systems, priority programmes such as family planning, safe motherhood, TB, HIV/AIDS, disease prevention and health promotion campaigns, and provision of medical equipment and supplies.

## **3.4 Pooling of funds**

Pooling arrangements in Kazakhstan have undergone several profound changes since the collapse of the former USSR, partly related to shifting perspectives on decentralization or recentralization and subsequent changes to the levels at which

pooling took place. By 2010 Kazakhstan had undergone three phases of pooling. In the first phase, between 1995 and 1999, there was a vertical fragmentation of pooling, due to the introduction of mandatory health insurance. As described above, Kazakhstan introduced health insurance in January 1996 with the establishment of the MHIF. However, the Ministry of Health continued to pool funds and purchase health services using budgetary funds, while the MHIF began pooling funds and purchasing health services using payroll tax funds. The programmes operated by the Ministry of Health and the MHIF were completely separate; they were charged with covering different populations and benefits packages. Pooling arrangements and benefit packages varied across population groups, reducing the equity of health service provision. When the health insurance system was cancelled in December 1998, pooling improved initially, as all health funding came again from the government budget, with pooling at the *oblast* level.

In the second phase, between 1999 and 2004, there was a horizontal fragmentation of pooling, due to decentralization of funding to the *rayon* level. This decentralization reduced equity, as *rayons* were too small to allow for sufficient risk pooling and also varied significantly in available financial resources, partly because of the nature of Kazakhstan's economic development, which is largely driven by oil and other natural resources. *Rayon*-level pooling was also a major obstacle to Kazakhstan's ability to restructure its health system, reform the purchasing of health services and increase efficiency.

The third phase, starting in 2005, has been characterized by *oblast*-level pooling. The National Programme for Health Care Reform and Development 2005–2010 and a strong legal basis designating the *oblast* as the level for budget consolidation introduced and solidified *oblast*-level pooling. Equity has increased both within and across *oblasts* (Table 3.4). Starting in 2005, the budgets of all *oblasts* were consolidated at *oblast* level and *oblast* health departments operated as single-payers in their respective *oblast*, according to the Budget Code of Kazakhstan. *Oblast* health departments plan the budget, contract providers, collect bills and finance providers according to the different payment methods. The *oblast* health budget is financed from general taxation at the *oblast* level and targeted transfers from the republican budget, generally aimed at implementation of national priorities of health care development. The implementation of a single-payer system at *oblast* level since 2005 has helped to develop management capacity at *oblast* level and contributed to the development of information systems.

While there has been generally strong support for *oblast* level pooling, there has also been some opposition. Without increases in staffing and capacity, it was initially hard for *oblast* health departments to pool and purchase effectively.

This concern is currently being addressed through ongoing health reforms. Another challenge was related to opposition from some parliamentarians and *rayon akims* to *oblast*-level pooling.

The pooling of funds and the single-payer system at *oblast* level have created good conditions for improving the efficiency, equity and accessibility of health services. Despite positive results, a further consolidation of the health budget at the national level started in 2010, introducing a fourth phase of pooling arrangements. As a first step, the inpatient health budget has been consolidated at the national level. This is envisaged to be followed by the national consolidation of health expenditure for the remaining services within the State Guaranteed Benefits Package, including primary health care but excluding “socially significant diseases”.

The Ministry of Health hopes that consolidation of the entire health budget at the national level will provide better conditions for equalizing per capita health expenditure across the country, facilitate enrolment of the population in health facilities beyond *oblast* boundaries, and improve overall transparency and governance of the health sector. At the same time, however, some observers believe that such a high level of budget consolidation is not appropriate for Kazakhstan, due to its exceptionally vast territory and the large geographical and socio-demographical variance across regions.

Within the framework of the World Bank Health Sector Technology Transfer and Institutional Reform Project, pooling of health sector resources is envisaged to be strengthened by:

- developing and refining a risk-adjusted geographic allocation formula;
- moving towards output-based programme budgeting; and
- carrying out an advocacy programme to help policy-makers, *oblast akims* and the public to understand the rationale and benefits of *oblast* and national level budget consolidation.

### 3.5 Purchasing and purchaser–provider relations

The pooling of health funds at *oblast* level from 2005 onwards has strengthened the role of *oblast* health departments as single purchasers of health services on behalf of their respective populations. They enter into agreements with the public providers of health services in their respective *oblast* and ensure appropriate levels of funding.

From 2010, the autonomy of health care providers in managing resources has increased, due to the transition of the majority of health care providers in the public sector from the status of state institutions to state economical enterprises (see Chapter 2). This status entails more freedom and flexibility in managing resources, including human resources and salary levels, and, it is hoped, will lead to better management and increased efficiency.

The development of the health financing system was one of the key objectives of the National Programme for Health Care Reform and Development 2005–2010. The World Bank Health Sector Technology Transfer and Institutional Reform Project aims to support the further development of the health financing system, with a focus on strengthening the capacity for health policy-making and ensuring an efficient and equitable use of resources and improved financial protection through the implementation of comprehensive health financing and health management reforms. The project aims to strengthen purchasing at the national level by:

- reviewing and reforming governance arrangements to streamline operations and improve the business climate for private providers;
- continuously adjusting the State Guaranteed Benefits Package;
- introducing performance-based payment methods for all programmes run by the Ministry of Health and implementing the necessary regulatory changes;
- reviewing and implementing reforms in health sector governance (including the appointment of health care organizations' managers).

At the *oblast* level, purchasing is envisaged to be strengthened by providing training for *oblast* health departments, *oblast* finance departments and other actors at *oblast* level.

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” envisages further health financing reforms, including:

- introduction of a clear classification of expenditures in the health system by type and purpose;
- introduction of systems accounting for all expenditures on health, regardless of origin, destination or purpose, at all levels of the health system;
- development of mechanisms for changing financial flows, in order to reduce inpatient care costs and increase spending on primary health care services and disease prevention.

Overall health expenditure is envisaged to be improved through:

- the encouragement and development of public–private partnerships for capital investment and the creation of incentives for the influx of foreign investments into the health sector;
- introduction of a procurement system for fixed assets through public funding and their transition to private entities participating in the provision of the State Guaranteed Benefits Package on a lease basis.

## 3.6 Payment mechanisms

### 3.6.1 Paying health services

Before 1996 all health organizations in the country were funded by line-item budgets. The first health financing reforms were initiated in 1996 with the establishment of the MHIF that introduced new provider payment mechanisms in the health system. New health information systems created in support of the mandatory health insurance system played an important role in this process. After the closure of the MHIF in 1999, new provider payment systems, such as case-based hospital payment and capitation payment for primary health care, continued to be used. However, due to a low level of budget consolidation in 1999–2004 (with pooling at the *rayon* level), the limited autonomy of health care providers, and rigid regulations of the treasury system, the new provider payment systems were not used to their full capacity. Since 2010, with the introduction of the Unified National Health Care System, the situation has improved: the autonomy of health care providers has been strengthened and treasury regulations have become less restrictive. Under the World Bank Health Sector Technology Transfer and Institutional Reform Project, the purchasing of health services is planned to move further away from input-based financing (e.g. financing beds and staff directly) to output-based financing.

Until 2010, the two major documents regulating provider payment methods and procedures (Government Decree No. 965, On Approval of the Rules of Payment of Health Organizations from Budget Funds and the Delivery of Paid Services in Health Organizations, and the Order of 6 October 2006, On the use of Revenues from Paid Services Delivered by Public Health Organizations) defined the type and level of payments for health services. These included

capitation payment for primary health care services, a fee schedule for outpatient consultations and diagnostic services, and clinical statistical groups (a variation of diagnosis-related groups) for inpatient care.

However, these payment mechanisms failed to elicit the expected improvements in the performance of health care providers. There were several reasons for this. First, there was a conflict between budget planning methods and incentives created by the new provider payment mechanisms. The planning system based on traditional norms encouraged the increase of input capacities, while the new provider payment mechanisms encouraged the performance-based provision of health services with greater efficiency and the rationalization of excessive costs and input capacities. Second, due to rigid treasury rules and procedures, health programme administrators could not reallocate available resources between health care providers according to performance results (Yermekbayev, 2007). Third, due to the rigid control systems over the execution of line-item budgets and the low autonomy of health care providers in managing their resources, providers were limited in reallocating their own resources to respond to the needs of patients and to use resources in a more cost-efficient way. Finally, salaries of health workers were not aligned with new provider payment methods, as they did not take account of the performance of health workers.

As part of the process of creating a consolidated national health budget, Government Decree No. 965 was substituted by Government Decree No. 2030 of 7 December 2009, approving the procedures for the reimbursement of health care providers from the state budget. Since 2010, health facilities receive lump sum payments based on outputs, which they are free to manage and reallocate among different spending categories.

Article 24 of the Code on People's Health and the Health Care System stipulated that the reimbursement of health care providers should be based on the quality and volume of health services. Government Decree No. 853 of 28 September 2007, On Approval of the State Guaranteed Benefits Package, determined the types, volumes and terms of providing health services included in the package. Government Decree No. 1213 of 23 December 2008, On the Strategic Plan of the Ministry of Health of the Republic of Kazakhstan for 2009–2011 (Government of Kazakhstan, 2008) envisaged the phased implementation of a national single-payer for health services included in the State Guaranteed Benefits Package. The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” further envisaged the introduction

of a revised per capita rate and a partial fund-holding model for primary health care, improvements to health service tariffs, and the development of co-payment mechanisms.

### 3.6.2 Paying hospitals

Under the Soviet model, hospitals were funded by their respective administrations (republican, *oblast* or *rayon*), based on their previous year's expenditure (according to 18 budget categories), but mostly based on the number of staff and hospital beds. There was little incentive to use resources efficiently, since funds could not be transferred across line items and savings could not be retained. The budgetary incentive was to maximize admissions and keep patients for longer rather than shorter stays, with no regard to outcomes and quality of care.

Between 1996 and 1998, contracts between the MHIF and hospital administrations were developed based on activity: treated inpatients for hospitals and number of patient visits for polyclinics. A price for a specified procedure was set, which required an estimate of unit prices. These payment mechanisms were in the early stages of implementation with considerable variation across the system. Implementation was hampered by the lack of information on unit costs (Kulzhanov & Healy, 1999).

Implementation of a case-based hospital payment system, based on a clinical classification system, began in 2000 (Government Decree No. 806). This system was initially developed under the MHIF and has evolved over time to reflect changes in clinical practice, morbidity and health care provision at different levels of care.

In 2010, the case-based hospital payment was substituted by a system based on actual expenditures (Government Decree No. 2030). The actual cost of each hospital case was determined by adding medical and non-medical costs incurred. Medical costs included salaries, additional payments, social benefits and taxes of health workers, procurement of drugs and medical supplies, and food. Non-medical costs included utility and other costs, such as rent, heating, water supply, bank services, communication, renovation of facilities, supplies such as bed linen, travel expenditure and re-training of health workers. However, in October 2011 the Government of Kazakhstan approved the return to a hospital payment system based on diagnosis-related groups (clinical statistical groups) (Government Decree No. 1131 of 3 October 2011).

### 3.6.3 Paying outpatient providers

In the 1990s there was a significant reduction in the utilization of outpatient services, as fees for the majority of diagnostic services were introduced and patients had to purchase outpatient pharmaceuticals. At present, providers of primary care are generally paid on a capitation basis, while providers of outpatient specialty and diagnostic services are paid according to a fee schedule.

The capitation payment system for primary health care has gradually evolved to reflect the sex and age of the population covered, as well as geographical differences. As a next step, the development and introduction of a pay for performance (“bonus”) component to the base rate per capita was approved and included in the National Programme for Health Care Reform and Development 2005–2010 and its implementation plan. The system of bonuses based on performance was approved by Ministry of Health Order No. 665 of 29 December 2006.

A partial fund-holding system was initially developed and implemented in Zhezkazgan *oblast* in the mid to late 1990s. The model encouraged the delivery of health services at the primary health care level by including costs for outpatient specialists (partial fund-holding) or hospitals (full fund-holding) in the primary health care rate per capita, with primary health care practices reimbursing outpatient specialists or hospitals for referrals. Currently, the re-introduction of partial fund-holding for primary care providers is envisaged.

In 2011 Kazakhstan initiated the country-wide implementation of the new capitated payment system that includes a pay-for-performance component (the so-called two-level capitated rate). This system envisages additional payments to primary health care organizations based on certain performance results. Performance indicators and payment mechanisms were approved by Ministry of Health Order No. 622 of 16 February 2011.

### 3.6.4 Paying health workers

Health workers in the public sector are paid a salary set according to a detailed national pay scale, drawn up by the Ministry of Labour and Social Protection. Pilot projects in some *oblasts* have begun to pay health workers a salary based on three parts: a guaranteed basic salary, a bonus for the number of patients seen, and a bonus for the type of procedures performed. Various physician payment mechanisms have been tested in pilot projects, including in Semipalatinsk and Zhezkazgan *oblasts*. In 2007, differential payment for health workers was introduced, taking into account qualifications and exposure to stress.

The necessity to improve reward systems, create incentives, and retain and increase the labour force in the health sector is widely recognized by Kazakhstan's health policy-makers. Both the World Bank Health Sector Technology Transfer and Institutional Reform Project and the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” prioritize this issue, with the latter envisaging improvements in salary differentiation mechanisms and the development of a performance-based reimbursement system.

## 4. Physical and human resources

**A**s in other countries of the former USSR, Kazakhstan inherited an oversized hospital infrastructure from the Soviet period. It has since reduced the number of hospitals and hospital beds significantly and also started to renew its health infrastructure, but the ratio of hospital beds per population is still higher than in the EU15 and differs greatly across *oblasts*. There has also been a decline in the average length of stay in hospitals in recent years.

In terms of human resources, the country faces several challenges, including of their actual number, specialty mix and distribution across the country. Rural and remote areas continue to experience a shortage of health personnel, while larger cities are much better staffed. There is also an imbalance towards specialist services, to the detriment of primary health care facilities. The need for certain categories of health professionals, such as specialists in health management or health economics, is particularly acute, especially as health care providers have received greater autonomy to manage their resources. The Ministry of Health has started to address these issues and plans to develop a new system of human resource management. It has also embarked on reforms of medical education, with the aim of bringing it closer to international standards. One of the challenges is that salary levels, in particular for nurses, remain low.

### 4.1 Physical resources

In the second half of the 1990s, the country reduced its hospital network significantly, particularly in rural areas where many village hospitals were closed down. The number of hospitals in Kazakhstan declined from 1796 in 1991 to 845 in 2001 and has since increased again to 1041 in 2009. The ratio of hospital beds per 100 000 population was 756 in 2009, with Almaty *oblast* having the lowest ratio of hospital beds (447) and Akmola *oblast* the highest (989) (Ministry of Health, 2010).

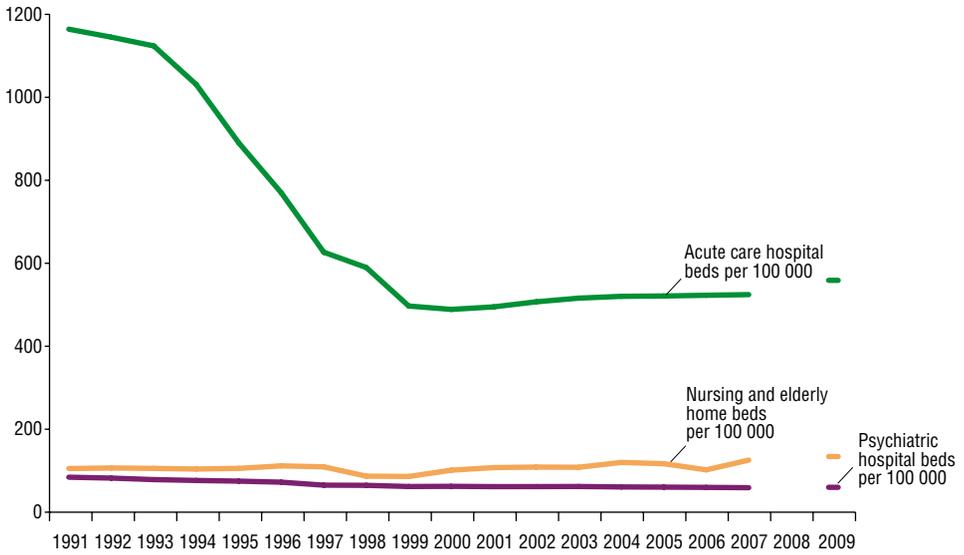
The number of acute care hospital beds per 100 000 population decreased from 1167 in 1991 to 498 in 2001, increasing to 559 in 2009 (Figs 4.1 and 4.2). Reasons for excessive hospitalization in the 1990s and early 2000s included inadequate access to pharmaceuticals at outpatient level, the poor quality of primary care services and an inadequate system of patient referrals from primary health care to hospitals. The Ministry of Health started to address these issues by introducing an outpatient drug benefits package in 2005 and gradually expanding it to include more drugs for more groups of patients and diseases. In addition, the Ministry has taken measures to strengthen the capacity of primary health care providers, expand their range of services, improve quality of care and introduce mechanisms to regulate patient referrals (President of Kazakhstan, 2009).

In 2007 Kazakhstan initiated an ambitious government programme named “100 hospitals and 100 schools”. As part of this programme, 10 new hospitals were completed in 2009. Overall, between 2007 and 2009, 201 new health facilities were constructed, including 38 hospitals and 51 physician ambulatories, with financing coming from public funds at national and local level and from private sources (Government of Kazakhstan, 2010). The intention is that new hospitals will replace old ones, with no increase in the overall number of beds.

On 15 December 2010, Government Decree No. 2131 approved new norms for the network of health organizations in the country, with the aim of standardizing the health system. The decree determined the nomenclature and structure of health organizations, depending on the size of the population served in specified geographical areas and other factors.

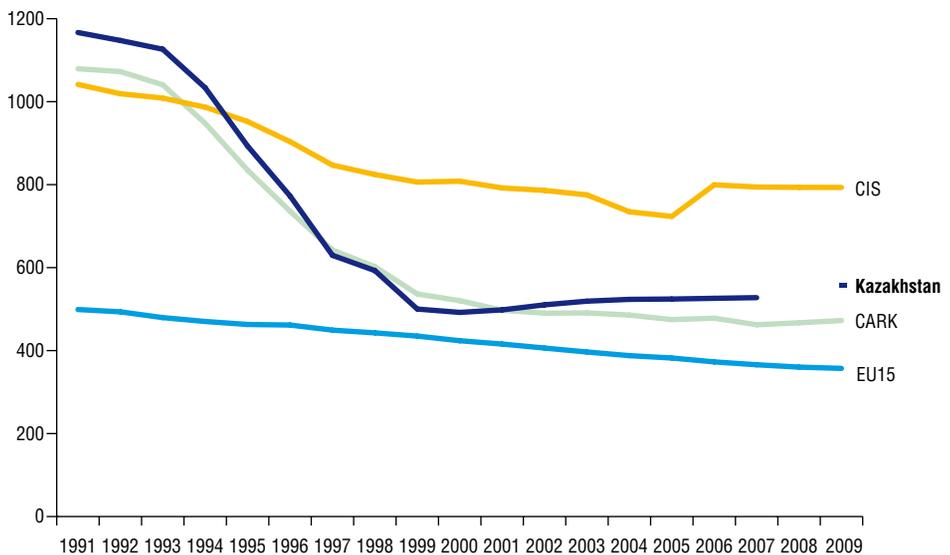
There has been a decline in the average length of stay in hospitals in recent years. The average length of stay in acute care hospitals in Kazakhstan stood at 13.7 days in 1991 and decreased to 9.7 days in 2009, which was very close to the CARK average (9.1), although higher than the EU average of 6.7 in 2008 (WHO Regional Office for Europe, 2011) (Fig. 4.3). There are some noticeable differences in the average length of stay across Kazakhstan’s regions. In 2009, the shortest average length of stay for all (not only acute care) hospitals was recorded in Almaty city (9.9 days) and the longest in Karaganda *oblast* (14.4 days).

**Fig. 4.1**  
Number of beds per 100 000 population, by type of institution, 1991–2009



Source: WHO Regional Office for Europe, 2011.

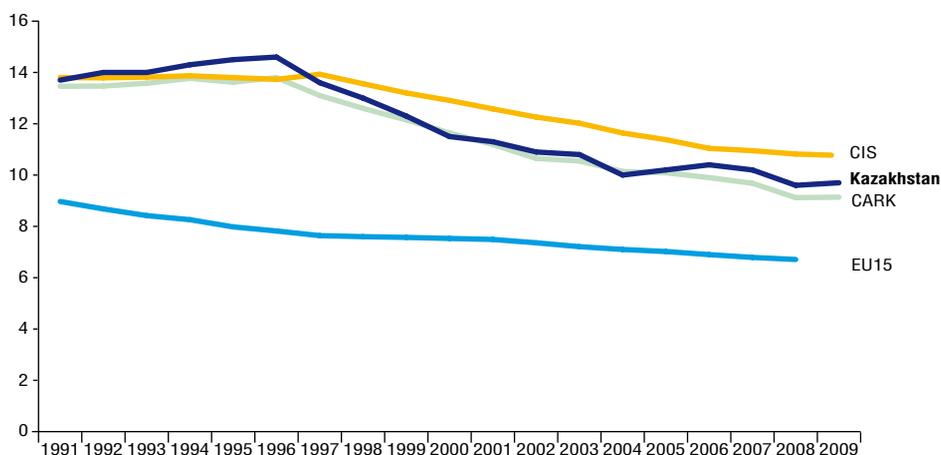
**Fig. 4.2**  
Beds in acute care hospitals per 100 000 population in Kazakhstan and regional averages, 1991–2009



Source: WHO Regional Office for Europe, 2011.

**Fig. 4.3**

Average length of stay (days) in acute care hospitals, 1991–2009



Source: WHO Regional Office for Europe, 2011.

## 4.2 Human resources

### 4.2.1 Trends and distribution of health workers

In 2010 the Kazakhstan health system had 63 855 physicians (388 per 100 000 population) and 143 822 mid-level personnel (875 per 100 000), including nurses, in the public sector, comprising both the Ministry of Health system and parallel health systems, such as that provided by the state railway company (Table 4.1), while 10 567 physicians and 12 803 mid-level personnel were employed in the private sector.

**Table 4.1**

Health workers (PP) in the public sector per 100 000 population, 2000–2010 (selected years)

	2000	2008	2009	2010
Physicians	330	374	378	388
Mid-level health personnel, including dentists	718	835	864	875
Medical nurses	447	580	605	625
<i>Feldshers</i>	–	78	79	80
Midwives	42	56	57	59
Dentists	21	8	8	10
Pharmacists	87	36	32	29

Source: Ministry of Health, 2011a; Medinform, 2011.

Note: PP – physical persons.

In addition to the number of pharmacists shown in Table 4.1 there are also assistant pharmacists (“provisors”), amounting to 39 per 100 000 population in 2010. While pharmacists have higher education, “provisors” have mid-level education.

The ratio of health workers per 100 000 population decreased for all professions between 1991 and 2009, with some of the most pronounced declines for nurses, midwives and dentists (Table 4.2).

**Table 4.2**

Health workers per 100 000 population, 1991–2009 (selected years)

	1991	1995	2000	2005	2007	2009
Physicians (FTE) per 100 000	468	458	338	353	383	403
Dentists (FTE) per 100 000	36	33	13	9	8	10
Nurses (FTE) per 100 000	1 157	1 018	684	783	817	870
Midwives (FTE) per 100 000	84	73	42	39	41	42
Pharmacists (PP) per 100 000	88	7	31	103	82	77

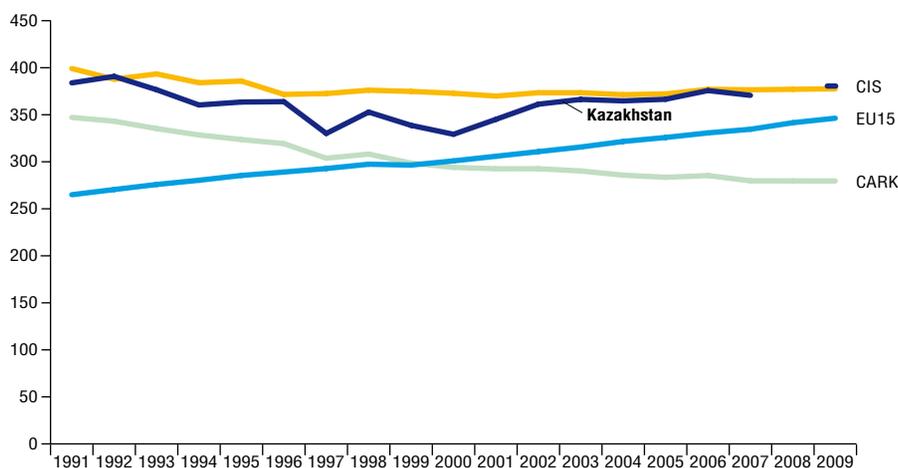
Source: WHO Regional Office for Europe, 2011.

Note: FTE – full-time equivalent.

The ratio of physicians (PP) to population declined between 1991 and 2000, but has since increased again, slightly surpassing the CIS average in 2009 (Fig. 4.4).

**Fig. 4.4**

Physicians (PP) per 100 000 population in Kazakhstan and regional averages, 1991–2009



Source: WHO Regional Office for Europe, 2011.

Between 1990 and 2000, Kazakhstan experienced a dramatic decline in the number of health workers, due to a number of factors, including a shift to the private sector, health workers leaving the health sector, the emigration of ethnic Russians and other ethnic groups, and the dismissal of health personnel. Between 2000 and 2010, however, the number of physicians has increased by around 9.5%.

The network of private health providers has significantly increased since 2000. In 1999, 10% of all physicians were working in the private sector; by 2010 this share had increased to 16% (Ministry of Health, 2011a).

Overall, the Kazakh health system faces a number of challenges with regard to human resources, including the actual numbers, specialty mix and distribution across the country. Rural and remote areas continue to experience a shortage of health workers, while larger cities are much better staffed. There is also an imbalance towards specialist services, to the detriment of primary health care facilities. Some narrow specialties are lacking physicians and specialists are very unevenly distributed across the country, resulting in excessive numbers in one area and deficiencies in others. For example, in 2010 North Kazakhstan and Mangystau *oblasts* had the lowest ratio of cardiologists in the country (less than 1 per 100 000 population), while Atyray, at 7 per 100 000 population, had the highest rate (Ministry of Health, 2011a).

New specialists are concentrated in urban areas, while many health workers in rural areas are close to retirement age. The health system also faces a shortage of trained health economists and managers. Insufficient motivation and incentives, as well as inadequate compensation and social plans for health workers, have caused a considerable decrease in the number of young professionals entering the sector, resulting in an ageing of the health workforce. In 2008, 24.5% of physicians were older than 50 years (approaching retirement age or already retired), although the number of physicians in the age group 25–50 did not significantly change between 2000 and 2009 (Ministry of Health, 2009k). In recent years there has been a slightly increasing inflow of young health specialists into the system.

There are considerable regional variations in the provision of health workers. In 2010, in the cities of Almaty (former capital) and Astana (current capital), the provision of physicians (in the private and public sector) was highest in the country, at 797 and 787 per 100 000 population respectively. In the same year, South Kazakhstan *oblast*, the region with the largest share of the population in the country, had only 313 physicians per 100 000 population (Table 4.3).

**Table 4.3**

Provision of physicians per 100 000 population, 2002–2010, by region

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akmola	294	291	295	299	312	292	297	295	295
Aktobe	447	465	474	477	474	484	475	476	461
Almaty	209	213	209	210	245	201	200	211	208
Atyrau	306	307	312	301	313	291	301	300	305
East Kazakhstan	362	371	381	388	394	398	406	404	416
Zhambyl	269	256	255	251	255	251	256	257	265
West Kazakhstan	329	336	333	323	330	301	297	309	311
Karaganda	429	434	440	451	462	437	457	466	474
Kostanay	324	319	322	318	350	232	248	253	266
Kyzylorda	247	245	245	245	255	350	322	314	315
Mangystau	360	311	335	317	375	368	373	367	322
Pavlodar	366	381	384	397	386	372	382	387	402
North Kazakhstan	233	234	242	241	233	242	251	257	284
South Kazakhstan	286	289	286	285	286	289	287	295	313
Almaty city	841	855	786	769	758	737	753	741	797
Astana city	605	606	570	597	661	745	731	747	787
<b>Kazakhstan</b>	<b>361</b>	<b>365</b>	<b>363</b>	<b>365</b>	<b>376</b>	<b>368</b>	<b>374</b>	<b>378</b>	<b>388</b>

Source: Ministry of Health, 2002–2011.

Many rural areas continue to face a lack of health workers, despite efforts by the Ministry of Health and *oblast* administrations to improve staffing in rural and remote areas through economic incentives for graduating medical doctors to work there. Major reasons for such imbalances lie in better financial and social incentives in urban areas and a higher workload in rural areas.

In 2009 the ratio of physicians in urban areas was 583 per 100 000 population, while in rural areas it was, at 141 per 100 000 population, nearly four times less (Table 4.4) (Ministry of Health, 2002–2011). In 2009, of the total number of physicians, only 17.3% were working in rural areas (a slight increase from 15% in 2005), where more than 40% of the population lives. In 2010 the highest ratio of physicians to population in rural areas was in Karaganda *oblast* (196 per 100 000), and the lowest in North Kazakhstan (114 per 100 000). Kyzylorda *oblast*, which until recently had the lowest rate of physicians per population, managed to improve provision considerably through the creation of additional incentives for young doctors to work there, such as increased salaries and the provision of accommodation.

**Table 4.4**

Provision of physicians in urban and rural areas per 100 000 population, 2007–2010

	Urban				Rural			
	2007	2008	2009	2010	2007	2008	2009	2010
Akmola	485	502	477	461	136	130	145	150
Aktobe	782	757	752	653	137	140	147	155
Almaty	562	589	572	473	91	81	108	127
Atyrau	426	462	452	479	167	149	154	146
East Kazakhstan	594	608	603	587	169	166	167	181
Zhambyl	412	427	419	460	135	133	140	138
West Kazakhstan	483	474	489	473	156	154	160	164
Karaganda	505	530	539	552	202	196	201	196
Kostanay	402	396	394	410	103	107	116	121
Kyzylorda	713	606	557	494	117	167	158	185
Mangystau	529	570	553	485	149	144	158	140
Pavlodar	499	513	516	512	127	126	129	160
North Kazakhstan	512	534	545	534	95	95	96	114
South Kazakhstan	538	545	527	549	135	132	155	161
Almaty city	733	750	732	796	–	–	–	–
Astana city	745	731	747	787	–	–	–	–
<b>Kazakhstan</b>	<b>579</b>	<b>588</b>	<b>583</b>	<b>587</b>	<b>131</b>	<b>130</b>	<b>141</b>	<b>150</b>

Source: Ministry of Health, 2002–2011.

The staffing level of physicians in 2010 was 91.7 %, indicating that there was a shortage (Ministry of Health, 2011a). The proportion of primary health care physicians (including internists, general practitioners and paediatricians) of the total number of physicians was 10.7% in 2008 (Ministry of Health, 2009k). There were 88 internists per 100 000 population in 2010, while the ratio of surgeons was 44 per 100 000 population (Ministry of Health, 2011a). The ratio of physicians per specialty is shown in Table 4.5.

The list of clinical specialties changed between 2000 and 2010 to reflect broader health reforms aimed at strengthening and integrating primary health care services, and developing prevention and healthy lifestyles, with a corresponding reallocation of financial and human resources. In 1996, for example, the National Classification (Nomenclature) List of Physician Specialties included 106 physician specialties; by 2006 the list had expanded to 169 specialties, but by 2008 it had been reduced to 56 physician specialties (Ministry of Health, 2009k).

**Table 4.5**

Physicians (PP) by specialty per 100 000 population, 1991–2009 (selected years)

	1991	1995	2000	2005	2007	2009
Physicians, medical group of specialties, per 100 000	88	89	75	85	86	86
Physicians, surgical group of specialties, per 100 000	35	38	37	42	43	44
General practitioners, per 100 000	22	19	15	17	24	26

Source: WHO Regional Office for Europe, 2011.

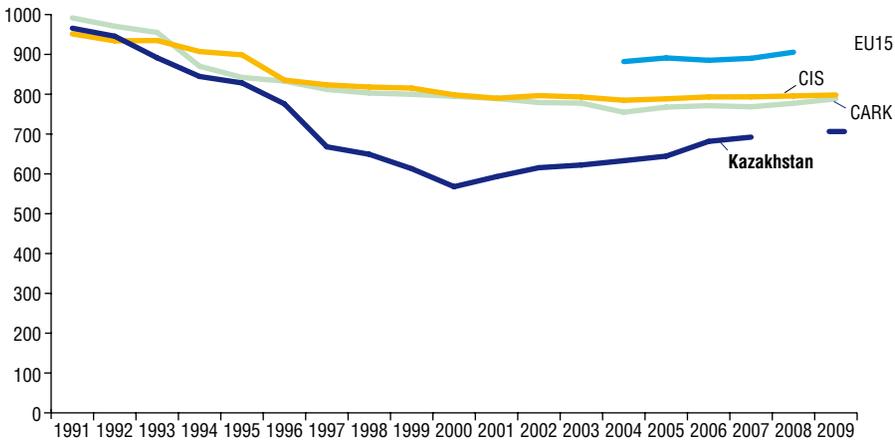
Primary health care facilities continue to face problems in recruiting qualified staff, especially in remote and rural areas. This is in large part due to an insufficient number of new graduates. In recent years the Ministry of Health has made a considerable effort to attract more and better students to medical universities, but the need in human resources remains high.

The need for certain categories of health professionals, such as specialists in health management or health economics, is particularly acute, especially as health care providers have been given greater autonomy to manage their resources by Ministry of Health Order No. 287 of 20 May 2008, On the Approval of a Methodology of Reorganizing Health Institutions into Health Enterprises with Expanded Economic Autonomy. The lack of properly trained managers translates into poor management and inefficient use of resources. As mentioned above, the Ministry of Health has recognized this problem. The new Health Sector Technology Transfer and Institutional Reform Project, funded jointly by the government and the World Bank, has included the development of a modern health management training system among its key priorities.

The provision of a health system with mid-level health personnel, including nurses, has somewhat stabilized. The ratio of nurses (PP) between 1991 and 2000 decreased substantially, but it has increased again since (Fig. 4.5). Between 2004 and 2010 the ratio of mid-level health personnel, including nurses, per 100 000 population fluctuated between 776 and 875, although with variations across *oblasts* (Table 4.6).

**Fig. 4.5**

Nurses (PP) per 100 000 population in Kazakhstan and regional averages, 1991–2009



Source: WHO Regional Office for Europe, 2011.

**Table 4.6**

Provision of mid-level health personnel (including nurses) per 100 000 population, 2004–2010

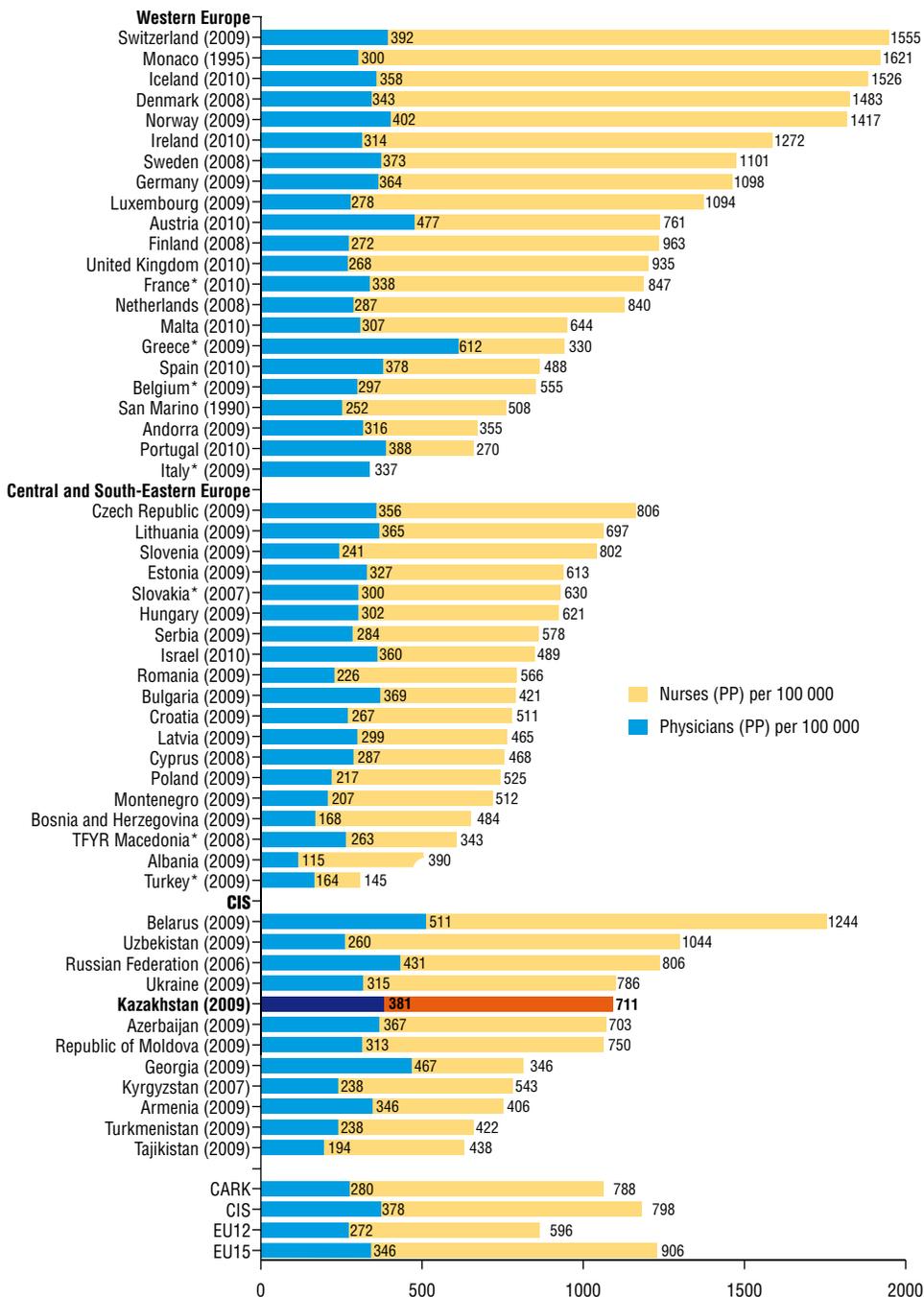
	2004	2005	2006	2007	2008	2009	2010
Akmola	854	874	912	883	906	903	912
Aktobe	760	771	787	812	812	803	806
Almaty	517	523	580	515	518	522	556
Atyrau	695	722	759	753	785	772	778
East Kazakhstan	783	808	857	874	927	857	973
Zhambyl	759	780	816	817	834	832	868
West Kazakhstan	943	955	978	937	951	978	1 002
Karaganda	861	877	909	842	944	902	995
Kostanay	1 033	1 031	1 176	892	780	1 096	857
Kuzylorda	698	724	798	1 084	1 177	794	1 170
Mangystau	865	825	757	878	910	858	816
Pavlodar	838	862	837	853	875	869	933
North Kazakhstan	810	810	846	838	929	871	1 061
South Kazakhstan	722	717	729	734	741	778	801
Almaty city	926	924	895	883	891	812	963
Astana city	675	685	773	857	862	866	954
<b>Kazakhstan</b>	<b>776</b>	<b>786</b>	<b>818</b>	<b>812</b>	<b>835</b>	<b>864</b>	<b>875</b>

Source: Ministry of Health, 2002–2011.

In 2010, 41% of mid-level health personnel worked in rural areas, resulting in a ratio of 597 per 100 000 population, compared to 1106 per 100 000 population in urban areas. The ratio of physicians and nurses per 100 000 population in 2009 is shown in Fig. 4.6.

**Fig. 4.6**

Number of physicians and nurses per 100 000 population in the WHO European Region, latest available year (in parentheses)



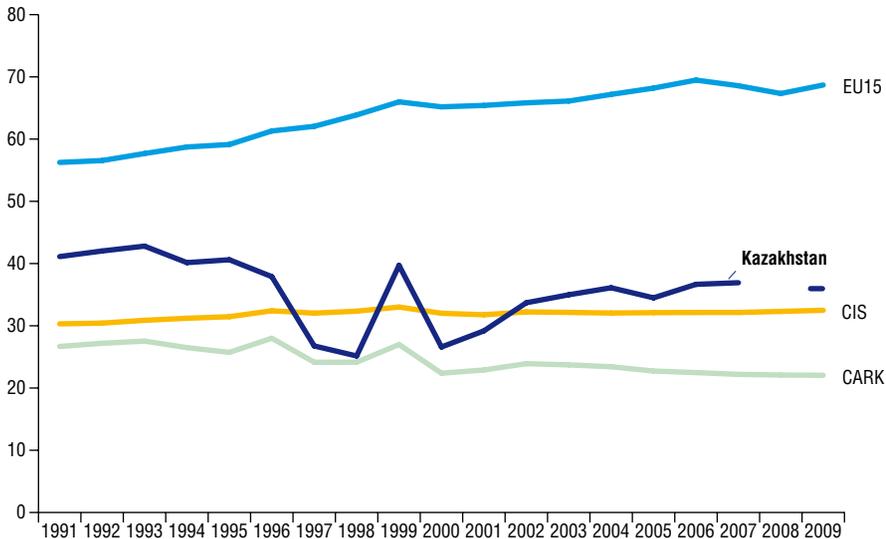
Source: WHO Regional Office for Europe, 2011.

Note: \*Eurostat data for nurses.

The number of dentists in Kazakhstan increased between 2001 and 2004, and since then has remained quite stable. Although it is higher than the CIS and CARK average, it is only about half of the average for EU15 countries (Fig. 4.7, Table 4.7). The number of pharmacists grew rapidly between 1995 and 2005 (from 7 to 103 per 100 000 population) and then dropped to 77 per 100 000, which is similar to EU15 average and over three times the CIS and CARK average (Fig. 4.8).

**Fig. 4.7**

Number of dentists (PP) per 100 000 population in Kazakhstan, and regional averages, 1991–2009



Source: WHO Regional Office for Europe, 2011.

In 2010, the ratio of dentists per 10 000 population was only 0.9 in rural areas, compared to a national average of 3.0, and a rate of 4.8 in urban areas (Ministry of Health, 2011a).

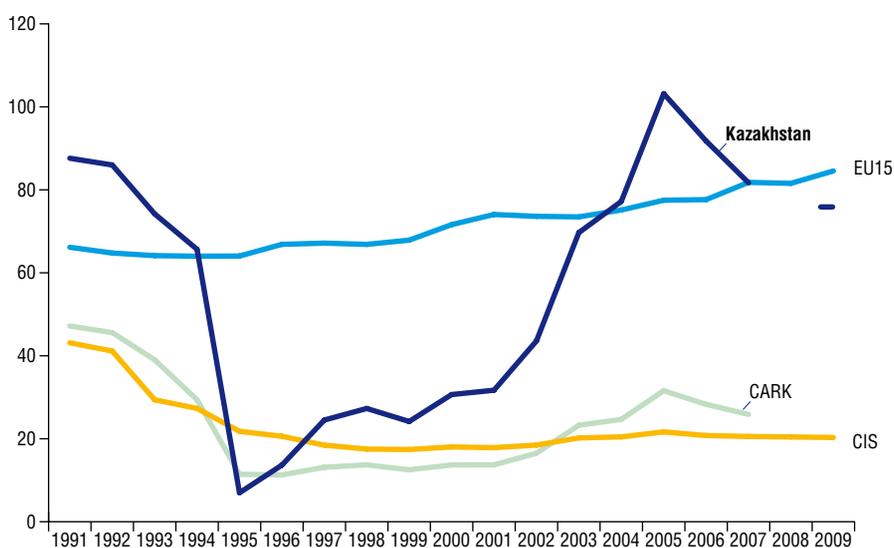
**Table 4.7**Number of dentists by *oblast*, 2008–2010

	Absolute numbers			Per 10 000 population		
	2008	2009	2010	2008	2009	2010
Akmola	144	161	145	1.9	2.2	2.0
Aktobe	200	219	236	2.8	3.0	3.0
Almaty	297	400	347	1.8	2.4	1.9
Atyrau	101	104	99	2.0	2.0	1.9
East Kazakhstan	428	442	431	3.0	3.1	3.1
Zhambyl	174	170	175	1.7	1.6	1.7
West Kazakhstan	92	98	93	1.5	1.6	1.5
Karaganda	571	547	588	4.2	4.0	4.3
Kostanai	130	140	192	1.5	1.6	2.2
Kyzylorda	107	108	106	1.7	1.6	1.5
Mangystau	129	115	120	3.0	2.6	2.3
Pavlodar	261	240	272	3.5	3.2	3.6
North Kazakhstan	101	106	111	1.6	1.6	1.9
South Kazakhstan	391	415	512	1.6	1.7	2.0
Almaty city	959	890	1 203	7.0	6.3	8.5
Astana city	285	337	352	4.5	4.9	5.0
<b>Kazakhstan</b>	<b>4 370</b>	<b>4 492</b>	<b>4 982</b>	<b>2.8</b>	<b>2.8</b>	<b>3.0</b>

Source: Ministry of Health, 2011a.

**Fig. 4.8**

Number of pharmacists (PP) per 100 000 population in Kazakhstan, and regional averages, 1991–2009



Source: WHO Regional Office for Europe, 2011.

## 4.2.2 Training of health workers

The training of health workers is one of the key priorities of national health policy. Kazakhstan inherited the Soviet model of training and retraining of health professionals and, by 2004, there had been hardly any change in this area, although postgraduate training in family medicine and priority programmes, including mother and child health and TB, were implemented. The adoption of the National Programme for Health Care Reform and Development 2005–2010 was a critical juncture. It envisaged comprehensive reforms in medical education, covering conceptual approaches, content and organization. The major purpose of the proposed reforms was to upgrade the professional knowledge and skills of health workers by improving the quality of medical training.

As part of the programme, funds were allocated to strengthen capacities and move Kazakhstan's medical education system closer to international standards. In 2007 clinical training centres, including tutorial rooms and laboratories with state-of-the-art equipment, were established in all medical universities with the aim of providing appropriate conditions for building the clinical skills of medical students in paediatrics, therapy, obstetrics, gynaecology, surgery, anaesthesiology, resuscitation and general practice. In 2008 all medical universities were equipped with modern laboratories. Four out of six state medical universities (Astana, Karaganda, Almaty and Shymkent) plan the construction of their own teaching clinics. In 2006–2008 the national and *oblast* governments allocated 1873 million tenge (over US\$ 10 million) for training and retraining of general practitioners, health managers and narrow specialists, both in Kazakhstan and abroad (Ministry of Health, 2009d). Since 2008, *oblast* administrations have been responsible for training and retraining health workers. The cost of medical training has considerably increased, reflecting upgrades of the medical education system. However, there has also been an increase in the number of state grants (scholarships), from 1059 in 1999 to 5000 in 2009 (Ministry of Health, 2009d). The increase of state scholarships also aimed to address the preferential acceptance of self-funded students, for whom entry requirements were considerably lower than for state-funded students, undermining the quality of medical education and the overall ethics of the medical profession (Ministry of Health, 2009d).

The overall strategy of medical education is based on the general national education policy, determined by the government and implemented by the Ministry of Education and Science. In 2006 the government approved the Concept on Reforming Medical and Pharmaceutical Education for 2006–2010, envisaging a new training model for health workers that meets international standards. In 2007 new standards for the training of medical and pharmacy

students were enacted. Since then, considerable changes in the overall structure and content of medical education have taken place. The Code on People's Health and the Health Care System, approved by the President in September 2009, shifted the responsibility for medical education (except the licensing of university teachers) from the Ministry of Education to the Ministry of Health. By the end of 2010, four medical universities had passed their accreditation according to standards of the World Federation for Medical Education.

Education in medical universities is now based on educational standards approved by the Ministry of Health. By 2009 the Ministry of Health had revised qualification requirements and responsibilities for existing clinical specialties and health workers, developed requirements for new clinical specialties, and developed and introduced new training standards for undergraduate, postgraduate and continuous medical education. Clinical residency standards have also been developed and approved.

In 2009, Kazakhstan had seven medical universities (one of which was private), 29 state and 28 private nursing colleges (Table 4.8), a Postgraduate Institute for Physicians, a School of Public Health and 21 research enterprises (research institutes and centres). The number of medical universities and research enterprises has declined as a result of the continuing medical education and science reform (Ministry of Health, 2002–2011).

All medical universities have received greater autonomy to manage their resources, which it is hoped will lead to a more efficient and targeted use of resources. New accreditation standards for institutions of medical education, based on international standards, were approved in 2009 and, by 2013, all medical education institutions in the country will have to undergo accreditation.

**Table 4.8**

Educational facilities (absolute numbers), 2007–2009

	State institutions			Private institutions		
	2007	2008	2009	2007	2008	2009
<b>Medical universities</b>	6	6	6	2	1	1
Total students, beginning of academic year	23 716	25 058	28 397	1 326	1 391	1 784
Accepted students, beginning of academic year	5 681	5 209	5 923	288	165	487
Graduates, end of academic year	3 754	2 557	3 212	504	223	399
<b>Nursing colleges</b>	25	25	29	24	28	28
Total students, beginning of academic year	28 037	26 011	26 662	17 916	19 553	19 713
Accepted students, beginning of academic year	8 537	7 501	9 458	6 871	6 009	6 110
Graduates, end of academic year	7 968	8 136	6 610	2 611	3 330	3 901

Source: Ministry of Health, 2011a.

The ratio of graduating physicians increased from 15 per 100 000 population in 1990 to 19 in 2009, while the ratio of graduating nurses decreased from 66 in 1990 to 19 in 2009 (Table 4.9).

**Table 4.9**

Physicians and nurses graduated per 100 000 population, 1990–2009 (selected years)

	1990	2002	2003	2004	2005	2006	2007	2008	2009
Physicians	15	12	15	20	20	21	28	–	19
Dentists	2	1	1	2	1	2	1	–	2
Nurses	66	35	42	43	40	45	17	19	19
Midwives	–	5	5	5	6	9	8	–	10
Pharmacists	4	3	3	3	1	5	3	–	4

Source: WHO Regional Office for Europe, 2011.

Before 2007 there were eight streams in medical education: therapeutics, paediatrics, oriental medicine, biomedicine, medical prevention, dentistry, pharmacy and nursing. Commencing in 2007, in accordance with the new medical education strategy and new medical education standards, five major streams of training were introduced: general medicine, dentistry, pharmacy, nursing and public health. All medical students go through a five-year basic training course, plus two years of internship. Upon graduation they are allowed to practise independently as general practitioners. Specialization is provided through a postgraduate training system, including upgrading and retraining courses provided by the Postgraduate Institute for Physicians or two- to four-year residency programmes that are currently being introduced. In the 2009/2010 academic year, 436 physicians were enrolled in residency programmes (Ministry of Health, 2011a).

Dentists are trained for five years, plus one year of internship. Physicians in the sanitary-epidemiological services and pharmacists are trained for five years and medical nurses are trained for four years. Graduates undergoing courses of more than seven years are awarded a Master's degree. Dentists, sanitary-epidemiological service specialists and nurses are awarded a bachelor's degree and can continue their education for Master's and PhD degrees. All training programmes were developed based on standards by the World Federation for Medical Education.

A family practice specialty was introduced in 1995 as a four-month short course at the postgraduate medical institute and other short courses are being held at approved sites. Training in general practice (both for undergraduates and for practising physicians) has been supported with both technical assistance

and funding from USAID, the United Kingdom Department for International Development and the World Bank. In 2007–2009, 1694 general practitioners and family doctors were trained and retrained, funded by national and local budgets (Ministry of Health, 2011a).

**Table 4.10**

Enrolment to postgraduate studies (clinical residency, Master's and doctoral programmes), 2004/2005–2009/2010

Academic year	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Residency programmes	–	–	–	–	158	278
Doctor candidate programmes	60	63	63	63	–	–
Doctoral programmes	33	30	33	33	–	–
PhD programmes	–	–	–	–	10	10
Master's programmes	44	31	70	70	70	70
<b>Total</b>	<b>137</b>	<b>124</b>	<b>166</b>	<b>166</b>	<b>238</b>	<b>358</b>

Source: Ministry of Health, 2011a.

In order to start independent practice, all medical specialists must pass a qualification test and receive certification. For private practice, medical specialists must obtain, in addition to certification, a special licence. Medical specialists employed by state health organizations do not need a licence, as all state health organizations are licensed. Certification and licensing of health professionals is conducted by a special body under the Committee on Quality Control of Health Services. Currently the country does not have a body providing independent assessment of professional competence.

Previously, practising health workers received further education through a postgraduate system of education introduced and developed during the Soviet period, and managed by national research institutes and centres. Today, the Almaty Postgraduate Medical Institute and faculties of postgraduate education at medical universities provide retraining courses every five years and clinical lectures every three years, with the aim of upgrading the knowledge and practical skills of practising health workers. Between 2006 and 2009, the Postgraduate Medical Institute and other departments were intensively involved in retraining and upgrading practising physicians.

However, within the Concept on Reforming Medical Education, postgraduate education has been newly conceptualized and a transition has started towards a system of continuous medical education based on international standards. In the transition period, the existing system of postgraduate education has been made more flexible and responsive to the needs of health workers: mandatory

training courses (once every five years) that require the physical presence of trainees in class within specific dates have been replaced, on an optional basis, by a system allowing for the gradual accumulation of credit hours by attending short-term training courses, workshops and classes. In 2008/2009, 28 884 physicians received training through the postgraduate medical education system, including 617 physicians who completed postgraduate upgrading courses abroad (Ministry of Health, 2011a). Between 2005 and 2009, over 1300 health workers completed internship programmes abroad (Ministry of Health, 2009k).

All medical universities have introduced management quality improvement systems, with increasing requirements for training and academic performance. However, the quality of training remains one of the challenges of medical education. The World Bank Health Sector Technology Transfer and Institutional Reform Project has a large medical education component that aims to improve the quality of medical education. Under the World Bank Project, university and college teachers are given the opportunity to participate in reputable internship programmes abroad. Furthermore, a republican centre on innovative technologies in medical education is being created, and the creation of clinical training centres, as well as an independent centre for assessing the practical skills and competences of health workers, is planned.

As mentioned, in 2009 there were 57 nursing colleges, including 28 private ones. The training of mid-level health personnel is structured around eight specialties: therapeutics, midwifery, hygiene and epidemiology, dentistry, dental orthopaedics, pharmacy, nursing and laboratory diagnostics.

Within the overall state strategy on education, the existing system of mid-level medical training has been reformed into a two-tier system: tier 1 consists of a 2–3-year basic training course, while tier 2 consists of a 3-year postgraduate course aimed at mid-level personnel with higher professional skills and responsibilities. The new system was launched in 2010 after new training standards had been adopted.

Before 2010, nursing education consisted of a two-year basic training, followed by one year of specialization in general medicine, emergency care, obstetrics or management. However, the curricula were outdated and failed to reflect the requirements of health service provision, and consequently many nurses were poorly trained. In the 2010/2011 academic year, in line with the overall reform strategy for medical education, nursing education was reformed, with the aim of upgrading it to postgraduate level, strengthening the status of

nurses as independent health professionals, and providing continuous education, with the award of Bachelor and Master's degrees. The new system also envisages training basic support staff who do not require in-depth theoretical training, such as attending nurses or maintenance workers.

*Feldshers* receive training in nursery and midwifery, with additional training in diagnosis and prescribing. They carry out clinical responsibilities that are mid-way between those of doctors and nurses. In rural areas, feldshers work in effect as primary care physicians. Given the shortage of physicians in rural areas, the medical education system will continue training feldshers to work in primary health care facilities.

More attention is also being paid to the training and retraining of managerial and administrative staff, including nurse managers, which is in line with the increased attention being paid to primary health care, where most nurse specialists are expected to work in the future. At Almaty Medical College, for example, a four-year training programme for nurse managers has been introduced. Between 2007 and 2009, 1298 health managers were trained (Ministry of Health, 2011a).

### **4.2.3 Salary and working conditions**

In 2007 the government adopted a single compensation (salary) system for employees of organizations funded entirely or partly from the state budget. The decree (Government Decree No. 1400 of 29 December 2007, A Nomenclature of Civil Servants) introduced a rigid salary schedule based on existing budgetary norms. Salary levels of health professionals employed in state health organizations are regulated by the Labour Law.

Until recently, the quality of services provided did not have any consequences for the financing of health facilities or individual health workers. In 2007 the Ministry of Health approved criteria allowing for differential salary levels of health workers based on performance (Ministry of Health Decree No. 722 of 7 December 2007, On Establishing Criteria for the Performance of Health Care Workers). The criteria are specified for each level of health care and create some incentives for health workers to improve efficiency and quality of work.

The prestige and salary of nurses continue to be very low. While the official salary of physicians is not much higher than that of nurses, they can gain various official bonus payments and informal “under-the-table” payments from patients. Physicians might also be appointed to more than one position, with a corresponding increase in income.

The skill mix of health workers is being adjusted in many European countries, with the aim of increasing the number of trained nurses in relation to the number of doctors (Rechel, Dubois & McKee, 2006). In Kazakhstan, doctors often perform tasks that in western European countries would be performed by nurses, while nurses perform many tasks that elsewhere would be performed by auxiliary or support staff. The difference in Kazakhstan is that the salary differential is not that large and nurses receive far less training than doctors. To improve this situation, the Ministry of Health initiated efforts to change the ratio of doctors and nurses and develop managerial mechanisms for increasing the responsibilities and the scope of work for nurses.

## 5. Provision of services

The provision of health services in Kazakhstan has evolved on the basis of the legacy of the Soviet health system, with its overemphasis on hospital services and its neglect of primary health care and health promotion. Throughout the system, the tendency was to refer patients to higher levels of care. This delivery system is in the process of being reorganized. The eventual intention is that primary care will be delivered by general and family physicians and that many small hospitals will be closed.

At present, health services are fragmented and do not ensure continuity of care. There are no strong linkages between primary and secondary care, and many services are organized in parallel vertical structures, such as TB services, sanitary-epidemiological services, or the health systems operated by other ministries and government agencies. Poor horizontal integration of services leads to duplication and inefficiencies.

The standardization of health services across the country is one of the key objectives pursued by current health reforms. In 2009 the Ministry of Health approved standardized types and volumes of health services at five levels of care (Ministry of Health, 2009g):

- “pre-physician care” includes all types of health services that can be provided without participation of physicians;
- “qualified health care” is provided without special diagnostic and treatment methods, typically in rural areas;
- “primary health care” is provided in outpatient settings. It includes preventive examinations, immunizations, the promotion of healthy lifestyles, the follow-up of chronic patients and the surveillance of the enrolled population;
- “specialized health care” includes the provision of consultative and diagnostic services by polyclinics and of hospital care by narrow specialists (such as urologists, neurologists, cardiologists and neurosurgeons);

- “tertiary care” includes the use of resource-intensive medical technologies and is usually provided at the *oblast* and national level.

In 2009 two key health policy documents were adopted: the Code on People’s Health and the Health Care System (President of Kazakhstan, 2009) and the Concept on the Unified National Health Care System (Ministry of Health, 2009c). Both documents envisage country-wide measures for improving the health of the population, with particular emphasis on prevention and the shared responsibility of the state and individuals for health.

- The Code on People’s Health and the Health Care System regulates the relationship between the state, the individual and the health system.
- The Concept on the Unified National Health Care System aims to continue health reforms. It envisages the improvement of individual health services by allowing patients free choice of providers, introducing performance-based payment mechanisms, strengthening continuous quality improvement processes, and, in the medium to long term (2016–2020), establishing a solidarity-based health system in which the state, employers and individuals share responsibility for individual and public health. A new State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010) was developed on the basis of the Concept on the Unified National Health Care System. Both documents build to a large extent on the National Programme for Health Care Reform and Development 2005–2010 (Ministry of Health, 2004).

## 5.1 Public health

In Kazakhstan the responsibility for public health and health promotion activities is shared by the following major actors: the sanitary-epidemiological services, the HIV/AIDS centres, the National Centre for Healthy Lifestyles, primary health care providers, NGOs and international agencies. The most important challenge of the country’s health sector in the domain of public health lies in clarifying, coordinating and streamlining the roles and responsibilities of these different agencies and actors.

The Ministry of Health is in charge of the following functions with regard to public health (President of Kazakhstan, 2009):

- developing national policies, plans and programmes on public health;

- regulating the registration of infectious, parasitic, occupational and other diseases and poisoning;
- regulating the registration of baby food products, food and biologically active supplements, genetically modified sources, disinfection materials, repellents, and products and substances harmful to health;
- establishing the rules for sanitary-epidemiological monitoring;
- ensuring intersectoral coordination in implementation of national and sectoral programmes on health protection and the promotion of healthy lifestyles.

### 5.1.1 Sanitary-epidemiological service

The sanitary-epidemiological service is responsible for the following key areas:

- prevention and control of infectious diseases;
- monitoring the sanitary-epidemiological situation in the country;
- monitoring laboratory safety;
- monitoring the quality of water and food products.

In the Soviet period, the sanitary-epidemiological service was characterized by a rigid vertical control system, from the republican to the *oblast*/city and then to the *rayon* level. In the post-Soviet period, the sanitary-epidemiological service in Kazakhstan was reorganized and the authority was split between the national and local levels of administration. All local sanitary-epidemiological subdivisions were placed under the control of local executive bodies. Eventually, this fragmentation had a negative impact on the entire service, due to unclear institutional roles and responsibilities, poor management and lack of coordination between different levels. In 2007–2008, within the broader framework of a national administrative reform aimed at optimizing and improving the efficiency of government administration, the sanitary-epidemiological service was restored to its previous vertical structure.

By January 2009, all sanitary-epidemiological agencies under *oblast* and city (Almaty and Astana) administrations had been placed under the control of the national Committee of State Sanitary-Epidemiological Surveillance under the Ministry of Health (President of Kazakhstan, 2009). The committee is responsible for:

- initiating restrictive measures to contain the spread of infectious diseases, including quarantine;

- maintaining the register of potentially dangerous chemical and biological substances;
- undertaking the registration of baby food products, food and biologically active supplements, genetically modified sources, and products and substances harmful for health;
- organizing and implementing sanitary interventions related to food poisoning, infectious and other diseases;
- overseeing the organization and implementation of vaccinations against infectious diseases;
- undertaking state sanitary-epidemiological surveillance.

In 2009, the sanitary-epidemiological service included 16 sanitary-epidemiological surveillance departments with 204 branches; 16 epidemiological knowledge centres with 190 branches; 6 inter-regional surveillance centres with 14 branches; and 6 regional sanitary-epidemiological knowledge centres serving the transportation sector with 14 branches. The system also included the republican sanitary-epidemiological service, the Republican Centre for Hygiene and Epidemiology, the Research Centre for Quarantine and Zoonotic Infections, and Anti-Plague Stations (Committee of State Sanitary-Epidemiological Surveillance, 2009). Physicians specializing in hygiene and sanitary-epidemiological surveillance are trained in special departments of medical universities (see section 4.2); these departments carry out sanitary-epidemiological research and monitoring.

The sanitary-epidemiological service has significant laboratory resources. In the period 2005–2008 the state budget allocated 3.7 billion tenge to upgrade the sanitary-epidemiological laboratory service, with a further 2 billion tenge allocated in 2009–2010 for upgrading the laboratory network at *rayon* level.

Jointly with *oblast* health departments, the sanitary-epidemiological service is responsible for implementing immunization campaigns. At the beginning of the 1990s, immunization rates deteriorated significantly, but they have increased again in recent years, with subsequent declines in the incidence of major childhood infections (Committee of State Sanitary-Epidemiological Surveillance, 2009).

However, the sanitary-epidemiological service faces a number of challenges. It is poorly integrated with primary care services and lacks coordination with other surveillance services, such as environmental protection and veterinary surveillance, as well as with infectious diseases control systems, such as for TB and HIV/AIDS.

The development of the sanitary-epidemiological service is one of the priorities of the ongoing State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”, with the aim of improving its management and effectiveness. The programme envisages the streamlining of sanitary-epidemiological standards (such as sanitary rules, hygiene standards, infection control and technical regulations) with international requirements, and improvements to the national immunization schedule (e.g. introducing vaccination of children against pneumococcal infections). The programme also envisages development of a State Register of Occupational Diseases, a system to control radiation exposure of patients during medical examinations, and introduction of international standards for the safety and quality of food products (President of Kazakhstan, 2010).

### 5.1.2 TB programmes

Kazakhstan has one of the highest prevalence rates for TB in the WHO European Region and, despite decreasing notification and mortality rates since 2005, the epidemiological situation remains serious (see section 1.4). The country adopted a national TB control programme based on the Directly Observed Treatment, Short-Course (DOTS) strategy recommended by WHO and a “DOTS-Plus” programme to contain multi-drug resistant TB. The National Tuberculosis Centre is responsible for the implementation and coordination of the DOTS strategy at the national level. In *oblasts* this function rests with *oblast* coordinators; these are the chief physicians of *oblast* TB dispensaries, administered by the *oblast* health departments.

Kazakhstan received several grants for TB control from the Global Fund to Fight AIDS, Tuberculosis and Malaria. Within the sixth round of funding, a grant of US\$ 9.2 million was mostly focused on implementing DOTS, with the actual programme starting in 2007. Kazakhstan’s US\$ 59.1 million grant proposal within the eighth round has also been approved. It aims at improving the management of drug-resistant TB, including that in the penitentiary sector. Implementation started in 2010 (Global Fund, 2011).

Kazakhstan has adopted measures to improve intersectoral coordination on TB treatment and surveillance. At the national level, a High-Level Working Group and eight technical subgroups on TB were set up. At the regional level, there are multi-sectoral working groups on different aspects of TB control. The health facilities of the penitentiary system collaborate closely with the *oblast* TB dispensaries that coordinate TB activities at the regional level. The National Coordination Committee on Health Protection has approved the Intersectoral Plan to Fight Tuberculosis for 2008–2012.

The eradication of multidrug-resistant (MDR) TB remains a major challenge. The WHO strategy DOTS-Plus was initiated in Kazakhstan in 2000 and has since been rolled out nationally. The procurement of TB drugs was formerly centralized at the national level. However, in 2007 it was decentralized to the *oblast* level, resulting in multiple problems and contributing to the increase of MDR TB in the country. Since 2009, TB drugs have again been procured at the national level.

In 2009 approximately 6000 patients with MDR TB received treatment according to the DOTS-Plus strategy. Government commitment to addressing the problem of drug-resistant TB has increased significantly in recent years, with procurement of second-line drugs from the state budget. While committed to the implementation of the WHO strategy, Kazakhstan has made country-specific adjustments in both TB treatment and detection. Hospitalization and treatment duration are longer than recommended by WHO, but there are attempts to strengthen ambulatory care, enabling patients to receive TB treatment in outpatient settings.

TB detection methods vary depending on the type of patient: sputum smear (microscopy) is used in individuals with TB symptoms; X-ray is used in groups at high risk, while Mantoux tuberculin tests are used in children and HIV-positive individuals. In 2009–2010 the accelerated TB and MDR TB detection system BACTEC-MIGIT-960 was introduced throughout the country, with support from the Global Fund to Fight AIDS, Tuberculosis and Malaria.

### 5.1.3 HIV/AIDS programmes

In 2008, Kazakhstan had the highest HIV incidence rate of central Asian countries (WHO Regional Office for Europe, 2011). The Code on People's Health and the Health Care System (President of Kazakhstan, 2009) envisages:

- accessible, voluntary and anonymous HIV testing free of charge;
- dynamic monitoring of HIV/AIDS and provision of socio-psychological, legal and medical advice;
- provision of health care and drugs to people infected with HIV/AIDS within the State Guaranteed Benefits Package;
- prohibition of discrimination related to HIV/AIDS;
- interventions to prevent mother-to-child transmission.

In 2008, the Ministry of Health issued two important orders expanding HIV and AIDS prevention measures in the country:

- Ministry of Health Order No. 45 of 5 February 2008 On the Monitoring and Evaluation of Activities to Counteract AIDS Epidemics introduced a comprehensive set of indicators to monitor the HIV/AIDS situation in the country. The indicators support sentinel epidemiological surveillance of all sentinel groups (injecting drugs users, sex workers, men having sex with men, carriers of sexually transmitted infections, prisoners, pregnant women);
- Ministry of Health Order No. 699 of 29 December 2008 regulated measures aimed at prevention of mother-to-child transmission and approved clinical standards based on WHO guidelines.

In 2006 the National Programme against HIV/AIDS in the Republic of Kazakhstan for 2006–2010 was adopted, with the aim of stabilizing HIV prevalence among high-risk groups (Government of Kazakhstan, 2006). The programme focused on:

- improving legislation and regulation;
- implementing prevention programmes for vulnerable groups of the population;
- establishing and maintaining psycho-social counselling and HIV testing services;
- implementing treatment and care programmes, in line with international standards of anti-retroviral treatment of people living with HIV/AIDS, including social support programmes;
- improving epidemiological surveillance, monitoring and assessment.

The planned budget of the programme consisted of 3.6 billion tenge in the first phase (2006–2008) and 3.1 billion tenge in the second phase (2009–2010).

The National AIDS Coordination Committee coordinates the multisectoral response to the epidemic, provides the legal and policy framework, and strengthens partnerships among all stakeholders. The National Centre for AIDS Prevention and Control provides overall management and coordination of the health sector response to HIV/AIDS, including prevention, care and treatment services. The HIV/AIDS infrastructure consists of 21 centres for AIDS prevention and control, operating in all *oblasts* and major cities. A typical AIDS centre includes departments for treatment and counselling,

epidemiological surveillance, monitoring and evaluation, as well as a laboratory. The AIDS centres and NGOs have established 168 trust points that provide injecting drug users with syringes, condoms, brochures and pre- and post-test counselling. Hospitals, TB centres and oncology dispensaries provide treatment for opportunistic diseases and palliative care for terminally ill patients.

The National Programme against HIV/AIDS in the Republic of Kazakhstan for 2006–2010 envisaged implementation of a pilot substitution project. In 2007 two pilot projects in Temirtau city (Karaganda oblast) and Pavlodar commenced, covering 25 individuals in each site.

Recognizing the problem of unsafe blood products, the Ministry of Health developed the state programme On Measures to Improve the Blood Service in the Republic of Kazakhstan for 2008–2010. The purpose of the programme is to ensure the quality, safety and accessibility of blood transfusions. The programme addressed several crucial weaknesses of the system of blood donation, including:

- the lack of a national register of donors and individuals exempt from blood donation;
- inadequate mechanisms for information exchange between health facilities regarding donors;
- inadequate reporting forms for documenting blood donor referrals and medical examinations of donors.

The number of NGOs working in HIV/AIDS prevention in Kazakhstan remains small, amounting to 80 in 2008. Most were funded through international grants, including from the Global Fund to Fight AIDS, Tuberculosis and Malaria. NGOs working in the area of HIV/AIDS perform several key functions:

- distribution of free-of-charge condoms, syringes, lubricants and disinfectants at trust posts through mobile, user-friendly clinics and volunteers;
- provision of educational sessions, including peer-to-peer education and dissemination of information;
- social and psychological support to people living with HIV/AIDS and their families;
- outreach work;
- implementation of preventive programmes in prisons;

- supporting adherence of patients on anti-retroviral treatment;
- organization and implementation of prevention campaigns aimed at the general population with the aim of reducing stigma.

Although NGOs are improving, they still experience continuous problems in implementing their tasks. To a large extent, these problems stem from the lack of comprehensive and targeted state support and an unclear delineation of the roles of NGOs in HIV/AIDS prevention. NGOs, on the other hand, have often limited capacity to take on more responsibility and be more accountable for their work.

#### **5.1.4 Diabetes centres**

Diabetes is becoming a more serious problem in Kazakhstan. In 2008, 162 012 patients with diabetes were registered in the country's national diabetes register. Diabetes prevalence increased from 111.3 per 100 000 population in 2003 to 131.1 in 2008. To respond to this trend, diabetes treatment and training centres were established across the country.

Patient care has improved significantly in terms of continuity of supply of insulin and other drugs and the quality of drugs, as well as their delivery and distribution. The drugs are funded from the republican budget through a centralized procurement mechanism. In 2008 the government allocated 2.8 billion tenge for diabetes-related drugs. The country, however, still faces shortages of glucometers and other self-test devices for patients with diabetes, with only 58% of the demand in 2008 being met.

The National Programme of Health Care Reform and Development 2005–2010 (Ministry of Health, 2004) envisaged placing an endocrinologist in every *rayon* to improve the early diagnosis and treatment of endocrine disorders such as diabetes (Ministry of Health, 2004). Inadequate staffing, however, still remains a problem, particularly in rural areas where the ratio of endocrinologists per 100 000 population is nearly six times less compared to that in urban areas.

The Diabetes Association plays an important role in raising public awareness. It has closely collaborated with the Ministry of Health for more than 10 years in order to achieve the major goal of the 1989 St Vincent Declaration to prolong healthy life years of patients with diabetes to reach those of the rest of the population.

### 5.1.5 Health promotion

In 2005 health promotion activities were included in the State Guaranteed Benefits Package by Government Decree No. 1304. The health promotion service in Kazakhstan is led by the National Centre for Healthy Lifestyles established in December 1997. The centre has developed a vertical structure embracing the entire country. At present, it coordinates health promotion activities implemented by its 14 *oblast*-level, 2 city-level, and 40 *rayon*-level branches, 242 health strengthening centres, over 500 health promotion rooms for advice on prevention, healthy lifestyles and child health, and specialized medical rooms. National and regional level coordination committees on health protection have been created by the government and *oblast* and city administrations; health promotion working groups are also being set up.

Preventive strategies with a particular focus on children, adolescents and youth are an important area of activities. The healthy lifestyles service includes 16 500 teachers, 5000 specialists providing services and counselling to children and adolescents about abuse of addictive substances and prevention of sexually transmitted diseases and other infections, and 2500 health professionals working on prevention of micronutrient-related conditions.

The National Centre for Healthy Lifestyles collaborates closely with *oblast* and city health departments to increase the role and capacity of primary health care in health promotion. In order to improve and standardize health education, protocols have been introduced at primary health care level for disease prevention, reduction of risk factors and health promotion. Approximately 70% of primary health care workers carry out health promotion activities. The following programmes are implemented at the national and regional level and financed by republican and local funds:

- prevention of alcohol and tobacco consumption, drug abuse, chronic and communicable diseases, sexually transmitted infections and HIV/AIDS, accidents and poisonings;
- promotion of physical activity, healthy nutrition and reproductive health.

The public funds allocated to the promotion of healthy lifestyles have increased significantly over the last few years (Table 5.1). However, 85% of the budget covers administrative costs, including salaries, corporation taxes and rent.

**Table 5.1**

Funding for the healthy lifestyles programme (million tenge), 2004–2009

	2004	2005	2006	2007	2008	2009
Republican budget transfers	33.5	40.0	88.5	81.6	51.6	81.7
<i>Oblast</i> budgets	149.0	196.0	168.2	199.4	684.6	744.0
Total	182.5	236.0	256.7	281.0	736.2 <sup>a</sup>	825.7 <sup>a</sup>

Source: Dikanbayeva, 2010.

Note: <sup>a</sup>Including health promotion funds from the Ministry of Culture and Information and the Ministry of Labour and Social Protection.

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” has a strong focus on promoting healthy lifestyles through a comprehensive intersectoral approach. Key interventions envisaged by the programme (President of Kazakhstan, 2010) include:

- introduction of new approaches to health protection and prevention activities, including patient schools, initiative clubs, crisis centres, volunteers, training of leaders and trainers within the community, creation of public councils and associations;
- creating incentives and conditions for the population to pursue healthy lifestyles, including through the construction of sports grounds, the expansion of community-based sports clubs in cities and villages, an increase in mass sport activities, education on healthy lifestyles, and an increased involvement of the mass media.
- encouraging employers to provide conditions for their employees to engage in healthy lifestyles and making employers responsible for prevention and screening of employees;
- creating conditions for the active participation of NGOs in health promotion activities.

## 5.2 Primary/ambulatory care

Although Kazakhstan was the setting of the Alma-Ata Declaration of 1978, which emphasized the centrality of primary care to the operation of effective, efficient and equitable health services (WHO, 1978), this principle was neglected for a long time, with a higher priority allocated to inpatient facilities. In the 1990s a dramatic reduction of outpatient services occurred, following the introduction of user fees for most diagnostic services and the necessity to purchase outpatient pharmaceuticals. State-owned primary health care facilities

suffered from years of underinvestment. This situation changed significantly in the 2000s. Primary health care facilities were legally and financially split from hospitals, providing them with greater autonomy to manage their resources and increase efficiency.

The National Programme for Health Care Reform and Development 2005–2010 identified the following development priorities for primary health care (Ministry of Health, 2004):

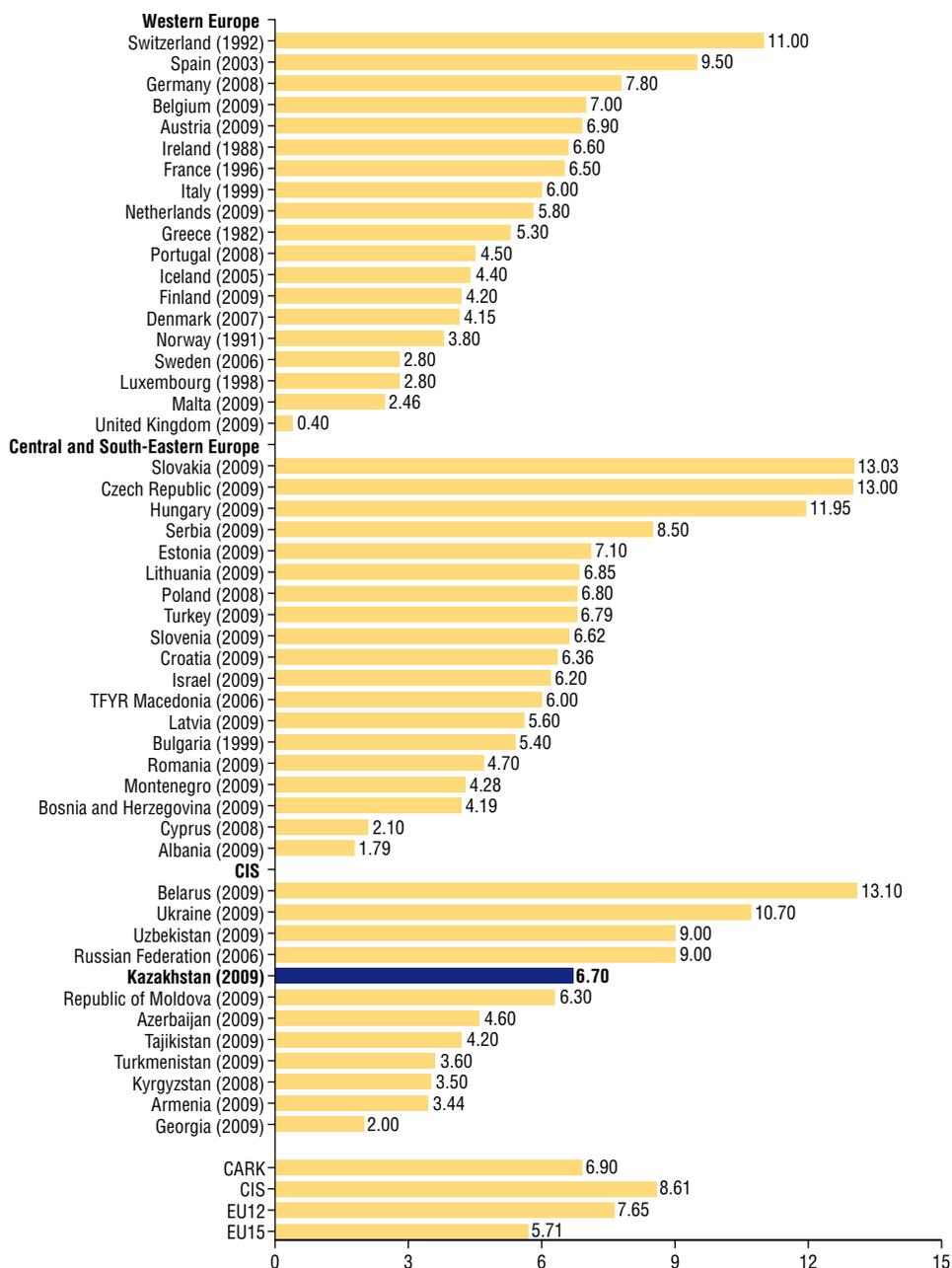
- establishment of general practice and transition to family medicine principles;
- introduction of new incentive-based payment methods, such as capitation payment adjusted by the volume of services;
- increasing salary rates and introducing special benefits for rural health workers;
- training and retraining primary health care workers;
- introducing free choice of primary health care providers.

While the volume and range of primary health care services included in the State Guaranteed Benefits Package are determined nationally by the Ministry of Health, primary health care delivery is administered by *oblast* health departments and funded from local budgets.

In line with the health reform programme, the infrastructure of primary health care has been upgraded, particularly in rural areas, according to the state norms for health facilities and the State Programme of Developing Rural Areas in 2004–2010. In 2009, 612 primary health care facilities were renovated through local budget allocations (11 billion tenge). The salary base rate for primary health care workers was increased in 2007 to 10 890 tenge (Government Decree No. 1400 of 29 December 2007). However, the shortage of qualified personnel remains one of the major problems in the primary health care sector, particularly in rural areas where retiring health workers are not being replaced. According to data of *oblast* and city health departments, in 2009 the primary health care system lacked 6700 health workers, including 2000 in rural areas. The number of outpatient contacts per person per year, at 6.7 in 2009, was close to the CARK average of 6.9 (Fig. 5.1).

**Fig. 5.1**

Outpatient contacts per person in the WHO European Region, latest available year (in parentheses)



### 5.2.1 Urban areas

The delivery of primary care differs between rural and urban areas. Urban polyclinics provide both primary and secondary ambulatory care. They are either free-standing institutions or located in hospitals as outpatient departments. City polyclinics are large organizations with approximately 10–20 medical specialties, as well as diagnostic and laboratory services. In the Soviet period, patients were registered with a doctor who covered their home address. Now, patients have the right to choose their primary health care provider.

The creation of mixed polyclinics (serving both adults and children) is encouraged by the Ministry of Health, and their number is increasing. However, there are still many specialized polyclinics that serve only adults or children, or that only provide reproductive health services for women. Between 2005 and 2009, the number of family and physician ambulatories in urban areas decreased, as they were replaced by mixed polyclinics, while the number of general practitioners increased (Table 5.2).

**Table 5.2**

Primary health care organizations in urban areas, 2005–2009, absolute numbers

	2005	2006	2007	2008	2009
Number of family and physician ambulatories	227	211	101	111	79
Number of general practitioners	730	460	719	836	837

Source: Ministry of Health, 2011a.

### 5.2.2 Rural areas

In 2009 Kazakhstan had 7660 rural settlements with a population of 7.4 million people. Health services for the rural population were provided by 1718 rural physician ambulatories, 163 *feldsher*-midwifery posts (FAPs) and 3847 medical posts.

Rural physician ambulatories (SVAs) usually comprise an internist, a paediatrician, a nurse and a midwife, and sometimes a surgeon and a dentist. Physicians working in these clinics visit patients, receive referrals from the *feldsher*-midwifery posts and provide basic primary health care.

The FAPs report to SVAs and are staffed with *feldshers*, physician assistants and/or midwives. During the Soviet period, the FAPs were the first point of contact with health professionals for the rural population. The staff provided simple curative care, antenatal and postnatal care (deliveries were referred

to the nearest hospital), undertook basic disease prevention activities such as immunization and health education, and dispensed medication prescribed by doctors. Doctors from the nearest physician clinic, polyclinic or *rayon* hospital visited these posts regularly. The FAPs served populations of about 700–1000 people. During the 1990s this system disintegrated, leaving many FAPs and *feldsher* posts in poor condition. In 2006, the Ministry of Health introduced a new type of rural health institution based on the FAPs: medical posts. These are larger than FAPs and encompass a wider range of services. By the end of 2009 there were 3847 medical posts in the country (Table 5.3).

**Table 5.3**

Rural primary health care facilities, 2005–2009, absolute numbers

	2005	2006	2007	2008	2009
SVAs	1 241	1 375	1 565	1 656	1 718
FAPs	1 287	1 013	209	56	72
<i>Feldsher</i> posts	2 738	1 813	481	91	91
Medical posts	0	1 229	3 403	3 896	3 847
Nurses and <i>feldshers</i> in rural areas operating without affiliation to health facilities	817	621	392	352	322

Source: Ministry of Health, 2011a.

The provision of high-quality health care in rural areas is one of the main challenges facing the Kazakh health system. Rural health care suffered disproportionately from severe budget cuts in the years after independence. Until recently, some rural facilities were not supplied with pharmaceuticals and there was a poor service for maintenance and repair of medical equipment. The percentage of rural health facilities that had equipment and supplies envisaged by national standards for primary health care in 2009 was 35% for medical posts, 44% for FAPs and 39% for SVAs. In addition, 247 buildings did not meet seismic standards and were considered by the Ministry of Health to be in need of upgrading or demolition.

Lack of health workers in rural areas is another challenge. The national and local governments have undertaken significant measures to address this problem. The *oblast* governors have introduced social benefit packages for new specialists arriving in rural areas, including start-off funds for transportation and accommodation (200 000–300 000 tenge), allocation of land at beneficial terms, and benefits related to utility costs, transportation and nurseries. Over 600 new physicians have moved to rural areas in the last few years. However, in 2009 there was still a shortage of 2000 physicians in rural areas.

Other problems relate to access to rural health services, due to the lack of public and private transport between dispersed villages and the central town of the district. In order to improve access to health care in rural and remote areas, the Ministry of Health supported the development of telemedicine, allowing specialists to organize long-distance conferences for diagnosis and counselling. Since 2004 the Ministry of Health has implemented the investment project Development of Telemedicine and Mobile Medicine in Rural Health Care with the aim of improving the accessibility of highly specialized care in rural and remote areas. By 2010, telemedicine had been introduced in all 14 *oblasts* of the country.

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” aims to improve the accessibility and quality of primary health care. The programme envisages a significant increase in primary health care delivered by general practitioners, the development of mechanisms to reduce inpatient care and reallocate saved resources to primary health care and disease prevention, and the improvement of benefit plans for health workers, particularly in rural areas (President of Kazakhstan, 2010).

### 5.3 Specialized ambulatory care/inpatient care

Specialized ambulatory care is provided by polyclinics and general hospitals. Tertiary care requiring advanced diagnostic, treatment and rehabilitation technologies is provided in designated health facilities (President of Kazakhstan, 2009).

Secondary and tertiary care facilities are divided into the following types:

*Polyclinics* are free-standing institutions or located in hospitals as outpatient departments, offering a range of primary and secondary care services. City polyclinics have their own manager and usually their own staff, independent from the hospital system. Most polyclinics belong to the public sector and many have beds that can be used for day care or longer admissions.

*Rural village hospitals (SUBs)* are small rural hospitals with about 20–25 beds, used for basic emergency and secondary care, maternity and outpatient care. They form the foundation of rural inpatient care. Many hospital buildings, however, have deteriorated badly and there is outdated equipment and limited availability of drugs. Between 1991 and 1997, the number of SUBs decreased

from 830 to 208 (Kulzhanov & Healy, 1999). In 2009 there were 172 SUBs left. SUB closures have reduced access of the rural population to secondary health care (Ministry of Health, 2011a).

*Central rayon hospitals (CRBs)* are located in the largest town of the *rayon* and have usually 100–300 beds. They are staffed with a range of specialists and many also house a polyclinic. In 2006–2008 CRBs were provided with advanced diagnostic equipment. However, due to the lack of trained personnel, spare parts and supplies, the expensive equipment has not been used to its full capacity.

*Oblast and city hospitals* have approximately 600–1000 beds and offer a wider range of specialties and more advanced technology. These are usually located in the main town of the oblast.

*Specialized hospitals* are numerous, as many disease categories and population groups are treated in separate hospitals, including children's and maternity hospitals and specialized hospitals for cardiology, TB, psychiatry, neurology, oncology and skin–venereal diseases.

*National (republican) hospitals* and research institutes provide tertiary care, conduct research, coordinate national programmes, and serve as clinical bases for medical students. They are mostly located in Almaty, although their numbers are increasing in the capital Astana, and include research institutes for cancer, obstetrics and gynaecology, paediatrics, psychiatry and TB. The National Medical Holding, established in Astana in 2009, includes a medical university and five national research centres providing tertiary care: the National Research Centre for Mother and Child Health, the National Children's Rehabilitation Centre, the National Diagnostic Centre, the Scientific Centre of Neurosurgery, and the Scientific Research Institute of Emergency Care. It was planned to complete the construction of another facility in 2011: the Republican Scientific Centre for Cardiac Surgery.

The major characteristics of the current hospital system in the country are:

- high costs (more than half of public health expenditure is allocated to hospitals);
- the use of outdated norms for planning hospital infrastructure: the ratio of beds per population is the key norm against which all other planning norms are set, leading to an inefficient use of resources;
- narrow specialization of hospital care, with a vast network of highly specialized clinics;

- excessively long stays in hospital, in many cases without any rationale;
- informal out-of-pocket payments for better quality of care.

Indeed, in many hospitals quality of care remains low. In 2009, with support from the World Bank, the accreditation of 1404 health institutions from both the public and private sector was carried out. The accreditation demonstrated low compliance with national standards, as only 8 institutions were given accreditation for the full period of three years; 1328 institutions received accreditation for a one-year period and 13 institutions were not accredited (Ministry of Health, 2009a).

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” envisages a comprehensive set of measures for improving the efficiency and quality of hospital care. Key areas include improving hospital performance, development of general hospitals with specialty departments, and expansion of diagnostic and treatment technologies. One of the ways to achieve a more efficient use of resources is an increased use of day care. The number of day-care outpatients increased from 278 813 in 2005 to 445 145 in 2009 (President of Kazakhstan, 2010).

## 5.4 Emergency care

Emergency care posts provide a 24-hour on-call service in free-standing or hospital-based ambulance stations. The staff consists of physicians, *feldshers* and nurses, with specialist back-up, including cardiologists. When patients call emergency services, a physician attends (except in simple cases) and decides whether the patient can be treated at home, or should be taken to a polyclinic or a hospital. In 2009 there were over 5 million ambulance calls, out of which 581 000 (11%) were referred to primary health care. Post-treatment information is sent to the patient’s primary care physician. In 2009 the emergency care service in Kazakhstan had 40 ambulance stations and 208 emergency care departments. In 2009, medical staff working in emergency care included:

- general physician teams (531);
- paediatric teams (186);
- *feldsher* teams (1299);
- specialized care teams (348), including: cardiology teams (111), psychiatric teams (37), intensive care teams (160) and other teams (40).

Efforts are currently being undertaken to modernize the emergency services. In Almaty, emergency services were equipped with new information technologies and computerized dispatchers, based on the Specialized Medical Information System for Emergency Care (“MISS-Emergency”), a software programme developed in the Russian Federation. The upgrading resulted in a four- to five-fold reduction of call times (reduced on average to less than one minute), an increase in the number of calls answered, and an overall improvement in the quality of emergency services.

While emergency care is improving, a number of serious problems still need to be addressed, including insufficient financing, outdated equipment, and poor integration between primary health care and emergency services. Emergency posts have poorly maintained ambulances or an insufficient numbers. They also experience fuel shortages, and a lack of medicines and equipment. In an emergency, patients may have to be transported a long distance, as not all hospitals provide emergency care, or not at all times. According to Ministry of Health standards, the equipment needs of emergency care in 2009 were met to 70%; sanitary aviation (transport patients by plane or helicopter) needs to 85%, and staffing 76.5%. The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” aims to improve emergency care by upgrading outdated equipment and facilities, improving logistics and management, and bringing clinical practice in line with international, evidence-based standards (President of Kazakhstan, 2010).

## 5.5 Pharmaceutical care

Since 2000, the government has actively promoted the development of the pharmaceutical market with Kazakhstan becoming one of the most dynamic pharmaceutical markets in the former USSR. These changes are driven by the high speed of economic development, the exemption of pharmaceuticals from value added tax, and low political risk for investors. In 2008 the turnover of drugs in the pharmaceutical market in Kazakhstan was US\$ 800 million, or 0.1% of the world market (BTA, 2008). The share of domestic producers constituted 10%, and 90% of pharmaceuticals were imported. The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010) aims to increase the share of domestic drug manufacturing to 50% by 2015. In 2009, the government approved the construction of a new pharmaceutical plant in Astana. The government also envisages providing substantial support to local pharmaceutical manufacturers,

ensuring implementation of international best practices and the high quality of domestically produced drugs. The government is also considering financial support in the form of preferential loans, leasing arrangements and procurement contracts with manufacturers to cover the needs of the State Guaranteed Benefits Package. Other envisaged measures include equipping the laboratories of the National Expertise Centre for Drugs, Medical Supplies and Medical Equipment and training national experts.

In recent years, the distribution system for pharmaceutical and medical products has been reformed. The new drug distribution system intends to cover the needs of the State Guaranteed Benefits Package and will operate within the framework of a public–private partnership (Government of Kazakhstan, 2009). Envisaged are the creation of a transparent procurement system, a logistic infrastructure for transportation and warehouses, and the introduction of an automated drug distribution system. One of the aims of the new system is to improve drug supply in remote and rural areas. The existing storage areas in Kazakhstan fail to meet modern standards. Currently, work is being carried out on the establishment of specialized pharmaceutical centres to function as modern pharmaceutical warehouses; this is estimated to cost US\$ 15 million.

By 2008 the number of pharmacies in the country had increased 1.7 times compared to 2001, (Medical Information Centre, 2009). In 2010, there were 9990 pharmacy organizations, including 5956 pharmacies, 844 pharmacy posts, 1184 pharmacy kiosks and 1390 pharmaceutical warehouses (Table 5.4). Most pharmacies are in private hands (Table 5.5).

A list of “socially significant and hazardous diseases” has been defined by Government Resolution No. 468 of 30 March 2000. The list identifies groups of patients with “socially significant” diseases (oncology, oncohaematology, psychiatric diseases, drug abuse, diabetes (sugar and non-sugar), rheumatism, lupus erythematosus, localized conjunctive tissue diseases, Bekhterev disease, cerebral spastic infantile paralysis, inherited degenerative diseases of nerves and muscles, demyelinating nervous system disease, epilepsy, chronic hypocorticism, Addison disease, mucoviscidosis, phenylketonuria, psoriasis, weeping eczema, inborn ichthyosis, rachitis, iron-deficiency anaemia, bronchial asthma, myocardial infarction (first 6 months), and conditions after surgery on vital organs) and “hazardous infections” (TB, psychiatric and venereal diseases, leprosy, HIV/AIDS and quarantine infections), which are eligible for free-of-charge outpatient pharmaceuticals. The outpatient drugs benefits package has been gradually expanded since its introduction in 2005 to cover more groups of patients and diseases. In 2009 *oblast* budgets allocated 3.7 billion tenge for free-of-charge or reduced outpatient drugs.

**Table 5.4**

Pharmaceutical entities, 2010, absolute numbers

	Pharmaceutical/medical supplies manufacturers	Pharmaceutical warehouses	Pharmacies	Pharmacy posts	Pharmacy kiosks	Optician shops and departments	Medical equipment/supplies shops	Total
Akmola	4	33	243	68	42	21	1	412
Aktobe	7	53	288	21	13	21	3	406
Almaty	9	110	570	88	114	17	1	909
Atyrau	1	24	215	3	24	13	5	285
East Kazakhstan	9	104	641	34	76	47	11	922
Zhambyl	5	42	224	46	42	39	2	400
West Kazakhstan	1	27	164	3	18	8	3	224
Karaganda	6	48	444	29	84	39	9	659
Kostanai	2	78	374	42	3	21	11	531
Kyzylorda	0	55	187	31	22	13	1	309
Mangystau	0	25	159	10	8	15	2	219
Pavlodar	3	41	308	122	0	35	6	515
North Kazakhstan	4	50	228	153	35	9	0	479
South Kazakhstan	18	182	894	62	99	20	14	1 289
Almaty city	59	389	673	106	520	45	3	1 795
Astana city	3	129	344	26	84	39	11	636
<b>Total</b>	<b>131</b>	<b>1 390</b>	<b>5 956</b>	<b>844</b>	<b>1 184</b>	<b>402</b>	<b>83</b>	<b>9 990</b>

Source: Ministry of Health, 2011a.

**Table 5.5**

Pharmacies, December 2010, absolute numbers

	State		Private		Total
	Urban	Rural	Urban	Rural	
Akmola	17	7	160	59	243
Aktobe	26	9	208	45	288
Almaty	15	17	255	283	570
Atyrau	0	0	144	71	215
East Kazakhstan	18	7	448	168	641
Zhambyl	10	1	124	89	224
West Kazakhstan	6	3	120	35	164
Karaganda	5	6	390	43	444
Kostanai	16	5	242	111	374
Kyzylorda	0	0	105	82	187
Mangystau	7	0	117	35	159
Pavlodar	4	0	258	46	308
North Kazakhstan	19	16	130	63	228
South Kazakhstan	32	24	452	386	894
Almaty city	34	0	639	0	673
Astana city	29	0	315	0	344
<b>Total</b>	<b>238</b>	<b>95</b>	<b>4 107</b>	<b>1 516</b>	<b>5 956</b>

Source: Ministry of Health, 2011a.

A number of associations have been established in the pharmaceutical sector, representing professional and business interests of foreign and domestic pharmaceutical producers and other actors involved in Kazakhstan's pharmaceutical market. These include the Association of Representatives of Foreign Pharmaceutical Companies in Kazakhstan (38 members), the association of pharmaceutical and medical producers Medpharm Kazakhstan (39 companies), the Association for Support and Development of Pharmaceutical Activity (205 companies and territorial branches), and the Association of Importers of Pharmaceutical Products, which involves distributors.

## 5.6 Rehabilitation and long-term care

According to the Code on People's Health and the Health Care System, rehabilitation and long-term care are provided to patients with inborn and acquired diseases, as well as to patients with acute or chronic diseases and injuries. Legislation concerning rehabilitation and long-term care also includes the Law on Social Protection of Handicapped and Disabled of 21 June 1991, and the Law on Social, Medical, and Pedagogical Support for Children with Limited Capabilities of 11 July 2002. Resolution No. 88P of the Ministry of Labour and Social Protection of 2 April 1998 specified categories of the population eligible for subsidized supply with pharmaceuticals, prosthetic and orthopaedic products, hearing aids and means for therapeutic exercises.

Rehabilitation and long-term care are coordinated by the Ministry of Health, the Ministry of Labour and Social Protection and the Ministry of Education, with the involvement of NGOs and public associations. The costs are covered from the *oblast* or republican health budgets, depending on the administrative level of the provider. The National Research and Practice Centre of Social Adaptation and Professional Rehabilitation of Children and Adolescents with Developmental Deficiencies (Centre SATR) has provided medical and social aid to children with developmental deficiencies for more than a decade. In many *oblasts*, NGOs are providing assistance to parents of children with special needs, in collaboration with pedagogues, health professionals and psychologists. The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” envisages improving rehabilitation and long-term care, including through the creation of a network of rehabilitation facilities and day-time hospitals, the introduction of training standards for medical staff, increasing the capacity of human resources, and introducing high-technology rehabilitation.

## 5.7 Palliative care

The Code on People's Health and the Health Care System specifies the provision of palliative care (President of Kazakhstan, 2009) as follows:

- palliative care is provided under the guidance of physicians to terminally ill patients in the final stage of their illness in specialized units of independent medical organizations (hospices) or in their home;
- palliative care by nurses is provided in cases that do not require guidance by physicians in specialized units, independent organizations (nursing homes) or patients' homes.

A survey conducted in 2009 by the “healthy ageing” project in collaboration with international agencies suggested that inadequate access of older people to specialized and tertiary care is one of the causes of high morbidity rates among older people. The survey confirmed that palliative care is only at an early stage of development and in high demand. Lack of palliative care facilities was identified by respondents as one of the major problems. Hospice facilities are funded by the government to 80%, while the remaining funds are provided by international organizations (Aman Saulyk, 2010b).

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” envisages several measures to strengthen palliative care and develop gerontological services, including:

- development of treatment standards and protocols for palliative and nursing care in line with international standards;
- development and introduction of a training programme on palliative care for physicians and paramedical health personnel;
- improvement of health care for older people (gerontological and geriatric health care);
- using a comprehensive approach in addressing medical, biological, social and psychological needs of older people.

## 5.8 Mental health care

According to Ministry of Health data, in January 2010 there were 295 760 registered psychiatric patients, equivalent to 1.9% of the population, out of whom 27% were officially recognized as disabled (Aman Saulyk, 2010b).

Kazakhstan formally guarantees access to a wide range of mental health care services, including diagnosis, treatment, prevention and rehabilitation. It also envisages reintegrating mentally ill persons into employment by creating training and employment opportunities, and mandatory quotas for employment of the mentally disabled (Appelbaum, 1998). These legal provisions, however, have not been comprehensively put into practice. Children with physical or mental disabilities are often confined to specialized institutions and much of the legislation remains declaratory and without financial support from the state. Mental health care thus faces a number of challenges, including lack of qualified personnel, exclusion of people with mental health problems, limited employment opportunities, and unaffordable drugs and medical services.

Psychiatric diseases have been included in the list of “hazardous diseases” defined by Government Resolution No. 468 of 30 March 2000 and mental health patients are eligible for free-of-charge outpatient pharmaceuticals. The Code on People’s Health and the Health Care System (President of Kazakhstan, 2009) provides the current legal base for psychiatric care, setting out:

- provisions for voluntary and compulsory referral to psychiatric care;
- restrictions for people with psychiatric disorders in terms of professional work and occupation;
- rights of people with psychiatric disorders;
- procedures for diagnosing and treating people with psychiatric disorders;
- delivery of psychiatric care and social protection by the state;
- hospitalization and discharge procedures;
- safety measures.

## 5.9 Dental health care

Dental health care faces serious problems in terms of management and organization. Most dental care is now provided in the private sector (Table 5.6). The largest and best-equipped dental clinics are located in Almaty and Astana, including government-owned republican facilities and privately owned clinics, but in general the accessibility and quality of dental health services is poor, particularly in rural areas. Prevention is inadequate, particularly for children. According to official data, 30% of children in 2008 had caries and 45–55% had suppurative inflammations. Out of 7800 schools, only 340 (4.5%) had dental examination rooms (Chief Dentist, 2009).

**Table 5.6**

Health organizations providing dental care, 2009

	Private, absolute number	Private, % of total	Public, absolute number	Public, % of total
Dental polyclinics	254	93	20	7
Dental examination rooms	294	30	672	70
Private solo practice	554	100	–	–
<b>Total</b>	<b>1 794</b>	<b>72</b>	<b>692</b>	<b>28</b>

Source: Chief Dentist, 2009.

Local production of dental products and supplies is limited and mostly consists of locally produced dental cements and fillings. The quality of domestically produced laboratory products is considered to be poor and all sophisticated equipment, instruments and supplies are imported (Comercecan, 2004). The Government requires that all dental products imported into the country are registered with the Ministry of Health. After registration, the products are entered into the List of Medical Products, Registered and Permitted for Medical Use in the Territory of Republic of Kazakhstan. The registration is valid for 3–5 years, depending on the type of product; after this period the product must undergo re-registration (Comercecan, 2004).

## 5.10 Alternative/complementary medicine

Alternative or complementary medicine was formally recognized as a specialty in the USSR in 1977 and was allowed as part of medical rehabilitation. After Kazakhstan gained its independence in 1991, various complementary therapies have become more popular, due to a generally supportive attitude of the authorities, the drastic deterioration of the state-run health system, and the difficult economic conditions that made people search for cheaper treatment (Penkala-Gawecka, 2002).

Although the Code on People's Health and the Health Care System excluded alternative medicine from the official list of medical professions, it can still be practised based on certification by “competent state bodies” (President of Kazakhstan, 2009). Certified healers are included in the National Register of Healers of the Republic of Kazakhstan.



## 6. Principal health reforms

After gaining its independence in 1991, Kazakhstan was faced with its inability to maintain an extensive and inefficient health system overly oriented towards hospital care. As in some other countries of the former USSR, initial health reforms were chaotic and volatile. A lack of trained administrative and health management personnel, and frequent changes in the organizational structure of the health system impeded progress in health reforms. Since 1996 the Ministry of Health has changed its internal structure several times, with Ministers of Health and their teams changing on average every two years. In 1999 the Ministry of Health was abolished as an independent administrative body and subsumed under larger ministries, to be restored in 2002.

Health financing reforms saw the creation of the national MHIF in 1996, which was operated as a parallel structure along with the previous system of decentralized funding and administration of health organizations. After abolition of the MHIF in 1999, the health system was funded from the republican and *oblast* level, but in 2001, in line with broader administrative decentralization, health financing and administration were decentralized to the *rayon* level. These changes resulted in the creation of inefficient and difficult to manage micro-health systems, negatively impacting the overall efficiency of the health system and access of the population to health services. At present, health funds are pooled at the national and *oblast* level, administered by the Ministry of Health and *oblast* health departments respectively.

The structure of the peripheral health system has changed from a disintegrated *rayon*-level system rigidly subordinated to the national level, to an integrated *oblast*-level system with greater autonomy, and again to the current split of hospital and primary health care between national and *oblast* levels. Primary health care was first strengthened, then discredited, and then promoted again. The medical education system has initiated comprehensive reforms to reflect the needs of the health system for practitioners of family medicine and general practice. Efforts are also being undertaken to introduce

evidence-based medicine approaches in clinical practice. In addition, new national stakeholders such as the National Medical Holding have become important actors in the health system.

## 6.1 Analysis of recent reforms

Health reforms in Kazakhstan since 1995 have been driven by several factors: the deteriorating health of the population, a collapsing health budget, increasing out-of-pocket payments by users (both formal and informal), an overemphasis on hospital care, and a dissatisfied public. The reforms have also been driven by external donors and agencies. However, the reform process was characterized by considerable fragmentation, resulting from inconsistencies in implementation at *oblast* and *rayon* level, and the lack of national policy coordination.

Due to the severe economic crisis resulting from the collapse of the USSR, economic reforms took precedence in the first years of transition. Major health reforms have been initiated in the years since 1995, starting with attempts to introduce mandatory health insurance and to implement changes regionally, in selected pilot *oblasts* (Zhezkazgan and Semipalatinsk, which were later merged into Karaganda and East Kazakhstan *oblasts* respectively).

The MHIF was introduced in 1996. However, due to the deficits arising from smaller than expected payroll tax contributions and missing transfers for socially vulnerable groups from *oblast* administrations, the fund defaulted on contracts with health service providers. Following the economic crisis in Russia in 1998, social benefits for all groups of the population were abolished, a strict financing scheme was reintroduced according to state budgets, and extra-budgetary funds, including the MHIF, were discontinued. Since 1999, budgetary sources from both the national and local level have again become the single public source of health financing.

The nationwide implementation of reforms that was attempted in 1999–2000 largely failed, due to inadequate technical capacity, a weak legislative framework and lack of advocacy. This led to a roll-back of many aspects of health reform in 2001–2004, particularly in primary health care. The decentralization of funding to the *rayon* level was another factor that seriously hampered reform efforts. A new phase of reforms started in 2004, when the government and the newly established Ministry of Economy and Budget Planning initiated a substantial increase of the health budget and a drive towards using health funds more efficiently.

**Box 6.1****Health reform milestones**

1991	Private practice was permitted.
1992	The Concept on Health Care Reform was adopted, calling for the establishment of mandatory health insurance, an increased role for primary health care, decentralization of administration, establishment of private practice, patients' right to choose health care providers, and improved training for health professionals.
1995–1999	Implementation of health reform in two pilot <i>oblasts</i> .
1996	The MHIF with payroll tax funding was introduced (but then abandoned in 1998).
1997	The President's Strategy Kazakhstan 2030 set out a broad social policy agenda, including health policy aims, such as the development of healthy lifestyles and other areas of health promotion and disease prevention.
1998	The government set up the National Centre for Healthy Lifestyles and endorsed the first National Healthy Lifestyle Programme.
1998	The Law on the Health of the Nation was adopted. It provided an extensive overview of health issues in the country and identified priorities for change. Strategies and more than 20 quantifiable, albeit broad, goals were set across a large number of population health areas, together with ways of achieving them by 2008.
2004	The National Programme for Health Care Reform and Development 2005–2010 was adopted.
2005–2010	Implementation of the National Programme for Health Care Reform and Development 2005–2010, which aimed to improve the quality and efficiency of health services, create a new regulatory framework, ensure equitable access to health services, and achieve a shift towards primary and outpatient care.
2009	Adoption of the Concept on the Unified National Health Care System, based on free choice of provider and the development of competition and transparency in the health system.
	Adoption of the Code on People's Health and the Health Care System.
2010	Adoption of the State Health Care Development Programme for 2011–2015 "Salamatty Kazakhstan".

The National Programme for Health Care Reform and Development 2005–2010 was adopted in September 2004. The programme had been developed as part of the broader development strategy Towards a Competitive Kazakhstan, a Competitive Economy and a Competitive Nation, adopted by the government in March 2004. The National Programme for Health Care Reform

and Development aimed to improve access to and the quality of health services, and to make them more efficient. It identified the following priority tasks:

- a shift towards primary health care and from inpatient to outpatient care;
- achieving international standards of health care through the use of new technologies and advanced treatment methods;
- strengthening maternal and child health;
- creating a system of independent health expertise;
- training health professionals and health managers;
- prevention, diagnosis and treatment of “socially significant diseases”;
- improving health facilities and equipment.

The development and implementation of the National Programme for Health Care Reform and Development 2005–2010 ensured a more consistent approach to health reforms and stabilized the previously fluid health policy environment. A new health financing system was set up that included pooling of funds at the *oblast* level, establishing the *oblast* health department as the single-payer of health services and improving the health purchasing mechanisms through a new provider payment system. These health financing reforms created conditions for greater competition and management autonomy. The new provider payment systems (capitation payment for primary health care, a case-based payment system for hospital care and a partial fund-holding system for outpatient specialty care) introduced the principle of payment for performance in the health system.

Between 2005 and 2009 the country made significant progress in introducing the principles of evidence-based medicine to policy-makers, academics and health care providers. There is increasing recognition of evidence-based medicine as a core prerequisite of clinical practice, education and research, and of the importance of its institutionalization and implementation.

Within the framework of the National Programme for Health Care Reform and Development 2005–2010 (Ministry of Health, 2004) the following key goals were achieved by 2010:

- the Code on People’s Health and the Health Care System was adopted in 2009;
- minimum standards were introduced for the State Guaranteed Benefits Package;
- programmes were developed and introduced in the following areas: maternal and child health, blood transfusion services, HIV/AIDS,

cardiology and cardiac care, healthy lifestyles, sanitary protection of state borders, primary health care, drug provision, standardization of health facilities, establishment of a unified national health system, budgeting, training of health managers, data analysis, sanitary-epidemiological services and health care risk assessment (President of Kazakhstan, 2010).

However, by 2009, not all targets set forth by the programme had been met. New financial mechanisms aimed at improving performance, for example, had not yet been introduced in full (Accounts Committee, 2009).

A number of fundamental issues still need to be addressed in line with previous health reforms, including:

- the need for additional health funding, particularly for primary health care and the State Guaranteed Benefits Package;
- low efficiency of the health system, with much health financing directed at maintaining health care infrastructure;
- insufficient use of the potential of the provider payment system for primary health care, due to a lack of funds to cover its bonus component, which was aimed at creating incentives for primary health care providers to improve quality of care and expand the range of services;
- an insufficiently developed legal base of the health system;
- poor training of health managers;
- remaining inequities in access to health services across regions, particularly in relation to rural versus urban areas (President of Kazakhstan, 2010).

As mentioned above, another obstacle to designing and implementing consistent health reforms in the first two decades after the country's independence were frequent changes in the leadership of the Ministry of Health.

## 6.2 Ongoing and future developments

The next stage of health reforms has been conceptualized in three major documents: the Strategic Development Plan 2020, the 2009 Concept on the Unified National Health Care System and the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”, adopted by Presidential Decree No. 1113 of 29 November 2010.

### 6.2.1 Strategic Development Plan 2020

The Strategic Development Plan 2020, approved by Presidential Decree No. 922 of 1 February 2010, prioritizes improvements in the accessibility and quality of health services. The plan aims to revise health care investment plans, introduce more efficient health financing and provider payment systems, and establish an efficient drug procurement system. Healthy lifestyles and joint responsibility of the state and the population for health are envisaged as an integral part of overall health policy. Table 6.1 summarizes the health-related objectives outlined in the Strategic Development Plan 2020.

### 6.2.2 The Concept on the Unified National Health Care System

In 2009 the Ministry of Health adopted the Concept on the Unified National Health Care System. The Concept sets out the strategic goal of developing a unified health system, based on the free choice of providers and the development of competition and transparency in the health system. The following key tasks were identified for the implementation of the concept:

- creation of a single-payer at national level for services under the State Guaranteed Benefits Package for hospital and hospital-substituting care, with provider reimbursement for actual expenditures;
- introduction of a new model for funding the State Guaranteed Benefits Package, based on pay-for-performance principles;
- introduction of advanced health management approaches;
- development of electronic health information systems;
- introduction of accreditation and internal audit processes for health facilities and creation of a review mechanism through independent medical experts;
- development of a differentiated reward system for health workers based on performance.

Government Decree No. 1174 of 4 August 2009 approved the Unified National Health Care System implementation plan. In line with this plan, it was envisaged that over 5000 health managers would be retrained in 2009 (Ministry of Health, 2009h).

While certain elements of the Concept, such as the rationale for pooling hospital funds at the national level, might be disputable in view of the country's vast territory and small population, first implementation outcomes have been mixed,

due to a number of operational problems, but are generally favourable. As a result of the competition created in the health sector, in 2010, 1448 hospital beds were cut, 709 were turned into day beds, and were 944 reassigned to other specialties. The bed occupancy rate in acute care hospitals increased from 81.2% in 2009 to 91.5% in the first quarter of 2010. Furthermore, the private sector became eligible to provide health services within the State Guaranteed Benefits Package.

**Table 6.1**

## Health-related objectives of the Strategic Development Plan 2020

	By 2015	By 2020
<b>Major health indicators</b>		
Increase in average life expectancy	to 69 years	to 72 years
Decrease in maternal mortality	by 1.5 times	by 2 times
Decrease in infant mortality	by 1.5 times	by 2 times
Decrease in overall mortality	by 15%	by 30%
Decrease in TB morbidity	by 10%	by 20%
<b>Health system financing and management</b>		
Introduction of free choice of health care providers	X	
Creation of conditions for equal access to services	X	
Reduction in rates of informal payments	X	
Introduction of co-payment mechanisms	X	
Development of a system to assess the efficiency of health care investments	X	
Introduction of an effective tariff policy	X	
Creation of efficient health financing and provider payment systems		X
Creation of a modern health management system		X
Creation of mechanisms to support shared responsibility of the state and the population		X
<b>Health care delivery system</b>		
Increase in the share of primary health care services provided by general practitioners to 30% of total outpatient services	X	
Increase in the share of inpatient services provided by general hospitals rather than more specialized facilities		X
Increase in allocations to primary health care to 40% of the overall funding of the State Guaranteed Benefits Package	X	
Major health system performance indicators (bed turnover, average length of stay in hospitals) to meet international standards		X
<b>Accessibility and quality of drugs</b>		
Increase in accessibility of drugs and medical supplies, particularly in rural areas	X	
Introduction of state regulations for the price of drugs procured for state-run health facilities	X	
Introduction of an effective procurement system for drugs and medical supplies within the State Guaranteed Benefits Package		X
<b>Healthy lifestyles</b>		
Increase in physical activity among the general population	to 25%	to 30%
Increase in physical activity among children and youth	to 12%	to 15%
Decrease in smoking, drug and alcohol use	by 15%	
General acceptance of the importance of healthy lifestyles among the population		X

### 6.2.3 The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010) sets out the following principles for further reforms of the health sector:

- the integration of the health system with the general economic modernization;
- the development of strategic planning and management, effective and sustainable funding, a high-quality regulatory framework and an advanced structure for scientific, methodological and institutional development.

The programme aims to improve the health of the population, create a competitive health system, and ensure the sustainable socio-demographic development of the country. The programme identifies the following key activities for its implementation:

- increasing intersectoral collaboration on health protection;
- strengthening preventive interventions, screening programmes, and diagnosis and treatment of “socially significant diseases”;
- improving the sanitary and epidemiological service;
- improving the organization, management and financing of health services within the integrated national health system;
- improving medical and pharmaceutical education, developing and implementing innovative technologies in medicine;
- increasing the accessibility and quality of drugs provided to the population and improving the level of medical equipment in health facilities.

## 7. Assessment of the health system

Despite progress in recent years, key aspects of how Kazakhstan's health system is performing are still in need of major improvements. The government aims to improve the financial protection of the population through the State Guaranteed Benefits Package and outpatient drug benefits to vulnerable groups of the population. It has also increased public expenditure on health. However, private out-of-pocket expenditure still accounted for 40.8% of total health expenditure in 2009, potentially exposing poorer groups of the population to catastrophic expenditures on health. According to data of the Agency of Statistics, in 2008, 7.4 % of the population did not use health services because of high costs.

Despite recent investments and reforms, population health has not yet improved substantially. Health challenges include low life expectancy, high infant and maternal mortality, high rates of TB and a growing burden of non-communicable diseases. While information on amenable mortality is not readily available, five-year survival rates for patients with a primary diagnosis of cancer were low, amounting to 50.2% in 2009.

Quality of care has been recognized as an area in need of major improvements and Kazakhstan has embarked on promoting evidence-based medicine and developing and introducing new clinical practice guidelines based on WHO standards, as well as facility-level quality improvement. Preliminary results of the National Programme for Health Care Reform and Development 2005–2010 indicated progress in quality improvement, in particular with regard to maternal and child health and TB, but also a strong need for further efforts.

One of the key challenges in the country is regional inequities in health financing, health care utilization and health outcomes, although some improvements have been achieved in recent years. Between 2001 and 2008 the difference in health financing per capita between the richest and poorest *oblast* decreased from 4.2 to 2.1 times. Residents of Almaty and Astana cities have advantages in accessing health services, as these two cities host the most

advanced national clinical centres, whereas the geographical accessibility of health services in remote areas is much more challenging, considering the country's vast and scarcely populated territory. In 2009 life expectancy at birth varied between 66.21 in Akmola *oblast* and 75.74 in Astana city. There were also strong regional variations in infant and maternal mortality.

The allocative efficiency of Kazakhstan's health system is diminished by a continued reliance on inpatient care, which consumed 53.4% of total public expenditure on health in 2008, whereas primary health care only received 16%. There is also much scope for improving technical efficiency, in view of a high ratio of hospital beds per population, poor performance indicators of inpatient care, and many narrowly specialized health facilities.

As in other health systems of the region, transparency and accountability remain major challenges in Kazakhstan, as illustrated by the continued existence of informal payments for health services and a limited involvement of the public in health policy-making.

## 7.1 Stated objectives of the health system

The Code on People's Health and the Health Care System (President of Kazakhstan, 2009) specifies key objectives of national health policy, including:

- equal access to safe, effective and high-quality care;
- solidarity-based responsibility of the state, employers and citizens for maintaining and strengthening individual and public health;
- protection of mother and child health;
- provision of the State Guaranteed Benefits Package;
- prioritization of prevention;
- accessibility of health care;
- continuous improvement of quality of care;
- sanitary and epidemiological well-being.

The State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010) aims to improve population health by:

- strengthening intersectoral collaboration on health protection and promotion and ensuring sanitary-epidemiological well-being;

- increasing the accessibility and quality of health care through further development and improvement of a unified national health system, with priority given to primary health care and increasing the responsibility of individuals for their health;
- improving medical and pharmaceutical education;
- developing medical science and research, with a focus on the development and implementation of innovative technologies.

## 7.2 Financial protection

Financial protection of the population in health care is one of the key objectives of health reforms in Kazakhstan. The National Programme for Health Care Reform and Development 2005–2010 envisaged a comprehensive approach to improving the financial protection for outpatient and hospital care within the State Guaranteed Benefits Package by pooling health funds at the *oblast* level and creating a single-payer system, restructuring the health delivery system with a greater emphasis on strengthening primary health care and prevention, downsizing and restructuring the hospital sector (with the development of general hospitals and hospital-substituting services), and introducing performance-based provider payment systems, including capitated payment for primary health care, with coefficients for sex, age and geographical location.

The consistently increasing public funding of the State Guaranteed Benefits Package, the expansion of the outpatient drug benefits as part of the State Guaranteed Benefits Package to cover more vulnerable groups of the population and more diseases, and the decreased difference of per capita health financing within and across *oblasts* were major factors contributing to the improvement of financial protection of the population in recent years. Between 2004 and 2009, the financing of the State Guaranteed Benefits Package increased from 90.5 to 273.1 billion tenge, while health expenditure per capita increased from 8740 tenge in 2004 to 30 373 tenge in 2009. Furthermore, between 2001 and 2008 the difference in health financing per capita between the richest and poorest *oblast* decreased from 4.2 to 2.1 times (see Chapter 3).

Significant increases in total health expenditure in Kazakhstan were mostly due to increased public spending. However, private (mostly out-of-pocket) expenditure also increased rapidly, with its share of total health expenditure

decreasing only slightly, from 46% in 2003 to 41% in 2009. Around 99% of private expenditure on health is out-of-pocket, indicating a very low level of risk pooling in private health expenditure.

While there are no consistent and reliable data on the impact of health reforms on the financial protection of the population, occasional studies, such as the survey on *Accessibility and quality of health care provided to women in rural areas of Kazakhstan* (Aman Saulyk, 2010a), carried out in 2009 by the public association Aman Saulyk, provide some important insights. According to this survey, 17.8% of respondents reported that they could afford services requiring patient co-payments, 34.9% reported that they could only sometimes afford such services, and 44.3% reported that they could not afford such services at all. Over 35% said that they had to pay out-of-pocket to physicians in public hospitals and polyclinics (Aman Saulyk, 2010a).

In contrast, according to data of the Agency of Statistics, in 2008 only 7.4% of the population did not use health services because of high costs (Agency of Statistics, 2008). However, a nationally representative survey conducted in 2010 found that 4.1% (95% CI: 1.6–6.7%) of respondents with an episode of illness in the preceding four weeks did not consult a health professional because they were not able to afford health care, and that 28.6% made payments for obtaining health services (Balabanova et al., 2011).

### 7.3 User experiences of the health system

Kazakhstan has not yet developed a comprehensive and consistent approach to assess user experiences of the health system. Instead, sporadic studies are conducted by government agencies and NGOs, covering specific areas related to health system responsiveness. The scope and reliability of the analytical data provided through such studies vary. In recent years, however, important steps have been made to improve the health system's responsiveness to user preferences in the context of comprehensive health reforms envisaging a greater role of patients in the health system and the development of civil society in general. Basic dimensions of health system responsiveness have been included in the new Code on People's Health and the Health System (President of Kazakhstan, 2009), covering patient choice of health care providers, confidentiality of individual health information, patients' right to information about their own health, respect for the autonomy of the individual to make choices about his/her own health and medical interventions, respect for the dignity of patients, particularly those suffering from communicable diseases or

mental health problems, prevention and reduction of stigma among the general public and health workers, respect for parenthood decisions, reproductive health confidentiality, and medical ethics.

Patient choice of primary health care providers was legally introduced under the National Programme for Health Care Reform and Development 2005–2010 and has since 2010 expanded to hospital care with the development of a unified health system. The practical implementation of the patient's right to choose a health care provider, however, is at an early stage and requires further work to raise public awareness about this right and refine technical mechanisms to implement it fully. Significant investments have been made to renovate existing health facilities and build new ones, equipped with advanced treatment technologies and providing better amenities to both patients and health workers. In the area of mother and child health, significant changes have been brought about through the introduction of WHO effective perinatal care standards, requiring a greater respect to women, neonates and their families. Maternity hospitals have started reorganizing their premises, opening individual birth rooms, arranging mother and neonate rooming, allowing for partnership deliveries and family support during labour and post-partum. These changes required a significant revision of the regulatory base of mother and child health, including sanitary-epidemiological service regulations. In addition, confidential counselling on family planning issues and sexually transmitted infections, as well as anonymous HIV testing have been introduced. A new primary health care model, creating closer linkages with communities and allowing for social support of patients, has been created and is envisaged to be implemented nationally. Further improvements of health system responsiveness and the national implementation of new initiatives are among the priorities of the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan” (President of Kazakhstan, 2010).

The Committee on Medical and Pharmaceutical Activity Control (formerly the Committee on Health Services Control) has the primary responsibility for assessing health system responsiveness. The Committee is responsible for considering patient complaints on site within three days of the patient's appeal and for conducting surveys on patient satisfaction. One of the major indicators for assessing the performance of health care providers is the “total number of justified (confirmed) complaints during the reporting period compared to the preceding reporting period” (Ministry of Health, 2009b). In recent years the number of patient complaints has been increasing from year to year, amounting to 1662 in 2008 (Ministry of Health, 2009b). The increase of patient complaints can be in large part attributed to the creation of

a more transparent health system, allowing patients a larger role and greater participation. In 2008, 66% of officially registered complaints related to poor quality of received health services, 17% related to patient dissatisfaction with patient's disability certificates, and 6% related to patient dissatisfaction with the overall management and organization of health care delivery. 70% of registered complaints were found to be justified or partly justified. Of all complaints, 84% related to public health organizations and 16% to private health care providers, while 80% related to urban health organizations and 20% to rural ones. Major reasons for complaints were:

- underestimation of a case's severity, due to poor training of health workers, and neglect of their medical responsibilities;
- inadequate organization or management of health service delivery;
- lack of continuity of care across different health care levels;
- violation of physicians' ethics;
- inadequate awareness by patients of their rights to the State Guaranteed Benefit Package;
- insufficient staffing levels;
- lack of training for health workers;
- lack of processes for controlling treatment and diagnosis across the health system;
- inadequate knowledge of health legislation by health care providers;
- out-of-pocket payments for medications and health services provided within the State Guaranteed Benefit Package.

The Aman Saulyk public association is one of the few NGOs that provides data on user experiences of the health system. In 2008 the association opened a hotline in a number of larger cities in Kazakhstan, collecting data on patient satisfaction with the quality of health services.

According to data collected by the hotline in the cities of Almaty, Karaganda, Semei and Kyzylorda between January and December 2010, out of 2812 callers in the age group up to 50 years, 531 individuals complained of the poor quality of services, 99 reported that they were asked to pay for services that should have been free, 138 reported that they could not afford to buy drugs due to high prices, and 208 reported that they could not get drugs included in the State Guaranteed Benefits Package (Aman Saulyk, 2011).

The *Accessibility of health care services* study undertaken in 2008 by the Agency of Statistics using a household survey provided data on waiting times for consultations with physicians (Table 7.1).

**Table 7.1**

Waiting times for consultations with physicians, 2008

Waiting times	Total %	Urban areas	Rural areas	Male	Female
Less than ½ hour	54.5	54.4	54.7	57.6	53.0
From ½ to 1 hour	30.8	34.1	26.5	29.4	31.5
From 1 to 1 ½ hours	8.8	6.5	11.8	7.7	9.4
From 1 ½ to 2 hours	1.4	1.3	1.5	1.4	1.3
More than 2 hours	4.5	3.7	5.5	3.9	4.8

Source: Agency of Statistics, 2008.

In December 2009, the Ministry of Health established a Hospitalization Bureau under the Republican Medical Information and Analytical Centre. Since 2011, the Bureau is under the Republican Centre for Health Development. The major aim of this new body is to ensure patients' right to free choice of health care providers, and to improve accessibility and transparency of elective hospitalization within the State Guaranteed Benefits Package. The Bureau acts as an agent between outpatient and inpatient health facilities, registering and monitoring patient referrals to hospitalization, and generating data and reports. Its major functions include:

- daily recording of free hospital beds in specific regions and across the country;
- provision of information on free hospital beds to health organizations referring patients to hospitals;
- development of elective hospitalization waiting lists where beds are missing;
- daily submission of elective hospitalization information to the Republican Medical Information and Analytical Centre, *oblast* health departments, the Health Services Purchasing Committee and its territorial departments.

To facilitate this process, the Ministry of Health created a dedicated website ([www.bg.eisz.kz](http://www.bg.eisz.kz)) in 2010. Referrals of patients by outpatient providers to hospitals are registered and shown on the website with an automatic assignment of a unique patient referral code to each referral case. Physicians and patients can track elective hospitalization lists and waiting times on the internet, while the confidentiality of diagnoses and treatment are observed.

First results of the work of the Hospitalization Bureau in January–June 2010 indicate improvements in the hospitalization system: out of 258 000 referrals for hospitalization (taking account of patient's choice of health care providers), 94.6% of patients received hospital treatment in their place of residence, 2.5% of patients were treated outside their *oblast*, and 3% of patients were treated in republican hospitals. Following the introduction of the new hospitalization system, patients' complaints of being refused hospitalization decreased eight-fold compared to 2009.

## 7.4 Health outcomes

### 7.4.1 Population health

Kazakhstan's health profile is typical of a country in central Asia. Health challenges include low life expectancy, high infant and maternal mortality, high rates of TB, and a growing burden of non-communicable diseases. Economic growth has not led to significant improvements in health outcomes. Despite rapid economic development and large increases in total and public expenditures on health, key health indicators such as life expectancy, infant mortality and TB incidence, have not improved substantially. While information on amenable mortality is not readily available, five-year survival rates for patients with a primary diagnosis of cancer were low, amounting to 50.2% in 2009, with the lowest rate (44.2%) recorded in Pavlodar *oblast* and the highest (56.2%) in Karaganda *oblast* (Ministry of Health, 2010). The mortality rate for visually localized cancerous diseases remains high. According to the Ministry of Health, over 2000 deaths could be prevented each year if adequate screening, early diagnosis and treatment programmes were in place (Ministry of Health, 2010).

### 7.4.2 Health service outcomes and quality of care

After the first steps towards improving quality of care in the framework of introducing family medicine and WHO programmes, such as Integrated Management of Childhood Illness, the need for evidence-based medicine has now been generally recognized. Improving quality of care was one of the priorities of the National Programme for Health Care Reform and Development 2005–2010. The programme envisaged a comprehensive approach to quality improvement at the level of the overall health system and individual health care providers along the following main strategic avenues:

- strengthening the capacity of primary health care to provide a wider range of health services of better quality;
- creating financial incentives for health care providers to improve quality and efficiency of services;
- revision and improvement of the content of clinical practice based on evidence-based medicine and rational drug use;
- improvement of drug provision to the population, including through a gradual expansion of outpatient drug benefits and based on the principles of evidence-based medicine;
- improvement of undergraduate, postgraduate and continuous medical education and residencies, including through the revision of teaching programmes, incorporating evidence-based medicine in medical education, and introduction of medical education accreditation standards based on international criteria;
- development of medical research and science in line with internationally accepted approaches and standards;
- development of health personnel attestation;
- introduction of continuous quality improvement and quality assurance mechanisms;
- upgrading the existing level of equipment at primary health care and hospital level to accommodate advanced diagnosis and treatment technologies;
- capacity development of professional associations;
- increasing the role of patients in the health system.

Mother and child health, cardiovascular disease, TB and HIV/AIDS were prioritized for quality improvement at both primary health care and hospital level, while the improvement of continuity of care across the health system was also stressed. A quality monitoring system including 12 indicators for inpatient and outpatient care was introduced nationally in January 2009 (Ministry of Health, 2009i). A similar set of indicators for primary health care is used in the two-level capitated rate for primary health care providers, envisaging bonus payments based on performance results. Institutional roles and responsibilities in the overall quality improvement system were further clarified and realigned among key actors, including the Ministry of Health, the Medical and Pharmaceutical Activity Control Committee, the Health Care Development Institute, the School of Public Health, the National Centre for Healthy Lifestyles,

national research institutes, *oblast* health departments, health care providers, professional associations, and patients, but more work is needed to strengthen the capacity of key actors to fulfil their roles effectively.

Preliminary results of the National Programme for Health Care Reform and Development 2005–2010 indicate progress in quality improvement, but also a strong need for further efforts, as envisaged by the State Health Care Development Programme 2011–2015 “Salamatty Kazakhstan” and the World Bank-supported Health System Technology Transfer and Institutionalization Reform Project. Between 2005 and 2009, Kazakhstan made significant progress in introducing and promoting evidence-based medicine principles to policy-makers, academia and health care providers, leading to their broad recognition as a core prerequisite for improvements in clinical practice, as well as in education and research. The donor-supported promotion of evidence-based medicine and the development of clinical practice guidelines helped to demonstrate the benefits of proven clinical practices and started to change the attitudes and practices of health authorities and professionals. Capacity was built for applying an evidence-based approach to the development and revision of clinical practice guidelines. A regulatory base was created, including the Regulations on the Development of Clinical Practice Guidelines, an Expert Council, and a methodology for the development of clinical practice guidelines and protocols. The Health Technology Assessment/Evidence-Based Medicine Centre was established under the Health Care Development Institute. Under the leadership of the Health Care Development Institute, hundreds of clinical protocols were revised, bringing them closer to international standards of evidence-based medicine. This resulted, *inter alia*, in the development of a new clinical practice guideline on arterial hypertension for primary health care. The development of this guideline involved researchers of the National Cardiology Institute, national and international experts, and two professional associations (the Kazakhstan Association of Family Practitioners and the Drug Information Centre). While results of the national implementation of the new clinical practice guideline are not yet available, implementation in a number of pilot sites indicated significant progress in quality improvement and outcomes: adherence of primary health care to selected clinical practice guidelines or standards of care in pilot facilities, as measured by a composite indicator including blood pressure, screening, treatment and lifestyle factors, increased from 27.6% in 2006 to 50.7% in 2009. In October 2009 a new clinical practice guideline on arterial hypertension for both primary health care and hospital care was developed by the Cardiology Institute and the Kazakhstan Association of Family Practitioners and recommended for national implementation, with the aim of ensuring continuity of care.

Since 2008 the country has introduced the Programme on Reducing Maternal and Child Mortality for 2008–2010. A regulatory base supporting the implementation has been created, teams of national trainers trained and medical training programmes revised to match WHO recommendations. Within this programme the international live birth definition, confidential maternal death audit and some effective perinatal practices have been introduced. Effective perinatal care protocols are currently being implemented nationally, with technical assistance by WHO, UNFPA and USAID in about half the country's *oblasts*, including Astana and Almaty.

In 2007–2009 improvements were made to the infrastructure of midwifery facilities. Many of these facilities were integrated into general hospitals, facilitating urgent surgical and resuscitation interventions when needed. The regionalization of perinatal care has also been initiated within the WHO's Effective Perinatal Care programme (Ministry of Health Order No. 746 of 21 December 2007, On Regionalization of Perinatal Care in the Republic of Kazakhstan), providing more women with access to higher level care, if required. Hospitals were classified into three levels within each *oblast*:

- neonatal–perinatal centres (level 3), providing tertiary care for high-risk pregnancies and intensive care for severely ill infants;
- district hospitals (level 2), providing care for low-risk pregnancies and infants with less complicated neonatal problems;
- community hospitals (level 1), providing care for normal births and healthy newborn infants.

Although every fourth maternal death in 2009 resulted from a violation of the regionalization principle, significant progress has been made in reducing maternal mortality. Compared to 2006, the share of mothers, who died in first-level hospitals, dropped by almost double in 2009 (United Nations and Ministry of Health Republic of Kazakhstan, 2010).

Overall, the maternal mortality rate declined over the last decade, from 63.3 per 100 000 live births in 1999 to 36.8 in 2009 (28.8 in urban areas and 45.0 in rural areas). The pattern of preventable maternal deaths shows that, while in 2007 the majority of maternal deaths resulted from obstetric haemorrhages, abortions and eclampsia, in 2009 fatalities were mainly caused by indirect obstetric causes (extragenital pathology). The reduction of maternal mortality from preventable obstetric causes indicates improvements in the management of pregnancy, delivery and complications (Ministry of Foreign Affairs, 2010).

Results from selected facilities implementing effective perinatal care confirm improvements in the quality of care in this high-priority health area (USAID CAR, 2009). Adherence to selected evidence-based clinical practice guidelines or standards of care for effective perinatal care in pilot sites, as measured by a composite indicator, increased from 34% in 2006 to 50% in 2009. The composite indicator included correct diagnosis and management of normal pregnancies and vaginal deliveries, partnership deliveries, attendance of antenatal classes, and women choosing their own birth positions.

Other areas of health services for children, however, are still in major need of improvement. One such area is the treatment of neurological disorders. Many children in Kazakhstan who would be classified as normal in international practice are subject to extensive surveillance and some are undergoing multiple treatments with ineffective or even harmful therapies (Rechel et al., 2011b).

Due to consistent efforts to improve timely detection and adequate management of TB, between 2007 and 2009 the morbidity rate declined by 16.7% and the mortality rate declined from 18.1 per 100 000 population in 2007 to 12.9 in 2009. The coverage of MDR patients with treatment improved to 85.8% (4366 patients) in 2008–2009, compared to 24.5% in 2007. Rapid diagnostic methods and new technologies of rapid molecular detection of TB were intensively introduced in the country in compliance with international standards. Improvements were also made in the particularly challenging penitentiary system, where the TB morbidity rate in 2007 exceeded the rate outside prisons by six times or more. The TB morbidity rate in prisons declined from 768 per 100 000 prison population in 2008 to 643.9 in 2009 (Ministry of Foreign Affairs, 2010).

On 1 January 2010, 13 784 cases of HIV infection were registered in Kazakhstan. Since 1987 there has been an increase in new HIV infections every year except 2009. Realizing the severity of the problem, the government has consistently increased the financing of HIV/AIDS prevention activities. The state-funded share of the Programme against the HIV/AIDS Epidemic was 65% in 2009 and envisaged to increase to 72.0% in 2010.

In 2009 there were 29 clinics for vulnerable groups, which provided services to 22 021 individuals; 15 037 patients received syndromic treatment of sexually transmitted infections. HIV rapid testing has also been introduced. In 2008–2009 a significant step was made in the coverage of HIV-infected people with treatment and care. The range of antiretroviral drugs has expanded; in 2009 there were 24 registered drugs for treating HIV infection. Although all HIV-infected patients are entitled to free antiretroviral treatment and other drugs under the State Guaranteed Benefit Package, only 75% of needs in drug therapy

were covered in 2009 (Ministry of Foreign Affairs, 2010). Moreover, some areas of clinical practice, such as services for drug users, have still not evolved much beyond the Soviet legacy and Kazakhstan has been slow to provide substitution treatment to injecting drug users (Rechel, 2010; Rechel et al., 2011b).

## 7.5 Equity

### 7.5.1 Equity in financing

One of the main challenges for the Kazakh health system is regional inequities in terms of per capita allocations for health services (Table 7.2). Equity in resource allocation for health by *oblasts* has improved over time, but there is room for further improvement. In 2001, per capita public spending on health in the richest *oblast* was 4.2 times higher than that in the poorest *oblast*. By 2008, this differential had declined to 2.1 times.

In 2009 Astana had the highest per capita spending for health in the country, reaching 52 223 tenge, while Almaty *oblast* had the lowest per capita expenditures, at 17 638 Tenge – nearly three times less (Ministry of Health, 2010).

**Table 7.2**

Per capita health expenditure by revenue source and *oblast* (in tenge), 2007–2008

	Republican budget		Local budget		Private out-of-pocket payments	
	2007	2008	2007	2008	2007	2008
Akmola	803	994	14 054	16 440	2 643	437
Aktobe	2 974	3 376	13 036	16 134	3 562	4 725
Almaty	665	1 731	6 321	7 531	0	13
Atyrau	1 970	2 655	12 567	9 635	806	449
West Kazakhstan	1 938	3 369	15 939	19 461	1 157	602
Zhambyl	2 197	1 735	11 467	13 758	558	532
Karaganda	1 746	2 935	12 186	15 629	1 308	2 679
Kostanai	728	407	11 318	14 299	1 544	1 399
Kyzylorda	2 357	3 576	15 539	18 637	318	311
Mangystau	1 686	3 985	14 486	16 092	4 462	1 698
South Kazakhstan	2 215	1 429	10 861	12 726	345	537
Pavlodar	3 142	2 169	15 107	17 416	3 666	3 155
North Kazakhstan	3 559	3 043	15 558	16 518	3 310	609
East Kazakhstan	3 807	4 628	14 179	15 487	8 239	6 406
Astana city	3 413	9 409	17 291	20 398	1 620	2 757
Almaty city	1 115	10 442	13 663	13 761	4 650	3 175
<b>Total</b>	<b>2 064</b>	<b>3 383</b>	<b>12 543</b>	<b>14 434</b>	<b>2 305</b>	<b>1 892</b>

Source: Ministry of Health, 2009e.

The Concept on the Unified National Health Care System envisages significant improvements in the equity of health financing and health care utilization within the State Guaranteed Benefits Package regardless of place of residence, mainly through the creation of a national single-payer. Health service tariffs are envisaged to be equalized across *oblasts*.

### 7.5.2 Equity in the utilization of health services

As seen in Tables 7.3 and 7.4, the utilization of health services varies significantly across *oblasts* (Ministry of Health, 2011a), undermining geographical equity. In 2010 the hospitalization level in North Kazakhstan *oblast* (21.1) was 1.7 times higher than that in Aktobe *oblast* (12.7), while the annual number of outpatient visits in Mangystau *oblast* (8.7) was 1.5 times higher than in Zhambyl *oblast* (5.8) (Ministry of Health, 2011a).

Residents of Almaty and Astana cities have advantages in accessing health services, as these two cities host the most advanced national clinical centres, despite a system of quota regulating the provision of tertiary care services to patients from other regions.

The overall inpatient care infrastructure is unequally spread as well. In 2010 the provision of hospital beds per 10 000 population varied from 46.6 in Almaty *oblast* to 87.8 in Akmola *oblast*, compared to a national average of 63.4 (in the Ministry of Health system). The number of physicians per 10 000 population also varied significantly across regions, from 19.0 in Almaty *oblast* to 63.6 in Karaganda *oblast*.

There is also a significant variance in the provision of health workers in urban and rural areas. In 2010 there were 45.4 physicians per 10 000 population in urban areas, compared to 14.1 in rural areas (Ministry of Health, 2011a).

Throughout Kazakhstan's health system there is a shortage of health personnel, particularly in rural areas, exacerbating problems in the provision of health services to the rural population. Provision of the health sector with qualified health personnel remains a serious problem. In 2010, the health sector employed 51 275 doctors in the Ministry of Health system (63 855 in the Ministry of Health and parallel health systems together). Despite an annual increase more than 9.5% in the number of health workers with higher medical education in the health sector (due to the increased admission to medical schools with a corresponding increase in the number of graduates), there is still a shortage of health staff, especially in rural areas. Almost four times fewer physicians per population are working in rural areas than in cities. To improve the situation the Ministry of Health has undertaken a number of measures to attract physicians to rural areas, including increased salaries and provision of housing (see Chapter 4).

**Table 7.3**Utilization of inpatient health services by *oblast*, 2009–2010

	Hospitalization level (per 100 population)	
	2009	2010
Akmola	20.7	19.2
Aktobe	14.4	12.7
Almaty	15.1	13.2
Atyrau	14.9	14.0
East Kazakhstan	16.8	17.0
Zhambyl	19.0	16.9
West Kazakhstan	17.4	17.0
Karaganda	15.5	15.3
Kostanai	17.9	16.6
Kyzylorda	18.3	18.8
Mangystau	18.9	14.8
Pavlodar	20.1	18.2
North Kazakhstan	21.0	21.1
South Kazakhstan	17.8	14.7
Almaty city	17.9	18.0
Astana city	19.9	20.6
<b>Kazakhstan overall</b>	<b>17.6</b>	<b>16.3</b>

Source: Ministry of Health, 2011a.

**Table 7.4**Utilization of outpatient health services by *oblast*, 2009–2010

	Number of outpatient visits (per person per year)	
	2009	2010 <sup>a</sup>
Akmola	7.6	7.3
Aktobe	7.1	7.0
Almaty	8.6	8.3
Atyrau	6.8	6.2
East Kazakhstan	5.8	5.9
Zhambyl	6.0	5.8
West Kazakhstan	6.9	7.0
Karaganda	7.2	7.3
Kostanai	5.7	5.9
Kyzylorda	5.5	8.1
Mangystau	11.8	8.7
Pavlodar	6.3	6.4
North Kazakhstan	5.7	6.3
South Kazakhstan	5.4	5.9
Almaty city	7.0	7.1
Astana city	7.1	7.6
<b>Kazakhstan overall</b>	<b>6.7</b>	<b>6.8</b>

Source: Ministry of Health, 2011a.

Note: <sup>a</sup> The Ministry of Health system only (parallel health systems are not included).

Improving the geographical accessibility of health services in remote areas is critically important for Kazakhstan, with its vast and scarcely populated territory. To this end, telemedicine technologies have been introduced in rural areas of all 14 *oblasts* of the country (President of Kazakhstan, 2010). The transition to new standards of health facilities is expected to enable a streamlining of public health facilities, establishing a network of multidisciplinary (general) hospitals, and ensuring the availability of primary care to the rural population. In addition, it is hoped that the phased transition of health facilities to the legal status of state economic enterprises (see Chapter 2) will enable improvements in the management, financing, repair and construction of new health facilities, and improve their economic efficiency and staffing.

Problems in equity and accessibility of health services are also related to the fact that health management and financing continue to focus on maintaining the existing network of health facilities, rather than improving its efficiency and responsiveness. In addition, general practice and disease prevention are poorly developed, normative requirements are not always matched by available financial resources, and social services are not yet fully supporting medical care.

Finally, the continued existence of parallel health systems for ministries and departments, such as the Ministry of Interior, the Ministry of Defence, the Republican Guard, the President's Administration, and the National Security Committee, result in inequities in accessing services, as their staff enjoy advantages compared to the rest of the population.

### 7.5.3 Equity in health outcomes

Equity in health outcomes can be assessed by variations in morbidity and mortality. Both measures show significant variations across *oblasts*.

Morbidity per 100 000 population varied significantly in 2010, with Almaty city ranking first (78 935) and Atyrau *oblast* last (31 528) (Table 7.5).

In 2010 life expectancy at birth was on average 68.41 years (63.51 for males and 73.32 for females), varying between 66.30 in North Kazakhstan *oblast* and 73.15 in Astana city (Table 7.6). Notably, Astana city is located in Akmola *oblast*, but is a separate administrative unit.

In 2010, TB morbidity in Kazakhstan overall was 95.3 per 100 000, with the highest rate (165.6 per 100 000 population) in Astana city and the lowest (70.1) in Almaty city (Table 7.7).

There were also substantial regional variations in infant mortality, ranging from 22.9 in Kyzylorda *oblast* to 11.6 in Astana *oblast* in 2010 (Table 7.8).

Maternal mortality was 22.7 per 100 000 live births in 2010 in the country overall, with the highest rate (35.0) in Kyzylorda *oblast* and a rate of 0.0 in Akmola *oblast* and 4.2 in Karaganda *oblast* (Table 7.9).

**Table 7.5**

Population morbidity: number of diseases first diagnosed by *oblast* per 100 000 population, 2008–2010

	2008	2009	2010
Akmola	44 427	50 773	48 096
Aktobe	56 115	53 055	49 393
Almaty	68 828	71 742	65 682
Atyrau	31 463	33 094	31 528
East Kazakhstan	66 910	67 570	70 424
Zhambyl	58 696	62 282	59 770
West Kazakhstan	50 991	51 366	48 967
Karaganda	60 606	60 291	57 779
Kostanai	47 387	51 372	50 778
Kyzylorda	70 665	63 277	60 495
Mangystau	64 076	63 464	59 035
Pavlodar	68 279	69 983	75 449
North Kazakhstan	46 414	50 571	53 558
South Kazakhstan	43 255	45 573	42 548
Almaty city	80 672	84 461	78 935
Astana city	61 306	64 007	65 457
<b>Kazakhstan overall</b>	<b>58 314</b>	<b>60 108</b>	<b>58 077</b>

Source: Ministry of Health, 2011a.

**Table 7.6**  
Life expectancy by *oblast*, 2010

	Overall	Male	Female
Akmola	66.34	61.04	72.10
Aktobe	69.28	64.17	74.35
Almaty	69.19	65.20	73.38
Atyrau	68.40	63.31	73.89
East Kazakhstan	66.98	61.71	72.43
Zhambyl	68.15	63.23	73.21
West Kazakhstan	68.44	63.28	73.79
Karaganda	66.63	61.10	72.29
Kostanai	67.57	62.05	73.29
Kyzylorda	68.37	64.39	72.64
Mangystau	69.59	65.18	74.33
Pavlodar	67.80	62.37	73.26
North Kazakhstan	66.30	60.68	72.37
South Kazakhstan	69.53	65.74	73.45
Almaty city	70.91	65.98	75.27
Astana city	73.15	69.35	77.09
<b>Kazakhstan overall</b>	<b>68.41</b>	<b>63.51</b>	<b>73.32</b>

Source: Ministry of Health, 2011a.

**Table 7.7**  
TB morbidity by *oblast* per 100 000 population (primary diagnosis), 2008–2010

	2008	2009	2010
Akmola	172.8	158.2	121.5
Aktobe	124.4	96.0	79.3
Almaty	100.5	90.9	80.8
Atyrau	157.3	123.1	115.7
East Kazakhstan	129.0	121.4	124.0
Zhambyl	115.6	88.8	83.0
West Kazakhstan	142.9	105.5	95.7
Karaganda	118.4	96.9	89.9
Kostanai	146.7	115.9	107.5
Kyzylorda	154.3	118.5	110.0
Mangystau	152.7	118.4	98.1
Pavlodar	141.1	112.4	98.0
North Kazakhstan	156.2	119.5	105.7
South Kazakhstan	88.9	78.1	74.3
Almaty city	83.3	75.4	70.1
Astana city	218.2	191.8	165.6
<b>Kazakhstan overall</b>	<b>125.5</b>	<b>105.3</b>	<b>95.3</b>

Source: Ministry of Health, 2011a.

**Table 7.8**Infant mortality rate per 1 000 live births by *oblast*, 2008–2010

	2008	2009	2010
Akmola	17.7	17.2	13.78
Aktobe	20.1	17.8	17.34
Almaty	14.7	13.6	13.37
Atyrau	21.4	18.8	16.69
East Kazakhstan	22.8	22.7	19.64
Zhambyl	22.7	18.4	16.33
West Kazakhstan	18.3	15.3	13.87
Karaganda	19.8	18.0	14.95
Kostanai	23.9	16.5	14.07
Kyzylorda	20.2	25.0	22.93
Mangystau	21.0	20.4	18.45
Pavlodar	20.5	17.3	12.80
North Kazakhstan	21.3	13.9	13.81
South Kazakhstan	25.2	21.0	19.43
Almaty city	13.4	15.2	15.24
Astana city	19.1	14.1	11.61
<b>Kazakhstan overall</b>	<b>20.8</b>	<b>18.2</b>	<b>16.54</b>

Source: Ministry of Health, 2011a.

**Table 7.9**Maternal mortality per 100 000 live births by *oblast*, 2008–2010

	2008	2009	2010
Akmola	23.9	39.0	0.0
Aktobe	31.0	17.9	34.5
Almaty	34.3	29.4	16.1
Atyrau	37.1	57.0	20.4
East Kazakhstan	20.9	29.6	21.5
Zhambyl	18.2	40.0	29.4
West Kazakhstan	43.2	24.9	8.3
Karaganda	25.5	42.6	4.2
Kostanai	31.6	15.5	15.4
Kyzylorda	68.4	42.5	35.0
Mangystau	79.5	48.9	6.5
Pavlodar	7.8	31.6	16.3
North Kazakhstan	22.4	35.1	24.0
South Kazakhstan	31.9	37.8	26.7
Almaty city	11.1	31.7	27.6
Astana city	32.0	30.4	6.0
Republican facilities (in Almaty and Astana)	67.5	114.6	166.0
<b>Kazakhstan overall</b>	<b>31.2</b>	<b>36.8</b>	<b>22.7</b>

Source: Ministry of Health, 2011a.

## 7.6 Health system efficiency

### 7.6.1 Allocative efficiency

The allocative efficiency of Kazakhstan's health system is diminished by a continued reliance on inpatient care. In 2008, 53.4% of total public expenditure on health was allocated to inpatient facilities, 20.3% to outpatient and polyclinic services and 13.0% to organizations administering health services. Compared to 2007, the allocations to hospital care in 2008 had increased by 14% (Ministry of Health, 2009e). The national pooling of expenditure for hospital care within the State Guaranteed Benefits Package since 2010 seems to have increased allocative inefficiencies, with the share of primary health care expenditure within the State Guaranteed Benefits Package declining from 27.4% in 2009 to just 21.6% in 2010.

The high level of hospital expenditure can be explained by high levels of hospitalization, the hospitalization of patients who could have been treated in outpatient settings, a high average length of stay in hospitals, and the maintenance of a vast inpatient infrastructure. The ratio of public funding between inpatient and outpatient/polyclinic care under the State Guaranteed Benefits Package varied significantly across *oblasts* in 2007, ranging from 0.7 in East Kazakhstan *oblast* to 2.3 in West Kazakhstan *oblast* (Table 7.10).

In 2008, the share of public expenditure on primary health care constituted only 16% of total public expenditure on health, while the funding of health promotion and disease prevention amounted to only 0.17%. In contrast, salary and social benefits accounted for 47.1%, drug procurement for 21.1% and capital investment for 14.6% of the state health budget in 2008.

### 7.6.2 Technical efficiency

Utilization of primary health care services increased from 99.3 million patient visits to primary health care providers in 2005 to 104.5 million in 2009, although the ratio of outpatient visits per capita, at 6.6, remained the same (Ministry of Health, 2011a).

In the hospital sector, despite a significant reduction of infrastructure since independence, the provision of hospital beds remains considerably higher than in western countries. Major indicators of the technical efficiency of inpatient care, such as average length of stay and bed turnover, remain behind other

middle-income countries. In addition, as one of the legacies of the Soviet era, the Kazakh health system maintains many narrowly specialized health facilities, such as separate paediatric hospitals, maternity hospitals, oncology centres and infectious disease dispensaries (see Chapter 4).

A positive trend is the development of hospital care on a day-care basis or at home. The number of patients receiving day care in outpatient facilities increased from 278 813 in 2005 to 445 145 in 2009, the number of those receiving day care in inpatient facilities increased from 56 728 to 64 081, and the number of patients receiving hospital care in home settings increased from 155 480 to 158 758 (President of Kazakhstan, 2010).

**Table 7.10**

Per capita expenditure on inpatient and outpatient/polyclinic care under the State Guaranteed Benefits Package by *oblast* (in tenge), 2007

<b>Oblast</b>	<b>SGBP total expenditure</b>	<b>Outpatient/polyclinic care</b>	<b>Hospital care</b>	<b>Expenditure ratio between inpatient care and outpatient/polyclinic care</b>
East Kazakhstan	17 125	6 756	10 369	0.7
Kyzylorda	15 423	10 468	4 955	2.1
Astana city	15 386	10 321	5 065	2.0
Akmola	15 030	6 966	8 064	0.9
Pavlodar	14 201	8 987	5 214	1.7
North Kazakhstan	14 063	9 358	4 705	2.0
West Kazakhstan	13 870	9 720	4 150	2.3
Mangystau	13 619	7 718	5 902	1.3
Almaty city	13 185	8 200	4 985	1.6
Karaganda	12 312	8 010	4 303	1.9
Atyrau	11 860	7 896	3 964	2.0
Kostanai	10 738	7 075	3 664	1.9
Aktobe	10 622	5 884	4 738	1.2
Zhambyl	9 790	6 355	3 435	1.8
South Kazakhstan	8 708	5 338	3 370	1.6
Almaty	6 274	4 349	1 925	2.3
<b>Kazakhstan overall</b>	<b>11 942</b>	<b>7 166</b>	<b>4 776</b>	<b>1.5</b>

Source: Ministry of Health, 2008.

## 7.7 Transparency and accountability

As in other health systems of the region, transparency and accountability remain major challenges in Kazakhstan, as illustrated by the continued existence of informal payments for health services and a limited involvement of the public in health policy-making. However, some positive developments can be identified, such as the introduction of new provider payment systems linked to health information systems, the development of quality assurance mechanisms, the gradually increasing capacity and role of professional organizations and NGOs, and the increasing rights and responsibilities of patients. These issues remain on the health reform agenda. The State Health Care Development Programme 2011–2015 envisages the introduction of patient co-payment mechanisms that would allow for a reduction in out-of-pocket payments. It also foresees the further development of health information systems, as well as systems for monitoring and evaluation.

## 8. Conclusions

In the last two decades, Kazakhstan has undertaken significant efforts to reform its health system. Two comprehensive reform programmes were developed in the 2000s: the National Programme for Health Care Reform and Development 2005–2010 and the State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”. Within the framework of these reforms, major changes to health financing, health care provision and governance were introduced.

Partly resulting from changing perspectives on decentralization, levels of pooling kept changing, making it difficult for the health financing system to settle. In 2001, in line with broader administrative decentralization, health financing and administration were decentralized to the *rayon* level. These changes resulted in the creation of inefficient and difficult to manage micro-health systems, negatively impacting the overall efficiency of the health system and access of the population to health services. Beginning in 2004, funds were pooled at the *oblast* level, and the *oblast* health department established as the single-payer of health services. There were also attempts to improve provider payment systems. Since 2010, resources for hospital services under the State Guaranteed Benefits Package have been pooled at the national level.

There are also efforts under way to reorganize health care provision, with a smaller role for the hospital sector and more emphasis on primary health care, but these attempts were not always consistent and continuous. Hospitals continue to dominate the health landscape and receive most health resources. Linkages between primary and secondary care are poor, and many services are organized in parallel vertical structures, such as TB services, sanitary-epidemiological services, or the health systems operated by other ministries and government agencies, undermining the overall efficiency of the health system.

Despite the country's economic development and increase in health expenditure, many health indicators lag behind those of other countries in the former USSR. Life expectancy in Kazakhstan is one of the lowest in the WHO European Region, while infant and maternal mortality and the incidence of infectious diseases are among the highest.

Quality of care has now been recognized as a priority area and Kazakhstan has made the first steps towards promoting evidence-based medicine and developing and introducing new clinical practice guidelines, as well as establishing mechanisms for facility-level quality improvements. Preliminary results of the National Programme for Health Care Reform and Development 2005–2010 indicate progress in this regard, but more efforts will need to be taken. The Government has also acknowledged the need to step up activities for health promotion and disease prevention.

Other aspects of health system performance also need attention. Among the key challenges in the country are regional inequities in health financing, health care utilization and health outcomes, although some improvements have been achieved in recent years. For example, between 2001 and 2008 the difference in health financing per capita between the richest and poorest *oblast* decreased from 4.2 to 2.1 times. However, residents of Almaty and Astana cities still have advantages in accessing health services, as these two cities host the most advanced national clinical centres, whereas the geographical accessibility of health services in remote areas is much more challenging, considering the country's vast and scarcely populated territory. Inequities in terms of health outcomes also give rise to concern. In 2010 life expectancy at birth varied between 66.30 in North Kazakhstan *oblast* and 73.15 in Astana city. There were also strong regional variations in infant and maternal mortality. Further reducing these regional inequities will have to be one of the priorities of reforms.

Finally, transparency and accountability remain another challenge for Kazakhstan's health system. Patient involvement and data on the patient experience remain quite limited, although steps have been taken to introduce patient choice and to improve health system responsiveness.

With the impact of the global economic crisis unravelling in Kazakhstan, it will become more urgent to improve the quality, efficiency and equity of health services, strengthen the role of primary health care, expand health promotion and disease prevention, improve risk pooling, and ensure the financial protection of the population.

## 9 Appendices

### 9.1 References

- Accounts Committee (2009). Report on control over the execution of the republican budget for 2009. Astana, Accounts Committee.
- Agency of Statistics (2008). *Accessibility of health care services survey*. Astana, National Statistical Agency.
- Agency of Statistics (2010). *Kazakhstan in 2009. Annual report*. Astana, Agency of Statistics.
- Agency of Statistics (2011). *Analytical report: the population's incomes and expenditures in 2010 by oblasts*. April. Astana, Agency of Statistics ([http://www.stat.kz/publishing/Pages/UZHN\\_2011.aspx](http://www.stat.kz/publishing/Pages/UZHN_2011.aspx), accessed 5 July 2011).
- Ahmedov M et al. (2007). *Uzbekistan: health system review. Health Systems in Transition* 9(3):1–210.
- Aman Saulyk (2010a). *Accessibility and quality of health care provided to women in rural areas of Kazakhstan*. Astana, Aman Saulyk (<http://www.amansauilyk.kz/deyatelnost/health/hearings/72/>, accessed 27 March 2011).
- Aman Saulyk (2010b). *Socio-medical problems of elderly and disabled people: today and tomorrow*. Astana, Aman Saulyk (<http://www.amansauilyk.kz/library/socium/9/>, accessed 26 March 2011).
- Aman Saulyk (2011). *Analysis of access to social and health care services in Almaty, Karaganda, Semey, Kyzylorda*. Astana, Aman Saulyk.
- Appelbaum PS (1998). Present at the creation: mental health law in eastern Europe and the former Soviet Union. *Psychiatric Services*, 49(10):1299–1300.
- Aris B (2005). Kazakhstan's health care triumphs and concerns. *The Lancet*, 366(9494, 15–21 October):1348.
- Balabanova D et al. (2004). Health service utilization in the former Soviet Union: evidence from eight countries. *Health Services Research*, 39(6):1927–1949.
- Balabanova D et al. (2011). Health care reform in the former Soviet Union: beyond the transition. *Health Services Research*, 23 September [Epub ahead of print].
- Becker CM, Urzhumova DS (2005). Mortality recovery and stabilization in Kazakhstan, 1995–2001. *Economics and Human Biology*, 3:97–122.
- BTA (2008). *The status of and forecast for the Kazakhstan pharmaceutical market*. Astana, BTA.
- Chief Dentist (2009). *Annual report*. Astana, Ministry of Health.
- Commercean (2004). *Kazakhstan's market for dental equipment and supplies*. Ottawa, Canadian Business Map ([http://buyusainfo.net/docs/x\\_5516564.pdf](http://buyusainfo.net/docs/x_5516564.pdf), accessed 21 January 2012).

- Committee of State Sanitary-Epidemiological Surveillance (2009). *Annual report*. Astana, Ministry of Health.
- Dikanbayeva S (2010). *Healthy lifestyles development: policy and management in the Republic of Kazakhstan*. Astana, National Centre for Healthy Lifestyles.
- EIU (2007). *Kazakhstan Country Report April 2007*. London, Economist Intelligence Unit.
- Ensor T, Savelyeva L (1998). Informal payments for health care in the former Soviet Union: some evidence from Kazakhstan. *Health Policy and Planning*, 13(1):41–49.
- Global Fund (2011). *Kazakhstan*. Geneva, Global Fund to Fight AIDS, Tuberculosis and Malaria (<http://portfolio.theglobalfund.org/Country/Index/KAZ?lang=en>, accessed 18 March 2011).
- Godinho J et al. (2005). *Reversing the tide: priorities for HIV/AIDS prevention in central Asia*. Washington, DC, World Bank.
- Gotsadze G (2010) *Supporting the Ministry of Health in institutionalising the National Health Accounts: strengthening capacity for health expenditure monitoring at national and oblast levels*. Astana, World Bank.
- Gotsadze G, Ensor T (2010) *Report on current funds flow and current pattern of health care expenditure by economic and functional categories in public and private sectors, and on the impact of the budget re-allocation model*. Astana, Ministry of Health.
- Government of Kazakhstan (2006). National Programme against HIV/AIDS in the Republic of Kazakhstan for 2006–2010, Government Decree No. 1216 of 15 December 2006. Astana, Government of Kazakhstan.
- Government of Kazakhstan (2008). Strategic Development Plan of the Ministry of Health for 2009–2011, Government Decree No. 1213 of 23 December 2008. Astana, Government of Kazakhstan.
- Government of Kazakhstan (2009). On Approving the Rules for Organization and Procurement of Drugs, Preventive Preparations, Medical Supplies, Medical Equipment and Pharmaceutical Services within the Guaranteed Basic Benefits Package, Government Decree No. 1729 of 30 October 2009. Astana, Government of Kazakhstan.
- Government of Kazakhstan (2010). Within the programme “100 schools, 100 hospitals”, 45 facilities will become operational in 2010. Astana, Government of Kazakhstan (<http://ru.government.kz/site/news/2010/01/02>, accessed 21 June 2011).
- Katsaga A, Zuez O (2006). Stewardship template, Republic of Kazakhstan. Copenhagen, World Health Organization Regional Office for Europe.
- Khodjamurodov G, Rechel B (2010). Tajikistan health system review. *Health Systems in Transition*, 12(2):1–154.
- Kulzhanov M, Healy J (1999). *Health care systems in transition: Kazakhstan*. Copenhagen, European Observatory on Health Systems and Policies.
- Lievens T et al. (2010) *Technical paper on review of international experience in voluntary health insurance and preliminary recommendations for Kazakhstan*. Astana, Ministry of Health.
- McKee M, Chenet L (2002). Patterns of health. In: McKee M, Healey J, Falkingham J, eds. *Health care in central Asia*. Buckingham, Open University Press.
- Medical Information Centre (2009). *Farmexpert: monitoring of pharmacy and hospital drug procurement in CIA countries, 2009*. Almaty, Medical Information Centre.

- Medinform (2011). *Health statistics*. Almaty, Medinform (<http://www.medinfo.kz/>, accessed 21 March 2011).
- Ministry of Finance (2011). *Analytical report on execution of the republican budget on 1 January 2011 (for year 2010)*. Astana, Ministry of Finance.
- Ministry of Foreign Affairs (2010). *Millennium Development Goals in Kazakhstan 2010*. Astana, Ministry of Foreign Affairs.
- Ministry of Health (1992). *Concept on Health Care Reform*. Astana, Ministry of Health.
- Ministry of Health (2002–2011). *Statistical Collections on Population Health and Performance of Health Care Organizations*. Astana, Ministry of Health.
- Ministry of Health (2004). *National Programme for Health Care Reform and Development 2005–2010*, approved by presidential decree on 13 September 2004. Astana, Ministry of Health.
- Ministry of Health (2007). *Farmatsija [Pharmacy]*. Astana, Ministry of Health. ([www.mz.gov.kz/index.php?wakka=Rus/Farmacija/print](http://www.mz.gov.kz/index.php?wakka=Rus/Farmacija/print), accessed 11 August 2007).
- Ministry of Health (2008). *National Health Accounts. Review of Overall Health Expenditures in 2007*. Astana, Ministry of Health.
- Ministry of Health (2009a). *Accreditation Report*. Astana, Ministry of Health.
- Ministry of Health (2009b). *Annual Report of the Committee on Health Services Control*. Astana, Ministry of Health.
- Ministry of Health (2009c). *Concept on the Unified National Health Care System*. Astana, Ministry of Health.
- Ministry of Health (2009d). *Health of the Population of the Republic of Kazakhstan and Performance of Health Organizations in 2008 (Statistical collection)*. Astana, Ministry of Health.
- Ministry of Health (2009e). *National Health Accounts. Review of Overall Health Expenditures*. Astana, Ministry of Health.
- Ministry of Health (2009f). *On Approving the Rules for the Development and Approval of Drug Formularies for Health Organizations*, Ministry of Health Order No. 672 of 23 November 2009. Astana, Ministry of Health.
- Ministry of Health (2009g). *On Approving Types and Volumes of Health Services*, Ministry of Health Order No. 796 of 26 November 2009. Astana, Ministry of Health.
- Ministry of Health (2009h). *On Health Management Training within the Unified National Health Care System*, Ministry of Health Order No. 442 of 4 September 2009. Astana, Ministry of Health.
- Ministry of Health (2009i). *On Measures to Improve the Quality Management System in the Republic of Kazakhstan*, Ministry of Health Order No. 32 of 21 January 2009. Astana, Ministry of Health.
- Ministry of Health (2009j). *Performance of Health Care Organizations in the Republic of Kazakhstan in 2008–2009 (Preliminary Data)*. Astana, Ministry of Health.
- Ministry of Health (2009k). *Report on Health Care Human Resources*. Astana, Ministry of Health.
- Ministry of Health (2010). *Report Based on Data of the National Register of Patients with Cancerous Diseases*. Astana, Ministry of Health.
- Ministry of Health (2011a). *Health of the Population of the Republic of Kazakhstan and Performance of Health Organizations*. Astana, Ministry of Health.

- Ministry of Health (2011b). Structure of the Ministry of Health. Astana, Ministry of Health (<http://www.mz.gov.kz/index.php?wakka=Rus/OMinisterstve/Struktura&v=ac6>, accessed 13 June 2011).
- OECD (2000). *A system of health accounts*. Paris, Organisation for Economic Co-operation and Development.
- Penkala-Gawecka D (2002). Korean medicine in Kazakhstan: ideas, practices and patients. *Anthropology & Medicine*, 9(3):315–336.
- President of Kazakhstan (2009). Code on People's Health and the Health Care System, Presidential Decree No. 193-IV on 18 September 2009. Almaty, President of the Republic of Kazakhstan.
- President of Kazakhstan (2010). State Health Care Development Programme for 2011–2015 “Salamatty Kazakhstan”. Decree of the President of the Republic of Kazakhstan No. 1113 of 29 November 2010. Almaty, President of the Republic of Kazakhstan.
- Rechel B (2010). HIV/AIDS in the countries of the former Soviet Union: societal and attitudinal challenges. *Central European Journal of Public Health*, 18(2):110–115.
- Rechel B, Khodjamurodov G (2010). International involvement and national health governance: the basic benefit package in Tajikistan. *Social Science & Medicine*, 70:1928–1932.
- Rechel B, McKee M (2007). The effects of dictatorship on health: the case of Turkmenistan. *BMC Medicine*, 5(21).
- Rechel B, McKee M (2009). Health reform in central and eastern Europe and the former Soviet Union. *The Lancet*, 374:1186–1195.
- Rechel B, Dubois C-A, McKee M, eds. (2006). *The health care workforce in Europe: learning from experience*. Copenhagen, WHO Regional Office for Europe on behalf of European Observatory on Health Systems and Policies.
- Rechel B et al. (2011a). Lessons from two decades of health reform in central Asia. *Health Policy and Planning*, 24 May. [Epub ahead of print].
- Rechel B et al. (2011b). The Soviet legacy in diagnosis and treatment: implications for population health. *Journal of Public Health Policy*, 32(3):293–304.
- United Nations and Ministry of Health, Republic of Kazakhstan (2010). *Millennium Development Goals in Kazakhstan*. Astana, United Nations Country Team.
- UNDP (1997). *Human development report Kazakhstan*. Almaty, United Nations Development Programme.
- USAID CAR (2009). *ZdravPlus Final Report*. Almaty, USAID.
- WHO (1978). Declaration of Alma-Ata, International Conference on Primary Health Care: Alma-Ata, 6–12 September. Geneva, WHO ([http://www.who.int/hpr/NPH/docs/declaration\\_almaata.pdf](http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf), accessed on 14 August 2007).
- WHO (2011). *National health accounts*. Geneva, WHO (<http://www.who.int/nha/country/kaz/en/>, accessed 19 September 2011).
- WHO Regional Office for Europe (2011) Health for All database (HFA-DB) [offline database], July 2011 edition, Copenhagen, WHO Regional Office for Europe.
- World Bank (2004). *Dimensions of poverty in Kazakhstan, vol. 1: Policy briefing*. Washington, DC, World Bank.
- World Bank (2009). *Assessment of the management of state finances of the Republic of Kazakhstan*. Astana, World Bank.

World Bank (2011). *World development indicators*. Washington, DC, World Bank (<http://data.worldbank.org/data-catalog/world-development-indicators>, accessed 13 June 2011).

Yermekbayev K (2007). *Report on a study of the treasury system and implementation of the health financing reform and the Health Care Reform and Development Programme 2005–2010*. Astana, Ministry of Health.

## 9.2 Web sites

Statistical Agency of the Republic of Kazakhstan

<http://www.stat.gov.kz/>

World Health Organization, Country Office in Kazakhstan

<http://www.who.int/countries/kaz/en/>

World Bank country office in Kazakhstan

<http://www.worldbank.org.kz/>

Kazakhstan School of Public Health

<http://www.ksph.kz/>

Healthcare Development Institute

<http://www.dsdi.kz/index.php?id=4>

Medinform Company

<http://medinfo.kz/>

Ministry of Health

<http://www.mz.gov.kz/>

National Centre for Healthy Lifestyles

<http://hls.kz/tub.html>

National Medical Holding

<http://nmh.kz/about.php>

Republican Medical Information and Analytical Centre

<http://www.nac.gov.kz/>

National Scientific Centre on Mother and Child Health

<http://www.nrcmc.kz/>

United Nations country team in Kazakhstan

<http://www.un.kz/>

Republican Centre for AIDS Prevention and Control

<http://www.rcaids.kz/>

USAID/United States Agency for International Development  
[http://www.usaid.gov/locations/europe\\_eurasia/car/kzpage.html](http://www.usaid.gov/locations/europe_eurasia/car/kzpage.html)

European Bank for Reconstruction and Development, Kazakhstan website  
<http://www.ebrd.com/country/country/kaza/index.htm>

European Observatory on Health Systems and Policies  
<http://www.euro.who.int/observatory>

Global Fund to Fight AIDS, Tuberculosis and Malaria, Kazakhstan country website  
<http://www.theglobalfund.org/programs/countrysite.aspx?countryid=KAZ&lang=en>

Government of Kazakhstan  
<http://www.government.kz>

International Institute of Modern Policy  
<http://www.iimp.kz/default.aspx>

Kazakhstan Institute of Management, Economics and Strategic Research  
<http://www.kimep.kz/>

Kazakhstan Revenue Watch  
<http://www.kazakhstanrevenuewatch.org/>

Kazakhstan Dental Association  
<http://www.ksa.kz/>

Ministry of Finance  
<http://www.minfin.kz/>

National Resource Centre for NGOs in Kazakhstan  
<http://www.npo.kz/>

Agency of Statistics (Goskomstat)  
[www.stat.kz](http://www.stat.kz)

OSCE Centre in Almaty  
<http://www.osce.org/almaty/>

President of Kazakhstan  
<http://www.akorda.kz/>

Soros Foundation Kazakhstan  
<http://www.soros.kz/>

Diabetic Association of Kazakhstan

[www.dark.os.kz](http://www.dark.os.kz)

Information and Education Web Site on Health Care in Kazakhstan

<http://www.info-health.kz>

### 9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with the Observatory's research directors and staff. They are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile reviews. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at: <http://www.euro.who.int/en/home/projects/observatory/publications/health-system-profiles-hits/hit-template-2010>.

Authors draw on multiple data sources for the compilation of HiTs, ranging from national statistics, national and regional policy documents to published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. The OECD Health Data contain over 1200 indicators for the 34 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health for All Policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard Health for All data have been officially approved by national governments. With its summer 2007 edition, the Health for All database started to take account of the enlarged EU of 27 Member States.

HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT consists of nine chapters.

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.
2. Organization and governance: provides an overview of how the health system in the country is organized, governed, planned and regulated, as well as the historical background of the system; outlines the main actors and their decision-making powers; and describes the level of patient empowerment in the areas of information, choice, rights, complaints procedures, public participation and cross-border health care.
3. Financing: provides information on the level of expenditure and the distribution of health spending across different service areas, sources of revenue, how resources are pooled and allocated, who is covered, what benefits are covered, the extent of user charges and other out-of-pocket payments, voluntary health insurance and how providers are paid.
4. Physical and human resources: deals with the planning and distribution of capital stock and investments, infrastructure and medical equipment; the context in which IT systems operate; and human resource input into the health system, including information on workforce trends, professional mobility, training and career paths.
5. Provision of services: concentrates on the organization and delivery of services and patient flows, addressing public health, primary care, secondary and tertiary care, day care, emergency care, pharmaceutical care, rehabilitation, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health services for specific populations.
6. Principal health reforms: reviews reforms, policies and organizational changes, and provides an overview of future developments.
7. Assessment of the health system: provides an assessment based on the stated objectives of the health system, financial protection and equity in financing; user experience and equity of access to health care; health outcomes, health service outcomes and quality of care; health system efficiency; and transparency and accountability.
8. Conclusions: identifies key findings, highlights the lessons learned from health system changes; and summarizes remaining challenges and future prospects.
9. Appendices: includes references, useful web sites and legislation.

The quality of HiTs is of real importance since they inform policy-making and meta-analysis. HiTs are the subject of wide consultation throughout the writing and editing process, which involves multiple iterations. They are then subject to the following.

- A rigorous review process (see the following section).
- There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.
- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and, in close consultation with the authors, ensures that all stages of the process are taken forward as effectively as possible.

One of the authors is also a member of the Observatory staff team and they are responsible for supporting the other authors throughout the writing and production process. They consult closely with each other to ensure that all stages of the process are as effective as possible and that HiTs meet the series standard and can support both national decision-making and comparisons across countries.

## 9.4 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the series editors of the European Observatory. It is then sent for review to two independent academic experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health, or appropriate authority, and policy-makers within those bodies are restricted to checking for factual errors within the HiT.

## 9.5 About the authors

**Alexandr Katsaga** is a freelance, international consultant.

**Maksut Kulzhanov** is Rector of the Kazakhstan School of Public Health in Almaty, President of the National Association of Public Health, and former Deputy Minister of Health.

**Marina Karanikolos** is Research Officer at the European Observatory on Health Systems and Policies.

**Bernd Rechel** is a Researcher at the European Observatory on Health Systems and Policies and Honorary Senior Lecturer at the London School of Hygiene & Tropical Medicine.

## The Health Systems in Transition series

### A series of the European Observatory on Health Systems and Policies

The Health Systems in Transition (HiT) country reports provide an analytical description of each health care system and of reform initiatives in progress or under development. They aim to provide relevant comparative information to support policy-makers and analysts in the development of health systems and reforms in the countries of the WHO European Region and beyond. The HiT profiles are building blocks that can be used:

- to learn in detail about different approaches to the financing, organization and delivery of health services;
- to describe accurately the process, content and implementation of health reform programmes;
- to highlight common challenges and areas that require more in-depth analysis; and
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in countries of the WHO European Region.

### How to obtain a HiT

All HiTs are available as PDF files at [www.healthobservatory.eu](http://www.healthobservatory.eu), where you can also join our listserve for monthly updates of the activities of the European Observatory on Health Systems and Policies, including new HiTs, books in our co-published series with Open University Press, Policy briefs, Policy summaries, and the *Eurohealth* journal.

If you would like to order a paper copy of a HiT, please write to:

[info@obs.euro.who.int](mailto:info@obs.euro.who.int)

The publications  
of the European  
Observatory on Health  
Systems and Policies  
are available at  
[www.healthobservatory.eu](http://www.healthobservatory.eu)



## HiTs published to date:

Albania (1999, 2002<sup>a</sup>)  
Andorra (2004)  
Armenia (2001<sup>g</sup>, 2006)  
Australia (2002, 2006)  
Austria (2001<sup>e</sup>, 2006<sup>e</sup>)  
Azerbaijan (2004<sup>g</sup>, 2010<sup>g</sup>)  
Belarus (2008<sup>g</sup>)  
Belgium (2000, 2007, 2010)  
Bosnia and Herzegovina (2002<sup>g</sup>)  
Bulgaria (1999, 2003<sup>b</sup>, 2007<sup>g</sup>, 2012)  
Canada (2005)  
Croatia (1999, 2007)  
Cyprus (2004)  
Czech Republic (2000, 2005<sup>g</sup>, 2009)  
Denmark (2001, 2007<sup>g</sup>)  
Estonia (2000, 2004<sup>g</sup>, 2008)  
Finland (2002, 2008)  
France (2004<sup>c</sup>, 2010)  
Georgia (2002<sup>d</sup>, 2009)  
Germany (2000<sup>e</sup>, 2004<sup>e</sup>)  
Greece (2010)  
Hungary (1999, 2004, 2011)  
Iceland (2003)  
Ireland (2009)  
Israel (2003, 2009)  
Italy (2001, 2009)  
Japan (2009)  
Kazakhstan (1999<sup>g</sup>, 2007<sup>g</sup>)  
Kyrgyzstan (2000<sup>g</sup>, 2005<sup>g</sup>, 2011<sup>g</sup>)  
Latvia (2001, 2008)  
Lithuania (2000)  
Luxembourg (1999)  
Malta (1999)  
Mongolia (2007)  
Netherlands (2004<sup>g</sup>, 2010)  
New Zealand (2001)  
Norway (2000, 2006)

Poland (1999, 2005<sup>k</sup>, 2011)  
Portugal (1999, 2004, 2007, 2011)  
Republic of Korea (2009)  
Republic of Moldova (2002<sup>g</sup>, 2008<sup>g</sup>)  
Romania (2000<sup>f</sup>, 2008)  
Russian Federation (2003<sup>g</sup>, 2011)  
Slovakia (2000, 2004, 2011)  
Slovenia (2002, 2009)  
Spain (2000<sup>h</sup>, 2006, 2010)  
Sweden (2001, 2005)  
Switzerland (2000)  
Tajikistan (2000, 2010<sup>g</sup>)  
The former Yugoslav Republic  
of Macedonia (2000, 2006)  
Turkey (2002<sup>g</sup>, 2012)  
Turkmenistan (2000)  
Ukraine (2004<sup>g</sup>, 2010)  
United Kingdom of Great Britain  
and Northern Ireland (1999<sup>g</sup>)  
United Kingdom (England) (2011)  
Uzbekistan (2001<sup>g</sup>, 2007<sup>g</sup>)  
Veneto Region of Italy (2012)

### Key

All HiTs are available in English.  
When noted, they are also available in other languages:

<sup>a</sup> Albanian

<sup>b</sup> Bulgarian

<sup>c</sup> French

<sup>d</sup> Georgian

<sup>e</sup> German

<sup>f</sup> Romanian

<sup>g</sup> Russian

<sup>h</sup> Spanish

<sup>i</sup> Turkish

<sup>j</sup> Estonian

<sup>k</sup> Polish

<sup>l</sup> Tajik



The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

HiTs are in-depth profiles of health systems and policies, produced using a standardized approach that allows comparison across countries. They provide facts, figures and analysis and highlight reform initiatives in progress.