WORLD HEALTH ORGANIZATION
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GEORGIA HEALTH SYSTEM PERFORMANCE ASSESSMENT

2009

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ABSTRACT

This report summarizes the main findings of the World Health Organization (WHO) assessment of the performance of the Georgian health system, which was carried out by the Ministry of Labour, Health and Social Affairs of Georgia, with the technical and financial support from the WHO Regional Office for Europe and from the World Bank. This assessment was carried out between July 2007 and September 2009 and contributes to the efforts pursued by the government of Georgia to strengthen the capacities of the Ministry of Labour, Health and Social Affairs for effective stewardship of the health system.

This report presents an assessment of the performance of the Georgian health system against a number of key performance dimensions: the health status of the population; the quality of health services and health care outcomes; health promotion and disease prevention policies; equity and financial protection; access to health care services; efficiency and effectiveness of health services; the effective allocation of health system resources; the health information system and the health system stewardship function of the Ministry of Labour, Health and Social Affairs. Policy recommendations are presented at the end of each section of this report. An executive summary is enclosed and a separate executive report and a technical report form the suite of reports related to this assessment. This health system performance assessment is the first in a series of similar reports released this year by the World Health Organization Regional Office for Europe. Other reports to be released in 2009 include Armenia, Estonia and Portugal.

Keywords

OUTCOME AND PROCESS ASSESSMENT (HEALTH CARE)
HEALTH SYSTEMS PLANS – organization and administration
PUBLIC HEALTH – organization and administration
HEALTH STATUS
QUALITY OF HEALTH CARE
PROGRAM EVALUATION
GEORGIA

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ABBREVIATIONS

AMI	Acute Myocardial Infarction
BMI	Body Mass Index
CARK	Central Asian Republics and Kazakhstan
CCIRB	[UNICEF] Communication Campaign for Changing Immunization Related Behaviour
CIS	Commonwealth of Independent States
C-section	Caesarean section
CTP	Capacity to Pay
DOTS	Directly Observed Therapy, Short-course
DTP-3	3 doses of diphtheria-pertussis-tetanus
EU	European Union
EUR B+C	Europe B+C: 26 countries in the WHO European Region with higher levels of mortality (Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Montenegro, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Tajikistan, TFYR Macedonia, Turkey, Turkmenistan, Ukraine)
FTE	Full Time Employment
GDP	Gross Domestic Product
GeL	Georgian lary [currency]
GERHS05	Women's Reproductive Health Survey (2005)
HH	Household Health
HIS	Health Information System
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HSPA	Health System Performance Assessment
HUESO7	[Georgia] Health Utilization and Expenditure Survey 2007
ICD-10	International Classification of Diseases Revision 10
ICPC-2	International Classification of Primary Care Revision 2
ICU	Intensive Care Unit
IDSR	Integrated Disease Surveillance and Response
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MDR-TB	Multidrug-resistant Tuberculosis
MICS05	Multiple Indicator Cluster Survey 2005
MoLHSA	Ministry of Labour, Health and Social Affairs [of Georgia]
MTEF	Medium-Term Expenditure Framework
NCD	Noncommunicable Diseases

NCDC&PH	National Centre for Disease Control and Public Health
NHA	National Health Accounts
Obs/Gyn	Obstetrics and Gynaecology
OOP	Out-of-pocket
PEH	Public Expenditures for Health
PHC	Primary Health Care
SDS	Department of Statistics of the Ministry of Economic Development
SSA	Social Services Agency
STDs	Sexually Transmitted Diseases
TB	Tuberculosis
THE	Total Health Expenditures
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

ACKNOWLEDGMENTS

The Ministry of Labour, Health and Social Affairs of Georgia, the World Health Organization (WHO) Regional Office for Europe and the World Bank express their appreciation to all those who contributed directly or indirectly to the achievements of this project.

The project was implemented mainly by the policy division, health care department, at the Georgian Ministry of Labour, Health and Social Affairs. The policy division is led by Irma Mjavanadze, under the leadership of Sofio Lebanidze, Head of the Health Department, of Nikoloz Pruidze, Deputy Minister, and of Irakli Giorgobiani, First Deputy Minister. The members of the policy division involved in the Georgian health system performance assessment are (in alphabetical order): Nino Chanturidze (chief specialist), Khatuna Chkheidze (senior specialist), Ketevan Goginashvili (chief specialist), Shorena Kukhianidze (senior specialist), Nino Tskimanauri (senior specialist), Salome Tsivtsivadze (specialist), Tamuna Tumanishvili (chief specialist), and Alexandre Turdziladze (consultant, Health Economist, GHSPIC). During the course of the project, technical support was provided to the project team by Akaki Zoidze and Natia Rukhadze (Health Sector Development Project, World Bank Health System Performance Assessment expert).

Technical support was provided by international experts from the World Health Organization Regional Office for Europe: Jeremy Veillard, Regional Adviser a.i., Health Policy and Equity Programme; Enrique Loyola, Head of Unit a.i., Health Information; Bernhard Gibis, Head of Unit, Health Information; Brenda Tipper, Sten Ardal and Jenni Kehler (WHO temporary advisers). The team is particularly grateful to Brenda Tipper for the outstanding technical support provided to finalize the report and to Lisa Copple for her administrative support and detailed review of the report.

The project team would also like to thank national health system performance and health information experts for their support: Manana Tsintsadze, Maya Kereselidze and Ketevan Gambashidze (National Center for Disease Control and Public Health), Tamar Gabunia, Tamar Chitashvili, and Nino Mirzikashvili (Ministry of Labour, Health and Social Affairs).

Finally, the project team is thankful to all international organizations which provided technical and financial support to this project: the WHO Regional Office for Europe Country Office (Rusudan Klimiashvili, Nino Mamulashvili, Amiran Gamkrelidze, George Kurtsikashvili and Ute Enderlein), the World Bank Country Office in Georgia (Nino Moroshkina, Irma Khonelidze), and USAID (George Khechinashvili, Tamar Sirbiladze).

FOREWORD

The government of Georgia is striving to improve the performance of the health system. This implies securing better health for the population of Georgia; ensuring that the poorest Georgians have access to important health services through the Medical Insurance Programme; and using the resources available to fund health services – although limited – in the most effective and efficient way possible. We owe this to our people, and have affirmed this by endorsing, in 2008, the WHO Tallinn Charter: Health Systems, Health and Wealth.

The Georgian health system is performing better. This report shows where we have improved over the last few years, and where there is still progress to be made. One of our core priorities, for example, is to reach the Millennium Development Goals. This report helps us understand where we stand, and shows what components of the health system must be strengthened if these goals are to be attained. Another priority, our effort to strengthen the primary health care system, requires continuous commitment to invest in infrastructure and human resources. Lastly, I would like to mention our policy to ensure coverage and access of the poorest Georgians to essential health care services through the Medical Insurance Program that is already rendering positive results.

This is the first time that such a comprehensive assessment is made of the health system in Georgia. It is a very important exercise: it delivers critical information on overall efficiency of the national health system that we need to know. It shows our commitment to transparency and accountability. It demonstrates that we are ready to take action to make our system better. To do so we need the facts, we need the evidence. This report is a first step for the Ministry of Labour, Health and Social Affairs to utilize the evidence available to make better policies. At the same time, it points to a lack of reliable data and we are committed to resolve this issue. A health system cannot be managed or improved if there is no good information available.

Finally, I would like to thank the staff of the Ministry of Labour, Health and Social Affairs and the partners who have supported us in developing this report. The health department of the Ministry, with the support of the World Health Organization Regional Office for Europe and of the World Bank, has done outstanding work. It is now the responsibility and the commitment of the Ministry to ensure that we build on this milestone to harness evidence about our health system and develop the policies which will bring improved health system performance and better health to the people of Georgia.

Mr Alexander Kvitashvili
Minister
Ministry of Labour, Health and Social Affairs of Georgia

EXECUTIVE SUMMARY

Georgia has embarked on an ambitious health system reform strategy in order to meet the demands of changing health challenges and to improve the health of the people of Georgia. The national health priorities of this strategy are consistent with the health system goals and objectives described in the *World health report 2000 (1)* and include:

- to ensure the overall affordability of basic health services and to protect the general population from catastrophic financial health risks;
- to ensure the quality of medical services by creating and enforcing the necessary regulatory environment;
- to ensure the accessibility of quality medical services by the continuous development of medical infrastructure and competent human resources; and
- to increase health system efficiency by strengthening the capacity of the Ministry of Labour, Health and Social Affairs and its subordinate institutions and through introduction of sound managerial principles.

This reform strategy is being undertaken with the assistance of the World Bank and the World Health Organization (WHO). At the same time, as a signatory to the Tallinn Charter *(2)* and to the resolution on stewardship/governance of health systems in the WHO European Region *(3),* the Ministry of Labour, Health and Social Affairs (MoLHSA) of Georgia has recognized its role as steward of the country's health system. A key component of health system stewardship is knowing how well the health system is performing in the vital area of improving the health of the population in a way that promotes equity and responds to the needs of individuals.

Stewardship also requires understanding how well the system is carrying out the strategies and achieving the objectives that support the intrinsic goal of health improvement, such as improving quality of care and patient safety, improving the efficiency and effectiveness of health care and increasing access to health care services. Underpinning these objectives is the health information system, which supports and is in turn supported by the stewardship function. In addition to supporting stewardship by improving the evidence-based policy development process and creating a reliable instrument for monitoring the impact of health sector reforms, a formal health

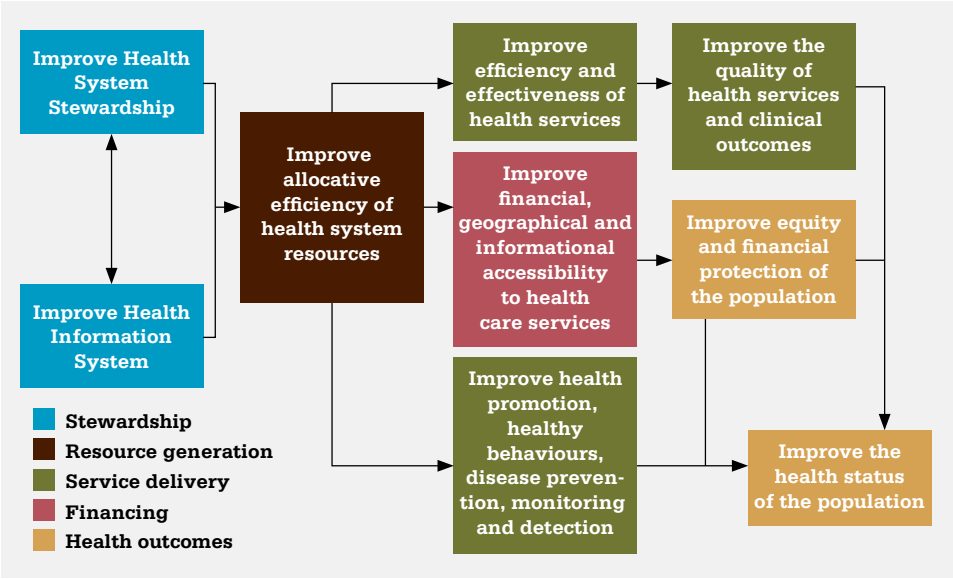
system performance assessment (HSPA) also provides a mechanism for transparency and accountability, which are important conditions for performance improvement.

A working group from the Policy Unit of the MoLHSA was established to develop Georgia's first HSPA. This group was supported by the WHO Regional Office for Europe, the World Bank and other partners in health system reform, and it consulted with a number of health system stakeholders to develop this performance assessment.

The health system framework proposed by WHO in 2000 *(1)* provides a starting point which can be overlaid with country-specific strategies and objectives. As the initial step in the assessment, the working group customized the WHO framework by incorporating Georgia's national health system strategies, outlined above. This led to the development of a health system strategy map, which identifies nine key dimensions of health system performance and illustrates the relationships among these dimensions, the ultimate health system goals and the national health priorities of Georgia.

The nine performance dimensions represented in Fig. 1 and their subdimensions became the framework for selecting performance indicators – measures that could be used to assess how well the health system is performing in these key areas. Thirty-eight performance indicators were used, and the analysis and interpretation of their results provide crucial information to determine where current policy directions are strengthening the health system and where adjustments to policies could improve weak performance.

Fig. 1: Framework for 2009 health system performance assessment in Georgia



The health status of the population, as measured by high-level indicators such as life expectancy or infant and maternal mortality, has been improving since the last half of the 1990s. These are significant accomplishments for a health system in transition. After declining in the early 1990s, life expectancy has increased from 70.3 years in 1995 to 75.1 years in 2007. Infant mortality has decreased from 20 deaths per 1000 live births in 2001 to 14 deaths per 1000 live births in 2007; and maternal mortality has fallen from 58.7 deaths per 100 000 live births in 2001 to 20.2 deaths per 100 000 live births in 2007. Despite the reductions in infant and maternal mortality, however, significant improvement is still required in order to reach the Millennium Development Goal (MDG) targets of 7.0 and 12.3, respectively *(4)*.

Even though life expectancy overall has improved, noncommunicable diseases, such as cardiovascular disease and respiratory disease, have remained the most significant causes of mortality and morbidity. There has been virtually no improvement in the rate of mortality due to cardiovascular disease, currently 645 deaths per 100 000 population, as compared to the European Union rate of 250 deaths per 100 000 population *(5)*. Similarly, neoplasm remains the second leading cause of mortality and has not improved between 2001 and 2006. The reported rate of morbidity due to respiratory disease has doubled from 3532 per 100 000 in 2001 to 7134 per 100 000 in 2006.

Bringing these rates closer to those in other European countries should be a priority for the government of Georgia.

A review of health system performance in the dimensions which support health status points to system strengths that could be leveraged and system weaknesses that should. Health care services that are safe, of high quality and responsive to patients' needs lead to better clinical outcomes and improved health. Results from the Household Utilization and Expenditure Survey illustrate that there is high patient satisfaction (over 80%) for important aspects of care such as receiving explanations of the reasons for treatment and doctors spending adequate time with patients. The national tuberculosis programme has had success in improving the rate of recovered cases from 40% in 2003 to 65% in 2007. At the same time the percentage of cases in which treatment was completed without evidence of success has declined from almost 30% to 10%. These are examples of positive results to build on with respect to quality of care in service delivery.

Although the percentage of recovered tuberculosis cases has increased, multidrug-resistant tuberculosis is becoming a significant problem; the prevalence of multidrug-resistant tuberculosis in Georgia ranks among the highest in the world. The continuing high mortality rate for neoplasm is due in large part to the fact that the percentage of neoplasm cases diagnosed in the early, more treatable stages (stages I and II) has remained constant, between 25% and 30%, over the past five years, which is relatively low by international standards. Emphasis on screening programmes and access to diagnostic services to detect neoplasm earlier could help to improve mortality rates.

There is also a need to focus on health promotion, disease prevention and early detection through screening. Contributing to the low rates of diagnosis of cancer in early stages is the fact that few women in Georgia are screened for breast and cervical cancer, two cancers for which screening programmes have proven to be effective in reducing mortality. High rates of smoking, over 50% for men, contribute to the high rates of mortality and morbidity from cardiovascular and respiratory disease. There are no surveys with which to assess the prevalence of many other risk factors, such as obesity, inadequate physical activity and poor nutrition. Knowing the prevalence of such risk factors and instituting preventive measures to reduce them are vital strategies for influencing the major causes of mortality and morbidity.

In order for individuals to benefit from health care services, the services must be accessible, and financing the services must not place an unfair burden on households. A large percentage of low-income Georgians are covered by state health insurance

programmes. Another, smaller portion of the general population has health insurance through a public or private employer. The majority of Georgians (75% in September 2008), however, do not have health insurance coverage that significantly reduces out-of-pocket payments required at the point of service or reduces the risk of incurring catastrophic health care expenses. This picture is currently changing, given the implementation of new government initiatives for basic insurance starting in early 2009. There is now a possibility that insurance coverage can be extended to a majority of Georgians.

Despite low levels of utilization of existing physician resources on both the hospital and ambulatory sides, there have been notable successes in the areas of physician and nurse retraining for primary health care development and the elimination of excess hospital bed capacity. These strategies improve the efficiency and productivity of existing health system resources and allow more efficient allocation of resources. Nevertheless, there has been relatively low investment by the state in public health and health promotion activities. In 2007 expenditures on public health amounted to only 2.1% of total government expenditures on health. In addition to supporting a health system that can respond to unpredictable public health threats such as influenza epidemics, increased investment in this area could contribute to lowering rates of mortality and morbidity due to cancer and cardiovascular and respiratory diseases.

In 2007 almost 73% of health care spending came from private expenditures. Although this figure has fallen from 78% in 2003, it remains the highest percentage in the European Region (25% on average), and also exceeds the Commonwealth of Independent States (CIS) average of approximately 46% (5). Public health expenditures as a share of total government spending for Georgia are the second lowest in the European Region at 4.5%. Increased public spending, especially for public health, health promotion and disease prevention, is necessary to increase the degree of financial protection provided by the health system. Increased spending to the benefit of the poorest is also an international commitment of the government of Georgia, which endorsed in 2008 the WHO Tallinn Charter: Health Systems, Health and Wealth. It should therefore be seen as a priority *(2)*.

The principles of stewardship recognize that many actors and organizations contribute to improving the health status of the population. The government, as steward, must ensure that other sectors, ministries and agencies collaborate and contribute to strengthening the health system. Although the extent of intersectoral collaboration could not be explicitly measured, there is evidence of collaboration among key sectors. A formal process of assessment, along with approaches that promote "health in

all policies," would provide the structure in which this collaboration would become commonplace. A key area that requires intersectoral collaboration is preparedness for disasters – natural or man-made – that could have a tremendous impact on the health of citizens. Again, although formal measurement was not possible, a review of disaster preparedness found plans in place to respond to disaster situations, developed collaboratively with other sectors and agencies and coordinated by the Emergency Situations Department.

Finally, the health system steward also has a key role to play with respect to efficient regulation of health care services to ensure safety and quality. The assessment revealed weaknesses in this area, particularly regarding the ability of the MoLHSA to maintain and strengthen its regulatory capacity in the context of an expansion of the role of the private sector. Available information shows that a small and declining proportion of drugs are subject to state quality control. There also appear to be significant gaps in the information reported to the national health information system from health care providers and insurance companies. Although there are policies which require that certain information be reported, there are no mechanisms in place for enforcing these reporting regulations.

The relationship between good stewardship and good health information is critical. One of the key roles of stewardship is to manage the health information system; but stewardship cannot exist in a health information vacuum. A good health information system, together with good stewardship, underpins health system performance. The HSPA process uncovered a number of data gaps and quality issues with respect to the current health information system. As noted, there is little information about risk factors. Information that would be useful for assessing patient safety, including the rates of adverse events such as surgical site infections and medication errors in hospital settings, is not reported. There are no mechanisms in place to monitor adherence to clinical practice guidelines; and the effectiveness of pharmaceutical regulation could not be assessed because information was lacking. Although monitoring and evaluation indicators were developed for a number of state health programmes in 2007, this initiative was not maintained. In the short term there are a number of steps that can be taken to meet the information needs for an ongoing HSPA. A long-term strategy for implementing a robust health information system has been developed (6). It will require significant investment in effort and resources over a number of years, but it is an essential component of a health system that can deliver sustainable improvements in the population's health.

The first assessment of health system performance in Georgia has shown an improvement in overall health status since 2000. In some areas, specifically health insurance coverage and primary health care, the country is in the midst of implementing significant reforms to achieve national objectives. Because the system is in flux, the picture can change quickly, underscoring the need for regular and ongoing HSPA, public reporting and engagement of health system stakeholders in debates about how to improve health system performance. There are also dimensions of the health system – stewardship and health information systems – where weaknesses must be addressed as soon as possible. These changes can support health system performance and facilitate long-term, sustainable gains in health for the people of Georgia.

INTRODUCTION

BACKGROUND

Health System Performance Assessment and the Tallinn Charter

An important issue across the European Region, particularly in the current economic climate in which garnering the highest value from existing resources is paramount, is improving the performance of national health systems. In this regard, health system performance assessment (HSPA) is a recognized approach among the Member States of the WHO Regional Office for Europe to identify areas for performance improvement and act upon them *(1)*. It has been given renewed recognition and impetus by the Tallinn Charter, through which the Member States commit themselves to transparency and accountability for health system performance to achieve measurable results *(2)*.

In June 2008, the 53 Member States of the WHO Regional Office for Europe met in Tallinn for the WHO European Ministerial Conference on Health Systems, Health and Wealth. As a result of this conference, the *Tallinn Charter: Health Systems, Health and Wealth* was endorsed by the Member States. The purpose of the Tallinn Charter is to improve people's health by strengthening health systems while acknowledging social, cultural and economic diversity across the region. By endorsing the charter, the Member States committed themselves to promoting transparency and accountability for health system performance to achieve measurable results. A first step suggested in the charter is the development by Member States of regular mechanisms for the assessment of the performance of their health systems. The rationale for investing in this assessment function is that HSPA can ensure that the health system has a strategic direction that focuses on improving health outcomes for the population; that policy decisions are informed by appropriate intelligence with regard to health problems and their determinants; that all government policies contribute to better health for the people of the country; that public health policies are promoted across all sectors of government; and that relationships among all public health stakeholders are regulated in a context of transparency and accountability.

The Ministry of Labour, Health and Social Affairs (MoLHSA) of Georgia launched a formal HSPA in 2007 with the goals of improving evidence-based policy-making processes and developing a reliable instrument for assessing the impact of ongoing national health sector reform initiatives. It is anticipated that the national HSPA will help to:

- assess the level of attainment of core health system goals and supervise the process of changes taking place in the system;
- offer a summary assessment of health system performance;
- place the performance of the national health system at the centre of the policy arena;
- enhance the effectiveness of health system stewardship;
- enable judgements to be made on the efficiency of the health system;
- facilitate communication and promote accountability;
- indicate which areas of performance are priorities for improvement efforts; and
- stimulate the search for better data and better analytic efforts in all sectors of health care.

Methods for Developing the first Georgian Health System Performance Assessment Report

In order to initiate the assessment process, the ministry set up a core HSPA working group comprised of representatives from the ministry's Health Policy Division, the entity responsible for health policy development. The WHO Regional Office for Europe and the World Bank, through the Primary Health Care Development Project, provided support for the process of developing the first Georgian HSPA. Several technical missions from the WHO Regional Office for Europe took place between 2007 and 2009 to assist the ministry working group in developing a conceptual framework; preselecting a core set of performance indicators based on a set of criteria previously defined; assessing the quality of data and possible strategies to compensate for data gaps; and interpreting the available data and drafting the report. Consultations with national and international health system stakeholders took place at each stage of the development of the HSPA. The final draft of the report was reviewed by a large number of national and international health system partners of the MoLHSA.

BRIEF HEALTH SYSTEM DESCRIPTION

During more than twelve years of transition and health reforms, the Georgian health system has moved away from the highly centralized Semashko model inherited from the Soviet Union.

The *stewardship* function of the ministry is formally focused on policy-making and regulation, while the management of the health system and its components has been increasingly decentralized.

Health financing, after a series of reforms, currently resembles a national health system financed through general budget revenues with targeted benefits for the poor (up to 25% of the country's population) and relatively limited coverage for the rest of the population. A considerable share of public resources (including a health programme for the poor) is contracted out to private insurance providers.

Resource generation for the health system suffered from years of underfunding; until recently investments in health care infrastructure and human resources were very low compared to other countries in the region. Even after an increase in available funds from donor and private sources, the level of capital investment in the country's health facilities is still relatively low. The pharmaceutical market is well developed, with a fair supply of pharmaceutical products. Access to quality drugs and consumables, however, is still problematic. There are gaps in pharmaceutical regulation and consequently in the quality and safety of drugs available on the market. Development of human resources, training and ongoing education have yet to achieve modern standards.

Service delivery is still characterized by an underutilized infrastructure, most of which was inherited from the Soviet era with an emphasis on hospital facilities. The skills mix of health care personnel is far from optimal. The system of service delivery for public health services is represented by a central agency, the National Centre for Disease Control, which is subordinate to the ministry. Local bodies called Public Health Centres have been abolished in most of the local constituencies of the country. The efficiency of such a system in fulfilling public health functions has yet to be assessed. Past and present problems in health system performance, along with the deterioration in the social and environmental determinants of health, have had a long-lasting, negative effect on the health status of the Georgian population. Key indicators such as life expectancy, infant mortality, under-five mortality and maternal mortality worsened during the country's economic transition in the 1990s. Since the year 2000 they have

shown steady improvement; however, available data on these indicators suggest that there is ample room for improvement.

CONCEPTUAL FRAMEWORK FOR HSPA IN GEORGIA

Health system boundaries

The conceptual framework for health system performance in Georgia draws on internationally used health system assessment frameworks and takes into account national health policy goals and priorities. The main features of the WHO framework for HSPA *(1,3)* serve as a starting point for this approach. WHO defines a health system as "all actors, institutions and resources that undertake health actions – where the primary intent of a health action is to improve health" *(1).* This definition implies that health systems encompass personal medical services (commonly under the direct control of ministries of health), non-personal health services (mainly public health interventions) and a limited set of intersectoral actions designed specifically to improve health (for example, promotion of anti-tobacco measures or road safety regulation). This clarification of health system boundaries helped the working group determine the criteria for selection of indicators for performance assessment.

Health system goals, strategies and performance dimensions

Along with the definition of a health system's ultimate goals (improving the level and distribution of health, fair financing and financial protection, and health system responsiveness), the WHO health system framework *(1)* defines intermediate goals, which are instrumental for attaining better health. In the MoLHSA's strategic document, Main directions of state health care policy *(4),* the Georgian government emphasizes that the country's health system is pursuing goals similar to the WHO health system framework goals. A mapping of the main directions of the strategic document into different performance dimensions was undertaken in order to define key health system performance output and outcome indicators, which would match the country's health system strategic directions.

The WHO health system framework considers better health to be the main objective of a health system. Furthermore, the objective of improved health includes two socially desirable components: "responsiveness" or "goodness," meaning that a health system should respond well to what people expect of it, and "fairness," meaning that the system responds equally to all citizens without discrimination. A health system, therefore, has three fundamental goals: improving health; enhancing responsiveness to the expectations of the population; and ensuring fairness of financial contribution. The goal of improving health has two components: improving average health status and reducing health inequalities. Responsiveness also includes two major components: respect for persons and client orientation. For the third goal, fairness of financial contribution, only distribution is considered, not its average level. The level of resources devoted to the health system is treated as an extrinsic variable for judging performance. Progress toward both health improvement and responsiveness reflects the overall quality of the health system, whereas the distributional measures of health, responsiveness and financial contribution describe the equity of the system. Hence, the five major components of health system performance are: the overall level of the population's health; the distribution of health in the population; the overall level of responsiveness; the distribution of responsiveness within the population; and the fairness of financial contribution.

The instrumental goals of the Georgian health system were determined in accordance with explicitly defined national health priorities:

- to ensure the overall affordability of basic health services and protect the general population from catastrophic financial health risks;
- to ensure the quality of health services by creating and enforcing the necessary regulatory environment;
- to ensure the accessibility of quality medical services by the continuous development of medical infrastructure and competent human resources; and
- to increase health system efficiency by capacity-building in the ministry and its subordinate institutions and through introduction of sound managerial principles.

A framework based on health system strategy mapping (5) was endorsed by the ministry in late 2007 after consultation with major health system stakeholders to assess the performance of the health system. Health system performance dimensions were defined based on the intrinsic and intermediate goals outlined above. These nine dimensions are: improving health system stewardship; improving the health information system; ensuring efficient allocation of health system resources; improving the efficiency and effectiveness of health services; improving financial, geographical and informational accessibility of the health system; improving equity and financial protection in the health system; improving health promotion, health behaviours, disease

prevention, monitoring and detection; improving the quality of health services and clinical outcomes; and improving the health status of the population. The National Health Priorities and their relationships to the health system performance dimensions and to the four functions of health systems are shown in Table 1.

Table 1. Mapping of national health priorities, health system performance dimensions and the health system core goals and functions

National Health Priorities	Related Health System Strategy Map Performance Dimensions	Related Goals and Core Functions
To ensure the overall affordability of basic health services and protect the general population from catastrophic financial health risks	Improve equity and financial protection of the population	Fair Financing
To ensure the quality of medical services by creating and enforcing the necessary regulatory environment	Improve the quality of health services and clinical outcomes	Health Service Provision
	Improve health system stewardship	Stewardship
To ensure the accessibility of quality medical services by the continuous development of medical infrastructure and competent human resources	Improve geographical and informational accessibility to the health system	Health Service Provision
	Improve financial accessibility to the health system	Health Financing
	Ensure efficient allocation of health system resources	Resource Generation
To increase health system efficiency by capacity building of the ministry and its subordinate institutions, and through introduction of sound managerial principles	Ensure efficient allocation of health system resources	Resource Generation
	Improve efficiency and effectiveness of health services	Health Service Provision
	Improve health system stewardship	Stewardship

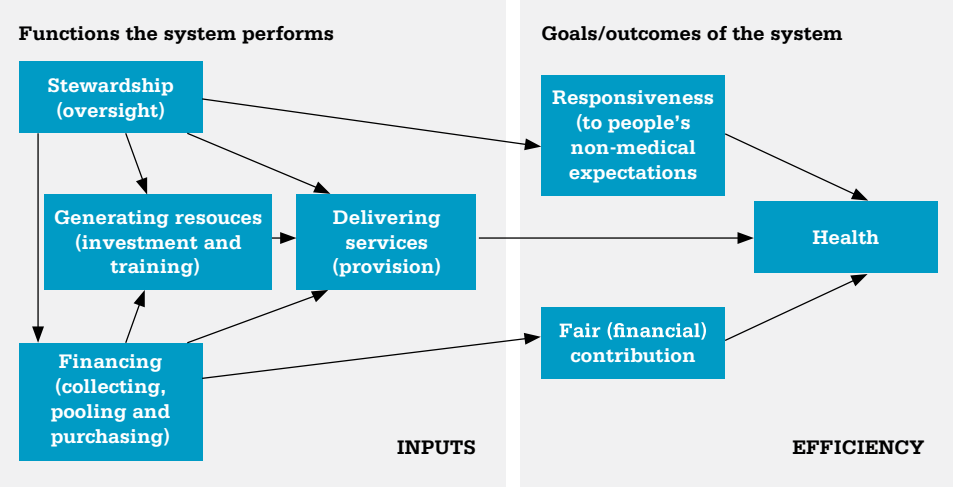
As shown in the table, most of the dimensions listed above characterize one or more instrumental goals or national health priorities. Each of these performance dimensions includes subdimensions that are also determined by the national health policy and reform priorities. The Georgian health system performance dimensions, corresponding subdimensions and main policy issues are presented in Annex 1 (page 86).

HEALTH SYSTEM FUNCTIONS AND PERFORMANCE DIMENSIONS

According to the World Health Organization HSPA framework, health system functions, or the means for attaining the defining goal of better health and intrinsic goal of responsiveness and financial protection, revolve around four core areas: stewardship, financing, resource generation, and service provision (including service coverage).

Health system efficiency describes how well the health system performs its functions and achieves the five components of the fundamental performance goals, given the available resources or inputs. This interrelation is presented in Fig. 2.

Fig. 2. Health system functions and goals

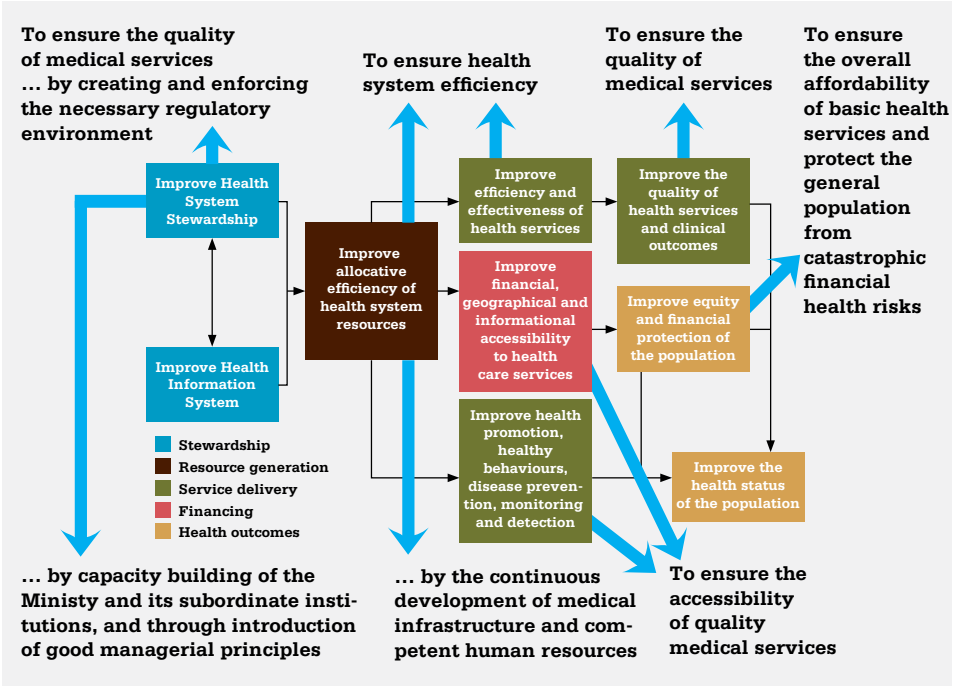


Source: Modified from the World Health Report 2000 (1).

The nine performance dimensions for the HSPA for Georgia, defined above, are also linked to health system functions and goals. Each of the performance dimensions characterizes how well one or more health system goals and/or functions are performed.

The resulting relationships between the health system goals, functions and performance dimensions/health system strategies are presented in Fig. 3 and provide the conceptual framework for the Georgian health system performance assessment.

Fig. 3. Conceptual framework for the Georgian HSPA mapped with health policy national objectives



HEALTH SYSTEM PERFORMANCE ASSESSMENT FINDINGS

This section presents the findings of the Georgian HSPA, using the performance dimensions shown in Fig. 3. Subdimensions are introduced under each performance dimension, and the rationale for their importance is discussed. Results of performance indicators are presented, analysed and interpreted, along with implications for developing policy. Where appropriate, data issues are reviewed. Findings and recommendations for health policy are summarized at the end of each dimension.

DIMENSION 1: IMPROVE HEALTH SYSTEM STEWARDSHIP

The Tallinn Charter (2) defines the key stewardship sub-functions of governments and ministries of health: namely, that they "set the vision for health system development and have the mandate and responsibility for legislation, regulation and enforcement of health policies, as well as for gathering intelligence on health and its social, economic and environmental determinants." Ministries of health should also advocate and lead concerted intersectoral and multistakeholder efforts to maximize population health gains and ensure health system preparedness for man-made and natural disasters.

Five performance subdimensions for improved health system stewardship were assessed for the Georgian HSPA: implementation of a policy cycle including evidence-based allocation of resources; optimization of distribution of expenditure by level of care, including health promotion and public health; improvement of regulation of the health sector; ensuring health system disaster preparedness; and ensuring intersectoral collaboration for promoting better health and health protection.

Implementation of a policy cycle including evidence-based allocation of resources

This health system performance subdimension is intended to address the policy question of how well the government uses evidence and health system performance information in its strategic planning and resource allocation processes. The core indicator selected to assess performance, shown in Table 2, is the share of public health expenditures in the fiscal year that is not reflected in the Medium Term Expenditure Framework. A smaller gap between expenditures expressed strategically in the Medium Term Expenditure Framework and the final expenditures defined by

the state budget law for each respective year and its evolution is assumed to indicate more consistency in decision-making and planning. In Georgia, the Medium Term Expenditure Framework was introduced in 2006. The data for this indicator were collected for 2006 and 2007.

Table 2. Share of public health expenditures not reflected in the Medium Term Expenditure Framework, 2006 and 2007

	2006	2007
Public Expenditures for Health (PEH) not reflected in the MTEF	2515.8 Million GeL	5841.7 Million GeL
Total Public Expenditures on Health	125 525.8 Million GeL	262 207.1 Million GeL
Share of PEH not reflected in the MTEF	2.0 %	2.2%

Source: Health Care Department, Ministry of Labour, Health and Social Affairs

According to these data, the difference between the total public expenditures on health planned in the Medium Term Expenditure Framework and in the state budget law adopted by the parliament is minimal, approximately 2%, which seems to indicate consistency between the strategic planning process and public spending patterns for health. The Medium Term Expenditure Framework format currently used in Georgia, however, is not supported by detailed policy documents showing whether the public spending planned in the Medium Term Expenditure Framework for health was allocated for the same programmes in the state budget law. This data would be useful for gauging consistency in the use of performance assessment information in the resource allocation process and may be addressed along with the Medium Term Expenditure Framework development process in the near future.

Optimization of the distribution of expenditure by level of care, including health promotion and public health

This performance subdimension addresses the policy question of whether the government distributes resources in an optimal way to achieve better health outcomes. Two indicators are used: change in health revenues[1] and change in health expenditures, including various components of public and private spending in relation to GDP and overall health expenditures.

1 This indicator establishes context and supports the interpretation of the indicator on change in health expenditures, which is a stewardship issue.

The data for the first indicator were collected for the years 2001–2007 and are presented in Figs. 4 and 5. The results for health expenditures are shown in Figs. 5 and 6.

Fig. 4. Health revenues by source in million GeLs and as percentage of total revenue, 2001–2007

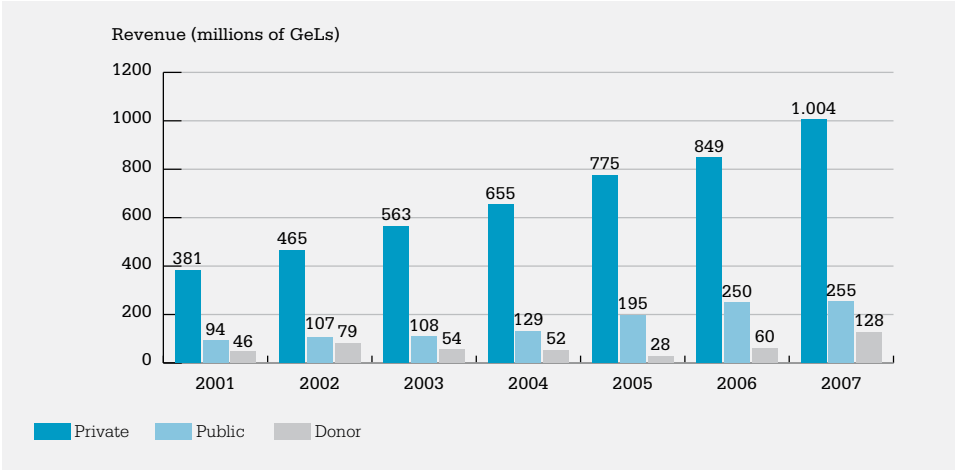
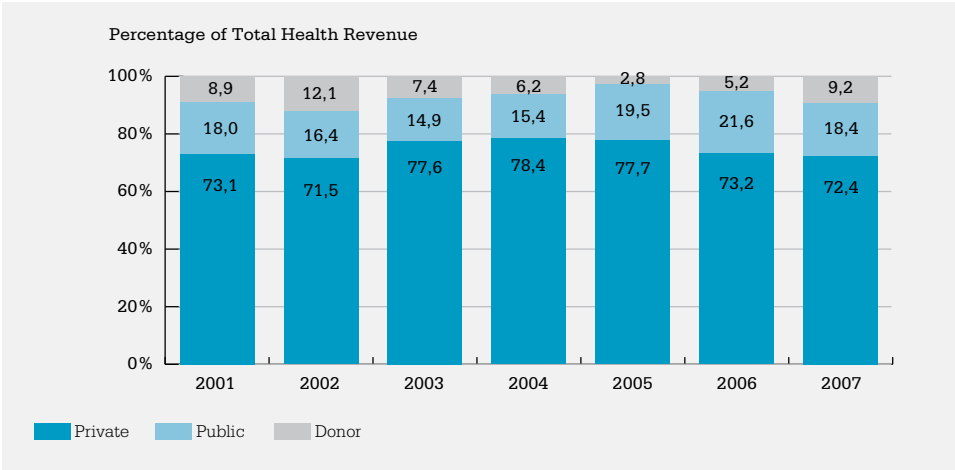
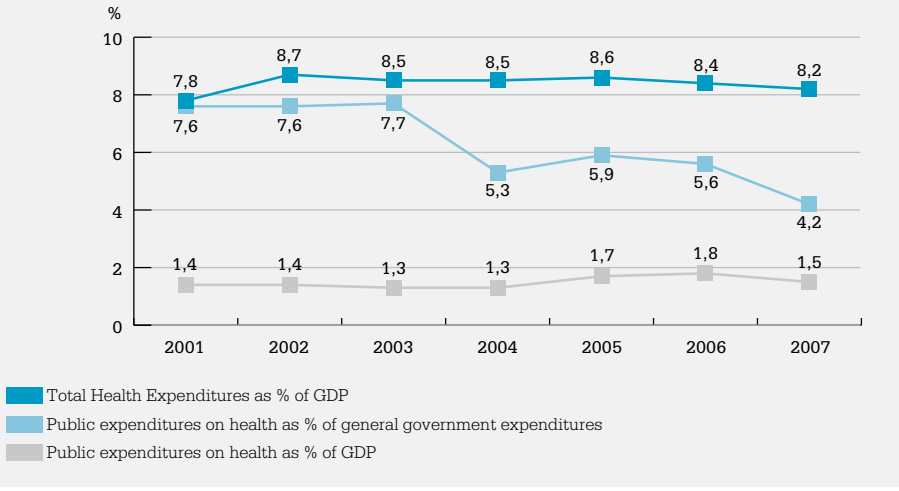


Fig. 5. Share of total revenues by source, 2001–2007



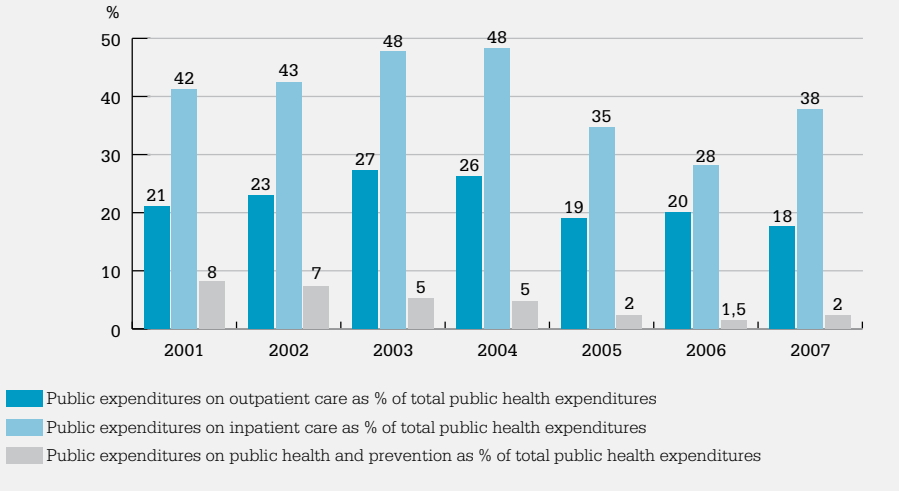
Source: National Health Accounts

Fig. 6. Total and public expenditures on health as percentage of GDP, and public expenditures on health as percentage of total government expenditures, 2001–2007



Source: National Health Accounts

Fig. 7. Public expenditures on outpatient care, inpatient care and public health and prevention services as percentage of total public health expenditures, 2001–2007



Source: National Health Accounts

The data for health revenues by source and health expenditures show the following developments in the period 2001–2007.

- There was a twofold increase in total health expenditures, which may indicate increased demand and/or ability to pay for health services. Part of this change, however, may be associated with the introduction of a system of National Health Accounts (NHA) in 2004–2005 and resultant improvements in reporting on health expenditure patterns. As a share of GDP, total health expenditures increased at a relatively moderate pace from 7.8% to 8.2% in 2007, which is comparable to the European Union average of 8.9% in 2006 *(6)*.

- Despite a greater than threefold increase in public expenditures on health in absolute terms, they remain at a relatively low level of 1.5% of GDP and 4.7% of the general government expenditures in 2007 even if the fiscal situation has greatly improved since 2003 in Georgia. As a result, private expenditures on health account for 73% of total health expenditures, which is not only the highest level of private expenditures on health in the European Region (approximately 25% on average), but also exceeds the CIS average of approximately 46% *(6)*.

- The increase in outpatient expenditures occurred at the same time and rate as the increase in overall health expenditures, a sign that the shift towards primary health care has not yet produced all the changes in resource allocation that were expected.

- There is a very low level of public expenditure on public health and prevention; its share of total government allocation for health has decreased from 8.1% to 2.3%, which is relatively low compared to levels in other countries of the region.

Improvement of regulation of the health sector

This performance subdimension characterizes such important aspects of stewardship as regulation of public-private relationships, promotion of international health regulations and patient and drug safety. It addresses the policy question of how well the government uses its regulatory power to establish the ground rules for all players in the health sector. One proxy indicator was selected for the assessment of the state regulatory function: the share of drugs subjected to state quality control out of the total amount of drugs on the market.

Annual data from the Agency for State Regulation of Medical Activities shows a yearly decrease in both the absolute quantity of drugs on the Georgian market and the share

of drugs subjected to quality control. This information is presented in Table 3. The reason for the wide variation in the numbers of drugs subjected to quality control from year to year (510 in 2005 compared to 149 in 2007) is unclear. Funds allocated for the State Programme on Drug Quality Control have increased from 74 000 GeL in 2005 to 100 000 GeL in 2007 but remain very low.

Table 3. The share of drugs subject to state quality control and the total number of drugs registered in the country, 2005–2007

	2005		2006		2007	
Number of drugs registered in the country	5123		4906		5717	
Number of drugs subjected to quality control	510	10.0%	377	7.7%	149	2.6%

Source: Agency for State Regulation of Medical Activities

Such results indicate serious flaws in this regulatory function. The data available on false, substandard and expired drugs identified through these quality control activities tell very little about the quality of drugs in the health system, due to the deregulation of the drug market and the apparent absence of an organized regulatory activity for quality of drugs. It implies that similar problems may be observed with other components of the regulatory function of the ministry, such as setting up quality and safety standards for service delivery and patient safety in public and private facilities, due to the extensive deregulation that has been implemented by the Georgian government over the last several years. While improvement of the business environment through deregulation is a key national policy objective, appropriate and efficient regulation is necessary in the health sector to ensure the quality of drugs available on the market. Alternative mechanisms should be considered to improve the regulatory function of the ministry and to enable it to satisfy this key element of the stewardship function.

Ensuring health system disaster preparedness

This performance subdimension characterizes whether the government ensures that appropriate mechanisms are in place to respond to situations of emergency and disaster. There is currently no quantitative indicator available to measure performance for this important aspect of the health system. A review of emergency preparedness plans for various natural or man-made disasters, however, shows that the government does have plans in place. The Ministry of Interior is the governmental agency responsible for emergency situations, and it coordinates all other ministries and public bodies in

such situations. The ministry has a special structural unit, the Emergency Situations Department, which is responsible for the elaboration and coordination of the disaster preparedness plans for the national health system. The armed conflict with Russia in August 2008 demonstrated that such plans are in existence. There is some evidence that the drill conducted in health care facilities shortly before the armed conflict in the areas adjacent to the conflict zone significantly raised the preparedness level of these institutions, resulting in fewer casualties than might otherwise have occurred. During the last several years, the ministry, in cooperation with international partners, has also been active in the development of preparedness plans for a highly pathogenic avian influenza pandemic and possible acts of bio-terrorism. Currently the ministry collaborates closely with WHO in preparing and updating disaster preparedness plans for various scenarios. As a result of this collaboration several standards have been proposed to assess disaster preparedness in future health system performance assessments. The standards are as follows.

- Sector-specific policies and regulations to implement provisions of laws and acts are developed and instituted.

- A generic, multihazard health sector coordination mechanism is developed and institutionalized at all levels.

- Roles, responsibilities and lines of authority are clearly defined and supported by administrative structures across all disciplines and departments of the ministry.

- Preparedness plans are developed and contain at a minimum: a hazard and vulnerability analysis, such as those carried out by other sectors; mechanisms for coordination and control; descriptions of the roles and responsibilities of different partners; and practical arrangements for implementation, including resources, information and communication management.

- Disaster preparedness exercises to test specialized plans are conducted at least once a year.

It is recommended that once the updating of disaster preparedness plans is complete, at least one quantitative performance indicator is selected to assess this subdimension of health system performance.

Ensuring intersectoral collaboration for promoting better health and health protection

Addressing major health challenges and working to improve the health status of all Georgians is not an exclusive responsibility of the MoLHSA, but rather is the task of the entire government. The policies and activities in many sectors – for example, environmental protection, transportation and road safety, education – have a significant impact on the health of the people. This performance subdimension examines the extent to which the government ensures a sufficient level of intersectoral collaboration to promote better health and health protection for the population. No indicator was identified for this important aspect of the health system stewardship function.

There is clear evidence, however, that intersectoral action is taking place in Georgia on selected major health issues. During the last 10 years, up to 20 high-level governmental commissions headed by the President or Prime Minister have been established for various health sector initiatives, such as the Governmental Steering Commission on Avian Influenza, headed by the Prime Minister. Furthermore, there are numerous joint decrees issued by the MoLHSA and other ministries, including the Ministry of Agriculture, Ministry of Environmental Protection, Ministry of Education and Ministry of Economic Development. The effective functioning of the Country Coordination Mechanism, with representatives of various governmental and nongovernmental stakeholders for the national programmes, to fight HIV/AIDS, tuberculosis and malaria during the last several years can be regarded as a model of intersectoral collaboration for the country. The most recent major health sector initiative on public subsidies for the private voluntary insurance coverage for a significant part of the population also serves as an example of intersectoral governmental action for promoting health protection. The initiative was announced by the President during his annual address to the Parliament; the detailed plan was elaborated with the participation of the Prime Minister and almost all government ministries. Several government sessions were dedicated to fine-tuning the implementation plan, and consultations were organized with nongovernmental and private stakeholders.

On the other hand, there is no formal process of health impact assessment[2] for governmental strategies and projects. Such a process would be a good indication of regular intersectoral collaboration to improve the health status of the population. If a health

2 Health impact assessments provide decision-makers with information about how a policy, programme or project may affect the population's health and seek to influence decision-makers to improve the proposal.

impact assessment policy is introduced, the indicator selected for this component could be the percentage of projects or decisions that underwent assessment.

Summary of findings and policy recommendations for Dimension 1: Improve Health System Stewardship

Situation	Policy Recommendations
There is overall consistency between the Medium Term Expenditure Framework and annual budgets over the years examined, which could be a sign of discipline in health spending compared to plans. However, there is presently no detailed policy document that would provide the information required to assess if spending within health has been allocated as planned.	Develop benchmarking to track consistency in the use of performance assessment information in the resource allocation to be addressed along with the Medium Term Expenditure Framework development process.
The government of Georgia devotes a very low share of public spending to the health sector compared to other countries even if the fiscal context has improved greatly in the last few years. The share has remained low over a number of years. This is also true of spending devoted to public health and health promotion, two areas of health spending which are true public goods. There should be some evidence of a relative shift of public resources towards primary health care but this pattern has not been realized yet. It is unclear whether the increased funding for the Medical Insurance Programme for the Population under the poverty line, which also includes coverage for a range of primary health care interventions, offset the reduction in resources allocated to the Primary Health Care State Programme for the year 2008 compared to the year 2007.	Give priority to increasing government investment in health, particularly in the areas of primary health care, public health and health promotion.
The philosophy of "small government" and the government's focus on core activities and free market reforms have led to a decrease in the regulatory capacities of the ministry, as evidenced by a virtual absence of quality control over drugs in the last two years. Adverse consequences for the quality and safety of drugs (and on other domains in health care subject to public regulation) are to be expected and could compromise patient safety and public trust in the health system.	Explore alternative mechanisms for efficient and effective regulation of health care and drugs, particularly with respect to the quality and safety of health services delivered by private and public facilities, and pharmaceuticals.
Performance on the subdimensions of health system disaster preparedness and intersectoral collaboration on health issues across the government cannot presently be measured quantitatively. However, there has been significant planning and implementation in both these areas. Preparedness plans have been developed and tested in action.	Develop and report on quantitative indicators to assess health system disaster preparedness.
There is no requirement for formal health impact assessments of government policies that would affect health status, but there is some evidence that intersectoral collaboration on major health issues exists within the government.	Gradually introduce a formal health impact assessment policy to review major governmental decisions or projects that may affect the health of the population.

DIMENSION 2: IMPROVE THE HEALTH INFORMATION SYSTEM

A reliable and effective health information system is one of the essential tools for carrying out the health system stewardship function. Health information is essential for evidence-based planning, monitoring, evaluation and policy formulation. It is also essential for regulatory activity required to monitor the quality and safety of health service provision. Two performance subdimensions were identified and assessed for this dimension: improvement of data collection and data quality; and implementation and use of relevant performance indicators for assessment and management of the health system.

Improvement of data collection and data quality

This section addresses the policy issues of the quality of data collected through the existing health information system and whether it is improving over time. With wide-scale privatization and management decentralization in the national health sector, there are currently no effective mechanisms for enforcing the mandatory reporting of health information and statistics from health service providers. As a result, many private health service providers, particularly those delivering ambulatory and diagnostic services, are not reporting at all or are reporting irregularly to the National Centre for Disease Control. The abolition of mandatory licensing for many types of health services in 2005 has led to the erosion of the comprehensive database of existing and functioning health providers previously kept by the ministry,[3] effectively rendering both numerator and denominator for this indicator invalid.

The variation between the data routinely collected by the national health information departments and population-based surveys, however, is a good indicator of the quality of the data routinely collected. It consists of two subindicators: the difference between the data on child and maternal mortality reported by the National Centre for Disease Control and the Women's Reproductive and Health Survey; and the variation in immunization coverage rates derived from routine health information systems and a specific household survey.[4] The extent of the gap between the data received from these different information sources allows an assessment of the reliability of the

3 Licensing of medical activities is the only instrument for MoLHSA, based on which medical facilities are being registered as legal bodies. At the current stage, it is impossible to conduct comprehensive inventory of those medical service providers, who are implementing non-licensed medical activities (e.g. ambulatory dental clinics etc.). It is impossible to get this information even from the tax payment agencies, as they do not distinguish/systemize registered legal bodies by type of conducted activities.

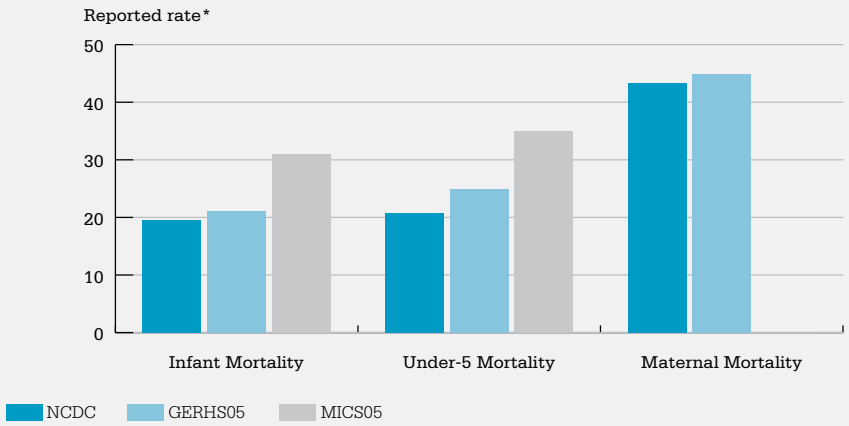
4 The survey was implemented by UNICEF in 2008 for its "Communication Campaign for Changing Immunization Related Behaviour" (CCIRB).

country's health information system. The variance in DPT-3 immunization coverage was selected as a proxy to assess this gap.

The variance in infant mortality, under-five mortality and maternal mortality between the routine health information system (State Statistical Department and National Centre for Disease Control) and the Women's Reproductive Health Survey conducted in 2005 (GERHS05) is presented in Fig. 8 and Table 4. For comparison, the data for the same indicators obtained from the UNICEF-supported Multiple Indicator Cluster Survey (MICS05) in the same year (2005) are also presented.

The DPT-3 immunization coverage and difference in rates between the routine health information system and a population-based representative survey for the last three years is presented in Table 5.

Fig. 8. Comparison of infant, under-five years and maternal mortality rates reported by National Centre for Disease Control (routine health information source) and two population-based surveys, 2005



* per 1,000 for infant and under-5 mortality; per 100,000 for maternal mortality

Sources: National Centre for Disease Control; Women's Reproductive Health Survey (9); Multiple Indicator Cluster Survey (7)

Table 4. Comparison of infant, under-five and maternal mortality rates reported by National Centre for Disease Control (routine health information source) and two population-based surveys, 2000–2004

	Infant Mortality (per 1,000 live births)	Under-five Mortality (per 1,000 live births)	Maternal Mortality (per 100 000 live births)
National Centre for Disease Control (routine HIS source)	19.5*	20.8*	43.4*
GERHS05 (difference in %)	21.1** (8%)	25** (16.8%)	44.8** (3.1%)
MICS05 (difference in %)	31*** (37%)	35*** (40.6%)	—

*All deaths for 2000–2004 are summarized and divided by the sum of live births in the same years so that the resulting indicator is comparable to the time period in the survey.
** GERHS05 results also refer to the years 2000–2004
*** GERHS05 and MICS05 surveys used different methods in estimating child mortality indicators. The GERHS05 used the so-called "direct" method, while the "indirect" method was used for MICS05.

Sources: National Centre for Disease Control; Women's Reproductive Health Survey (9); Multiple Indicator Cluster Survey (7)

Table 5. Comparison of DPT-3 immunization coverage rates reported by the National Centre for Disease Control (routine health information source) and Communication Campaign for Changing Immunization Related Behaviour (UNICEF) 2005–2007

Reported DPT-3 Coverage Rate (%)	2005	2006	2007
National Centre for Disease Control	82	87.1	97.6
UNICEF CCIRB Survey	84	87.1	100.0
Difference in percentage	2.4%	0%	2.4%

Sources: National Centre for Disease Control; Communication Campaign for Changing Immunization Related Behaviour (8)

The differences between the figures for infant mortality and maternal mortality reported by routine health information system sources and the population-based survey (GERHS05) are relatively small, approximately 8% and 3% respectively, and may be associated with sampling error (the 95% confidence interval for the GERHS05 infant mortality ranges from 13.5 to 28.7 and for under-five mortality from 16.4 to 33.6). The difference in reported figures is more pronounced for the under-five mortality rate

at approximately 17%. The difference is highly significant if the routine source and the MICS05 findings for infant and under-five mortality are compared (approximately 37% and 41%), possibly indicating lower reliability of data for this specific indicator. It should be noted, however, that reliability of routine health information system data for this indicator has improved considerably compared to the period before 2000. The observed difference between the under-five mortality rate reported by the health information system and the previous Women's Reproductive Health Survey (1999) exceeded 50%–70% *(9)*.

The difference in DPT-3 coverage rates from routine and population-based sources does not exceed 2.4% and indicates reliability of routine data sources for assessing such important features of the health system as immunization coverage.

Although it is important to continue to monitor the reliability of health information system data, the population-based survey data used for comparison are available only through surveys funded by external sources that are conducted once every five years, creating obstacles to regular assessment of these indicators.

Implementation and use of relevant performance indicators for assessment and management of the health system

A country can expect to benefit from HSPA if the findings are properly reviewed and used in health policy implementation and system reforms. It is important to assess whether the government – and specifically the lead health policy agency, the MoLHSA – is using performance indicators and information for monitoring and evaluating the effectiveness of health sector programmes and policies in decision- making. This would provide information about the extent of policy uptake and improvement in health system performance. One indicator with two subindicators was selected to answer this question. The first subindicator, the share of monitoring and evaluation indicators of the health policy implementation strategies and adequate state programmes that are integrated into routine information systems, assesses how well the monitoring and evaluation tools and indicators are integrated into health policy and state programmes at the planning stage. The second sub-indicator, percentage of monitoring and evaluation indicators on which the effectiveness of the health policy implementation strategy and state programmes was based, assesses the extent to which the monitoring and evaluation tools are used and reported through routine information systems. The indicator examines not only the number of state programmes covered by monitoring and evaluation indicators, but also the percentage of public expenditures for health effectively covered by a monitoring and evaluation framework. Data for this indicator for the years 2005–2007 are presented in Table 6.

Table 6. Use of monitoring and evaluation frameworks and indicators in state health programmes, 2005–2008

	2005	2006	2007	2008
Number of State Health Programmes	8	13	10	22
Number of State Health Programmes that include M&E indicators	0	0	4	1
Number of M&E indicators integrated in the HIS	0	0	84	9
Programmes with adequate M&E framework as % total governmental health expenditures	0%	0%	68%	1%

Source: Health Policy Division, Ministry of Labour, Health and Social Affairs

The data demonstrate that until 2007 the state programmes did not include any monitoring and evaluation indicators to assess their effectiveness. In 2007, four of ten approved state programmes, accounting for approximately 68% of total public funds allocated to the health sector, included 96 indicators, 84 of which were included in routine health information systems. Although this represented some progress, the data for the indicators was not properly collected and analysed; a final performance analysis was not conducted; and a formal report on execution of the state programmes was not compiled during 2008. For 2008 only one programme included monitoring and evaluation indicators, accounting for a mere one percent of public funds allocated for health. Again, a final performance analysis was not conducted.

It was difficult to obtain information prior to the year 2005. Stakeholder interviews revealed that in previous years (2000–2004), certain state programmes contained monitoring and evaluation indicators, and programme execution was evaluated in an annual report on the implementation of the state programmes. However, due to missing data, it was impossible to reconcile this information across the indicators selected for this performance subdimension.

Summary Findings and Policy Recommendations for Dimension 2: Improve Health Information System

Situation	Policy Recommendations
The absence of a comprehensive data base of health providers and a lack of means for enforcing mandatory reporting from them represents a significant problem for the quality of data collected by the national health information system, particularly in relation to private outpatient and diagnostic service providers. Such major flaws in data place severe restrictions on the capacity of government to determine appropriate policies and to assess if policies have the intended impact.	Coordinated intersectoral efforts involving the Ministry of Finance and the State Statistical Department of the Ministry of Economic Development could help alleviate this problem through the introduction of an enforcement clause in the Georgian Administrative Code and penalties for not complying with the State Statistical Reporting requirements. Additional levers may also be used for those health providers and intermediaries (private insurance companies) that are receiving public funds. Each public contract could include standard provisions and forms for reporting and be awarded based on the principle of "no reporting, no money".
The data collected through the routine information systems for immunization coverage seem to be reliable and not overreported[5] as in many countries of the former Soviet Union. Similarly, data on two very important health indicators, infant and maternal mortality, are reported by national health information systems without the bias typical of the countries of the former Soviet Union. At the same time, it appears that the under-five mortality rate is not well captured by the country's health information systems, based on comparison with MICS05 findings.	There have been numerous assessments of the national health information systems by international organizations that identified and suggested strategies to improve the country's health information systems. Additional recommendations are given in this report in the section Recommendations for Health Information Management and Institutionalization of Health System Performance Assessment (page 85).
The approved state programmes in the health sector included monitoring indicators with routine data collection for the majority only during 2007. These programmes with a monitoring and evaluation framework accounted for up to 68% of public money spent on health care in that year.	Further efforts should be applied to make best use of monitoring indicators and programme performance information in decision-making. These are crucial for making adjustments to health policy, particularly in light of current changes in contracting out the bulk of the public money for the implementation of state programmes to private insurance companies. These steps at a minimum must include: special ministerial decree introducing standard format for state programmes with adequate monitoring and evaluation framework; and regular production and critical assessment of the report on state health programme implementation.

DIMENSION 3: ENSURE EFFICIENT ALLOCATION OF HEALTH SYSTEM RESOURCES

The efficient allocation of resources used to produce health care services makes a critical contribution to the effective performance of a health system. This dimension assesses performance on policy questions related to planning and investment in the capacity to provide efficient delivery and make efficient use of health system resources. Subdimensions are the optimization of health system infrastructure and technology and ensuring an appropriate level and mix of well-trained and motivated human resources, including health care managers.

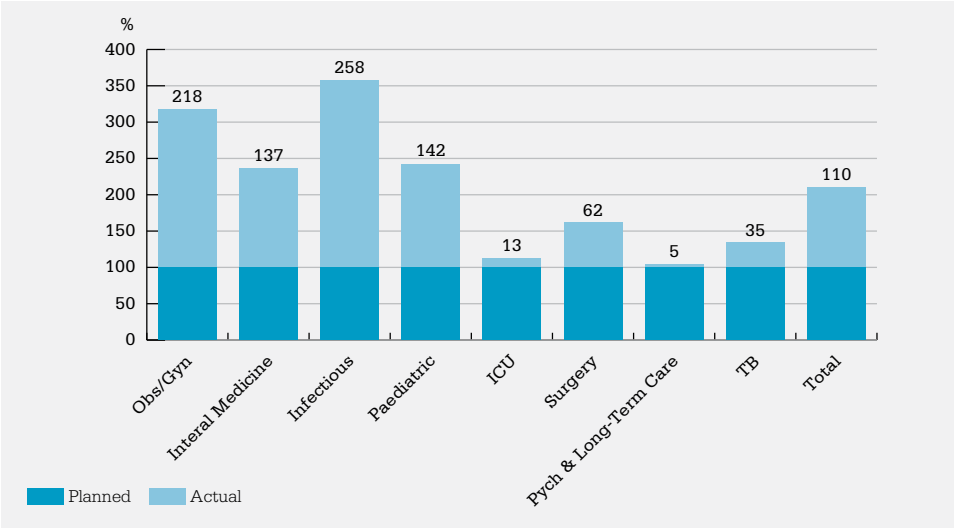
Optimization of health system infrastructure and technology

The assessment of this subdimension answers the policy questions of whether health services are delivered in an increasingly efficient manner and the extent of the gap between the actual performance in health service delivery and the level of performance expected. Three indicators were identified for this purpose. The first indicator is the number of functioning inpatient hospital beds per 100 000 population compared to the national target set by the hospital master plan. The second indicator assesses the utilization of primary health care services by measuring the ambulatory care visits per person per year. The third indicator monitors the achievement of the targets for number of Primary Health Care teams according to the Primary Health Care Development Plan.

The distribution of functioning hospital beds per 100 000 population compared to the planned distribution of beds according to the National Hospital Master Plan is shown in Fig. 9. Fig. 10 shows the actual distribution compared to planned distribution, by region of the country.

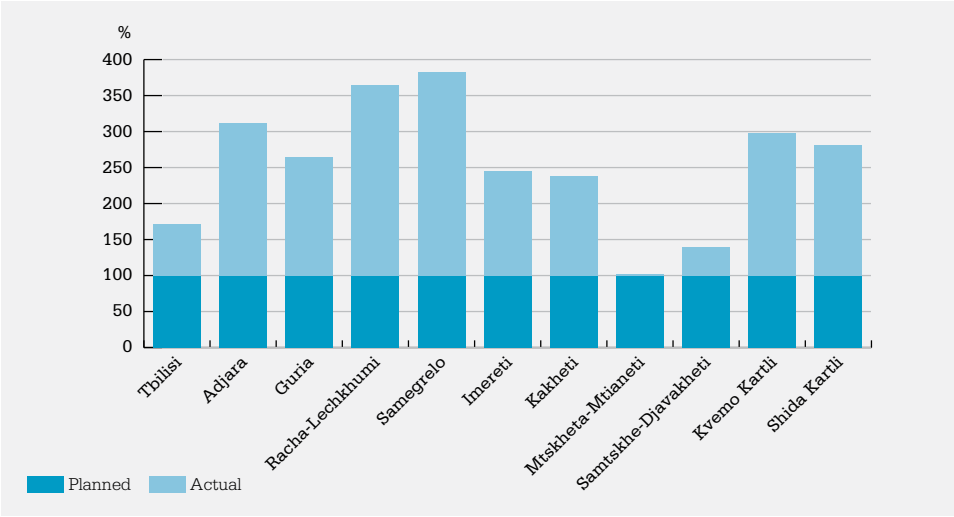
5 Rather, presented data shows slight underreporting.

Fig. 9. Actual beds as a percent of planned hospital beds per 100 000 population, by type of bed, 2006–2007



Source: National Centre for Disease Control

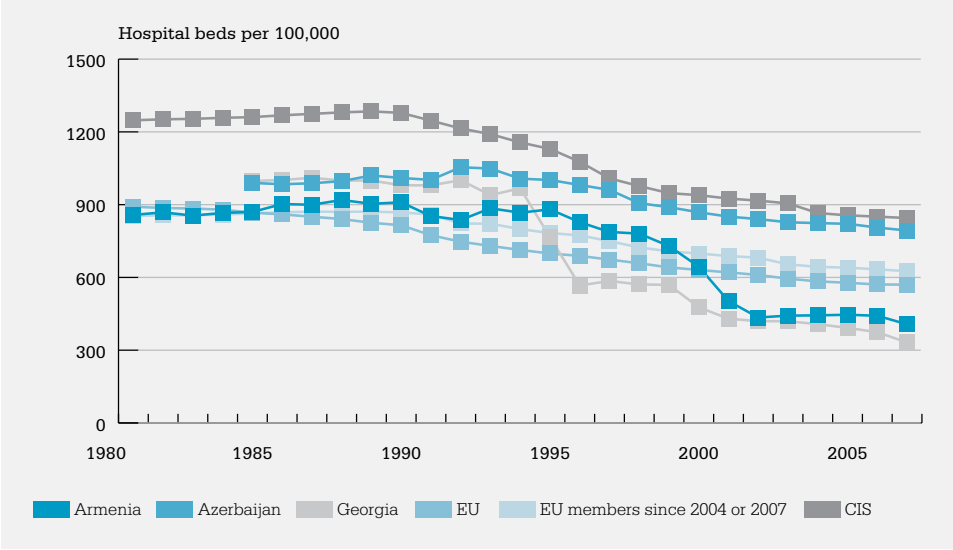
Fig. 10. Actual beds as a percent of planned hospital beds per 100 000 population, by region, 2006–2007



Source: National Centre for Disease Control

Despite a steady reduction during the last decade, it is clear that hospital bed capacity, with the exception of long-term hospital beds (psychiatry and tuberculosis), is well above the target figures for all bed profiles and country regions. Overall, the hospital bed to population ratio (373 per 100 000 population) is more than double the target figure of 177 per 100 000 population. At the same time, hospital capacity, which was excessive at the beginning of health reforms in 1995, is already equal to or below the CIS and European Regional averages and significantly below the averages of other countries in the region, as Fig. 11 indicates. Even at current capacity, however, hospitals are operating with very low utilization rates, with an average national bed occupancy of approximately 40% in 2007. This low utilization may indicate problems related to access to hospital care rather than (or in addition to) an excessive number of hospital beds.

Fig. 11. Hospital beds per 100 000 population: Georgia, selected countries of the region, CIS and European Union averages, 1981–2007



Source: WHO European Health for All Database (6)

The number of ambulatory visits per person per year, reported by the National Centre for Disease Control, has increased steadily since 2001, as shown in Table 7. Despite this increase in outpatient contacts, Georgia still ranks second to last among the 53 countries of the WHO Regional Office for Europe. Fig. 12 presents the number of outpatient contacts per year for Georgia and selected countries. In 2007 there was a marked reduction in outpatient visits in almost all regions of Georgia, except Adjara

and Guria, leading to a reduction in the national figure for ambulatory visits per person per year to 2003–2004 levels.

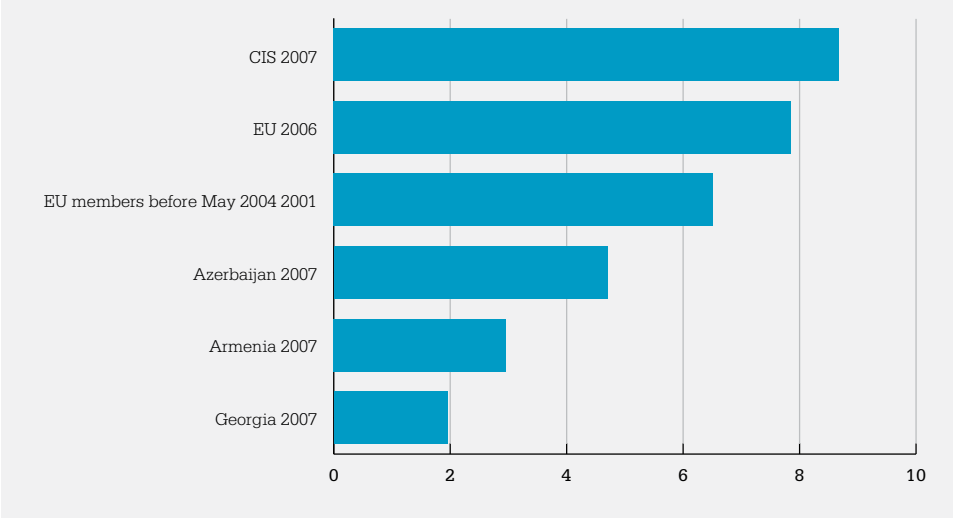
There is a difference between the ambulatory visit data reported by the National Centre for Disease Control and the number of ambulatory visits per person per year derived from the Georgia Health Utilization and Expenditure Survey 2007 (HUES07). The rate of outpatient contacts reported by both sources is about the same (2.1 and 2.04 in 2006). HUES07, however, reports this rate for outpatient contacts to any health care facility, including hospital outpatient departments, while the National Centre for Disease Control reports only visits to primary health care facilities (ambulatories and polyclinics). Taking into account the fact that HUES07 finds that only half of all outpatient contacts occur at the primary level, the rate of outpatient contacts at the primary health care level would appear to be only half of that reported in the HUES07 results. It is difficult to explain this difference, and it requires further investigation.

Table 7. Number of ambulatory visits per person per year, Georgia and country regions, 2001–2007

Region	2001	2002	2003	2004	2005	2006	2007
Adjara	1.5	1.3	1.3	1.6	1.8	2.0	2.5
Tbilisi	1.7	2.0	2.4	2.6	2.6	2.5	2.4
Kakheti	1.1	1.2	1.2	1.6	1.7	2.0	1.5
Imereti	1.5	1.5	1.7	2.0	2.0	2.1	2.1
Samegrelo	1.1	1.1	1.3	1.5	1.5	1.6	1.3
Shida Kartli	1.2	1.3	1.4	1.4	1.7	2.0	1.7
Kvemo Kartli	0.8	0.8	0.9	1.1	1.1	1.1	0.9
Guria	1.3	1.7	1.5	1.9	1.8	0.8	1.5
Samtskhe-Djavakheti	0.7	0.7	0.9	1.4	1.7	1.8	2.0
Mtskheta-Mtianeti	0.8	0.8	0.9	1.0	1.1	1.4	1.3
Racha-Lechkhumi & Kvemo Svaneti	1.2	1.4	1.6	1.5	1.2	1.2	1.0
Total for Georgia	1.4	1.5	1.7	1.9	2.0	2.1	1.8

Source: National Centre for Disease Control

Fig. 12. Average number of outpatient visits per person per year for Georgia and selected countries, most recent available result



Source: WHO European Health for All Database (6)

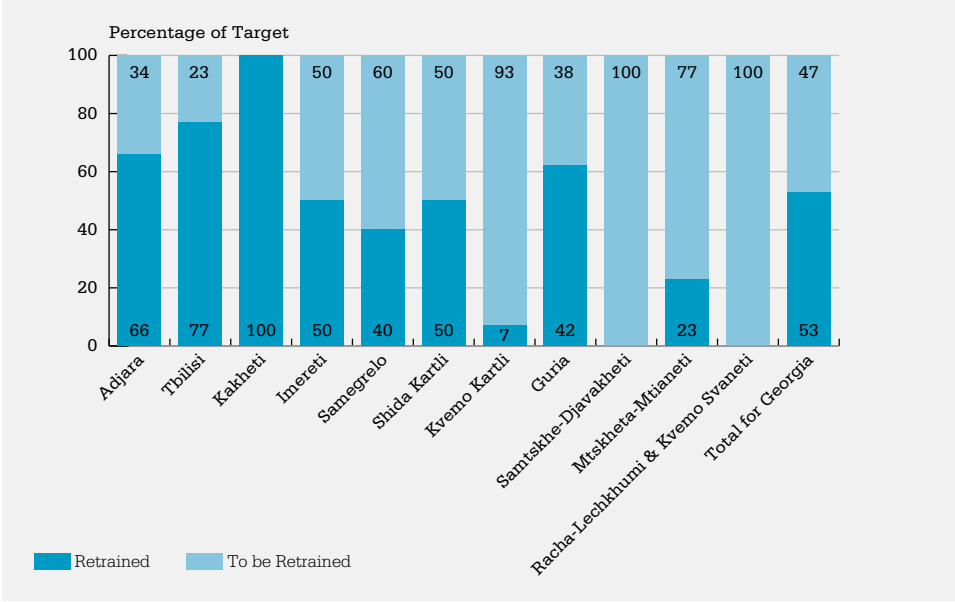
The third indicator for this subdimension, the number of functioning primary health care teams compared to the target set by the Primary Health Care Development Plan, was estimated using the number of retrained primary health care doctors and nurses, who effectively compose the primary health care teams, as a proxy measurement. The regional distribution of retrained primary health care doctors and nurses is presented in Table 8 and Figs. 13 and 14. The results show that as of the beginning of 2009, 53% of the minimal target number for retrained primary health care doctors and 47% of the minimal target number of primary health care nurses had been achieved across the country. There is significant regional variation, however. A relatively small number of primary health care personnel have been retrained for one of the most populated regions of Georgia, Kvemo Kartli, while no personnel have been retrained for Samtskhe-Djavakheti and Racha-Lechkhumi and Kvemo Svaneti.

Table 8. Total number of retrained family (primary health care) doctors and nurses, Georgia and country regions, 2009

Region	PHC Doctors Retrained			PHC Nurses Retrained		
	Number	Target	% of Target	Number	Target	% of Target
Adjara	127	193	66%	208	221	94%
Tbilisi	362	470	77%	130	470	28%
Kakheti	222	212	105%	224	212	106%
Imereti	178	355	50%	204	384	53%
Samegrelo	92	230	40%	104	300	35%
Shida Kartli	75	150	50%	80	167	48%
Kvemo Kartli	16	241	7%	16	273	6%
Guria	48	77	62%	56	99	57%
Samtskhe-Djavakheti	0	105	0%	0	136	0%
Mtskheta-Mtianeti	15	64	23%	15	78	19%
Racha-Lechkhumi & Kvemo Svaneti	0	26	0%	0	58	0%
Total for Georgia	1,135	2,123	53%	1,037	2,398	43%

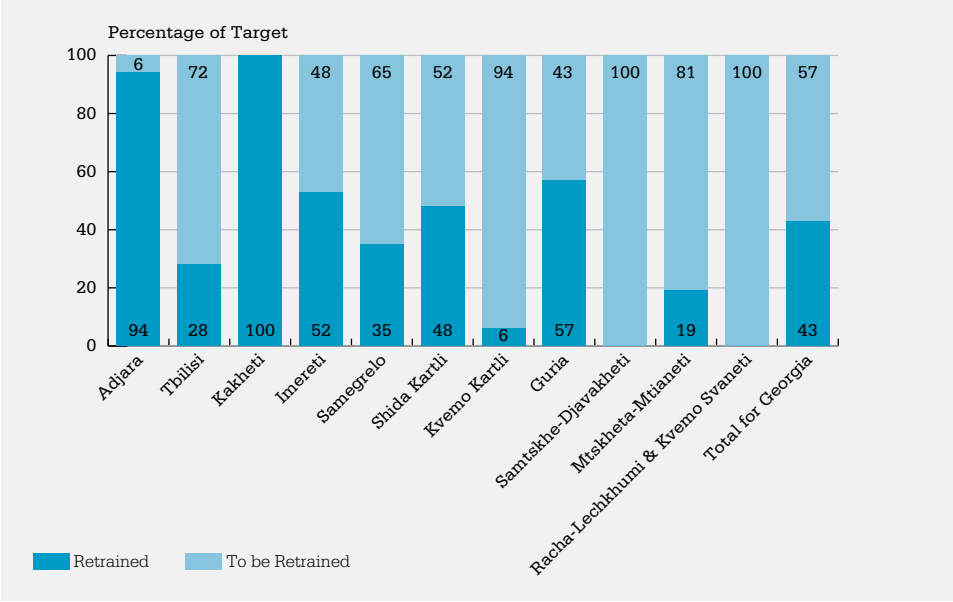
Source: Health and Social Projects Implementation Unit, Ministry of Labour, Health and Social Affairs

Fig. 13. Retrained primary health care doctors as percent of target defined in the primary health care development plan, Georgia and country regions, 2009



Source: Health and Social Projects Implementation Unit, Ministry of Labour, Health and Social Affairs

Fig. 14. Retrained primary health care nurses as percent of target defined in the primary health care development plan, Georgia and country regions, 2009



Source: Health and Social Projects Implementation Unit, Ministry of Labour, Health and Social Affairs

The data on ambulatory visits may suffer from underreporting, particularly for 2007, as there is no explanation for the observed reduction in number of visits. There were no major shifts in policy or funding for primary health care during that year; on the contrary, the funds allocated for primary health care state programmes reached a maximum in 2007; more village ambulatories and polyclinics were rehabilitated; and more primary health care doctors and nurses were retrained by the end of 2006 and were able to provide services to the population during 2007.

At this stage the health information system is also unable to provide better information on functioning retrained primary health care teams than the proxy indicator of retrained primary health care doctors and nurses. This proxy indicator does not report on whether the retrained personnel are employed and providing services to the population, which is the actual objective of the publicly supported training efforts. It should be noted that for this HSPA report, the Health and Social Projects Implementation Unit of the ministry, which coordinates the retraining process supported by the World

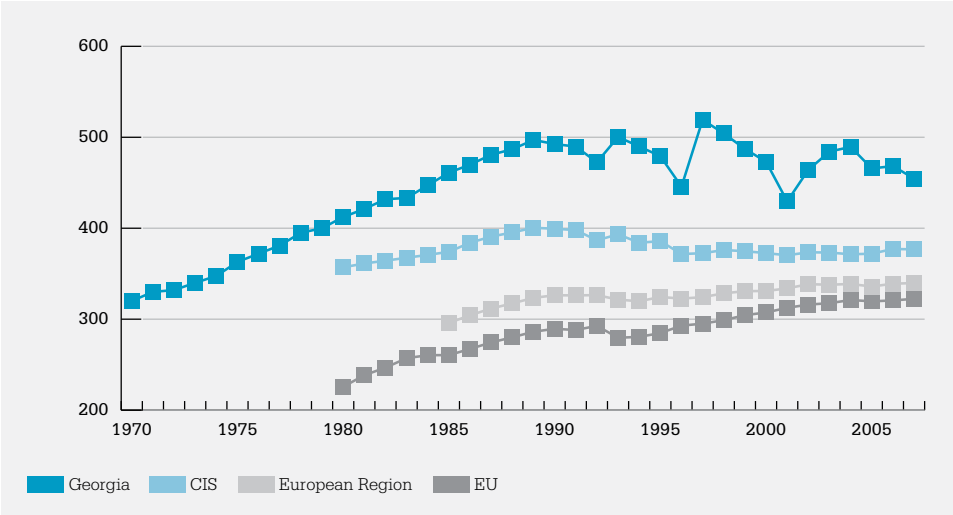
Bank and EU funds, has reported that all retrained personnel have been employed and are providing services as of the beginning of 2009.

Ensuring an appropriate level and mix of well-trained and motivated health human resources including health care managers

This subdimension examines whether there is a mix of human resources in the system appropriate to deliver high-quality health services and to provide appropriate coverage to the population. The indicator selected for this purpose is the ratio of health workers (doctors and nurses) per 100 000 population compared to the targets of the Health Human Resources Development Strategy. This indicator gauges achievement of strategic objectives for health human resources policy set out by the government.

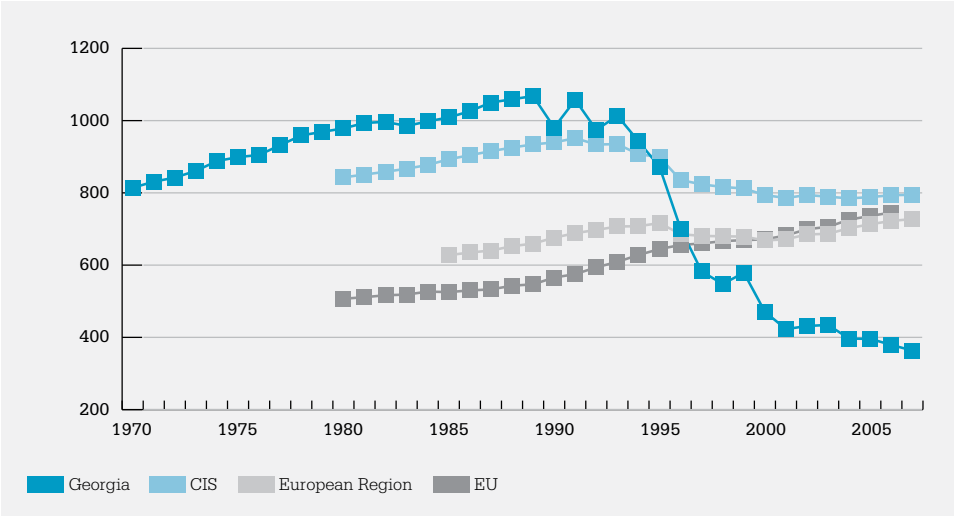
Overall, both the number of doctors and number of nurses have fallen over the last decade. While Georgia still ranks high (second only to Belarus in the European Region) in the ratio of doctors per 100 000 population, the number of nurses has fallen below the CIS and EU averages and continues to fall, despite the declared need for more nurses in the country's health system. Figs. 15 and 16 show the number of physicians and nurses per 100 000 population.

Fig. 15. Number of physicians per 100 000 population, Georgia, EU, CIS and European Regional averages, 1970–2007



Source: WHO European Health for All Database (6)

Fig. 16. Number of nurses (physical persons) per 100 000 population, Georgia, EU, CIS and European Regional averages, 1970–2007

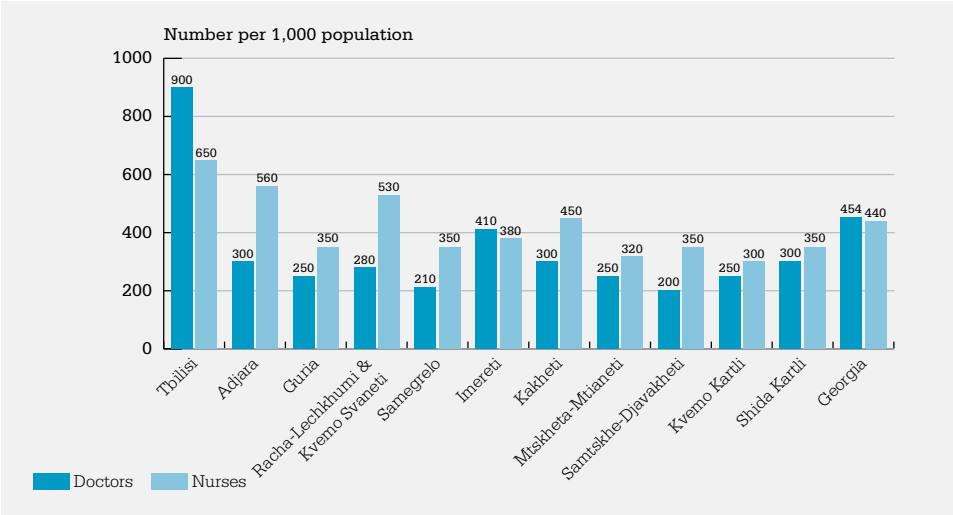


Source: WHO European Health for All Database (6)

The regional distribution of health personnel (doctors and nurses per 100 000 population) for 2007, presented in Fig. 17, clearly shows that the distribution of doctors is skewed towards the country's capital. The number of doctors exceeds or equals the number of nurses in most parts of the country. Only the Adjara and Racha-Lechkhumi regions are relatively close to the desired ratio of two nurses per every one doctor.[6]

6 Achievement of the doctor/nurse ratio of 2:1 was stated as a long-term target in the Georgia Health Policy Document adopted in 1999. The document has not been updated during the last several years and may have lost relevance. The same ratio is cited in the draft of the MoLHSA document "Strategic Directions for Human Resources Management in the Georgian Health Sector" published on MoLHSA official website at http://www.moh.gov.ge/ge_pdf/jr/Human_Resource.pdf (accessed on April 30, 2009). The current report confirms this ratio as a desired target to be reached during the next decade.

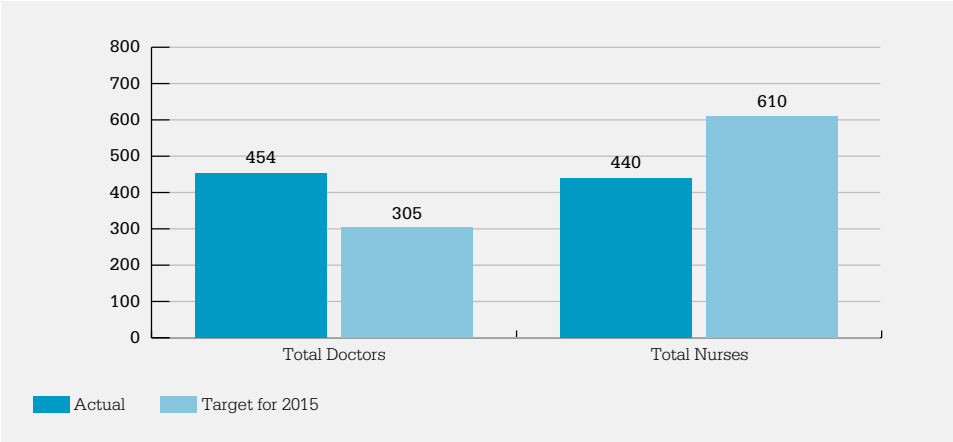
Fig. 17. Health human resources (doctors and nurses) per 100 000 population, Georgia and country regions, 2007



Source: National Centre for Disease Control

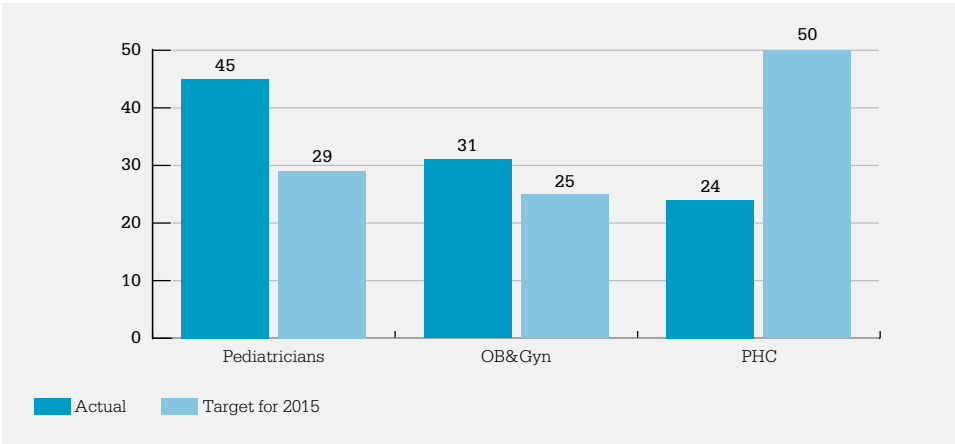
Actual and target ratios for doctors, nurses (Fig. 18) and selected physician specialties (Fig. 19) show that overall there are still too many specialists and too few primary health care doctors.

Fig. 18. Actual and target numbers of doctors and nurses per 100 000 population, 2007



Source: National Centre for Disease Control

Fig. 19. Actual and target numbers for selected physician specialties per 100 000 population, 2007



Source: National Centre for Disease Control

The data take into account only those providers who report to the National Centre for Disease Control. Medical professionals not working in the health sector and those working in health facilities not reporting to the National Centre for Disease Control are excluded from the analysis, understating a result which is already much higher than the target. Target ratios are based on expert analysis and have not been formally adopted. For most of the medical specialties, explicit targets are not defined.

Summary Findings and Policy Recommendations for Dimension 3: Ensure Efficient Allocation of Health System Resources

Situation	Policy Recommendations
During more than a decade of health reforms, Georgia has significantly reduced its total number of hospital beds; however, remaining hospital capacity (particularly in acute care hospitals) is still underutilized, operating at an average occupancy rate of 40%, compromising the efficiency of the inpatient sector.	According to the national hospital master plan, the construction of new hospitals and rehabilitation of selected existing hospitals will be accompanied by the elimination of up to 50% of existing bed capacity. The intention is to complete the process by the end of 2010. Achievement of targets is anticipated towards 2011 and should be carefully monitored. However, additional analysis should be done to determine the extent to which the under-utilization of beds results from financial barriers to accessing health care services. In this case, reducing the number of beds will not address the problem.
The steady trend in increased utilization of primary health care services is an encouraging indication that major public investments in primary health care development over the last several years and increased funding for the primary health care state programme (up to year 2007) has brought results in increased access to and use of primary health care services. However, Georgia still falls far behind optimal utilization levels observed internationally. Moreover, the noticeable reduction in ambulatory (primary health care) visits reported by the NCDC in 2007 deserves special attention. This trend requires attention, whether the reduction was caused by a real drop in utilization of primary health care services or through disruption in reporting from primary health care facilities.	The underlying causes of the observed reduction of the primary health care visits in 2007 should be explored carefully, and remedial and/or preventive actions should be taken if this unfavourable trend continues. Efforts in implementing a primary health care-based health system should be pursued.
The human resources development process for primary health care appears to be on track, as almost half of the required number of primary health care doctors and nurses have been trained or retrained and, as reported by relevant agencies involved in the training process, are functional as primary health care teams. This can be considered a successful intermediate outcome of several years of public investment in the creation of a human resource base for primary health care, supported by World Bank and EU funds. Some gaps remain from a regional point of view. Few or no medical professionals were retrained in Racha-Lechkhumi, Svaneti, Kvemo Kartli and Samtskhe-Djavakheti.	Plans are in place to address the regional gaps in retraining of primary health care personnel and to complete the retraining process by the end of 2010 with the support of the EU-funded project. There seems to be enough time and available resources to successfully achieve the human resources targets set by the National Primary Health Care Development Plan.

DIMENSION 4: IMPROVE EFFICIENCY AND EFFECTIVENESS OF HEALTH SERVICE PROVISION

Improvements in efficiency and effectiveness enable a health system to deliver more services and achieve better health outcomes using existing resources. Improving the effectiveness of services and productivity of health providers is a way to achieve these objectives. Health systems also need to ensure a holistic approach to services, involving health promotion, disease prevention and integrated disease management programmes. They should also coordinate services among levels of care and a variety of providers, institutions and settings. The three subdimensions are the improvement of coordination between levels of care; the improvement of hospital efficiency and effectiveness; and the improvement of staff productivity.

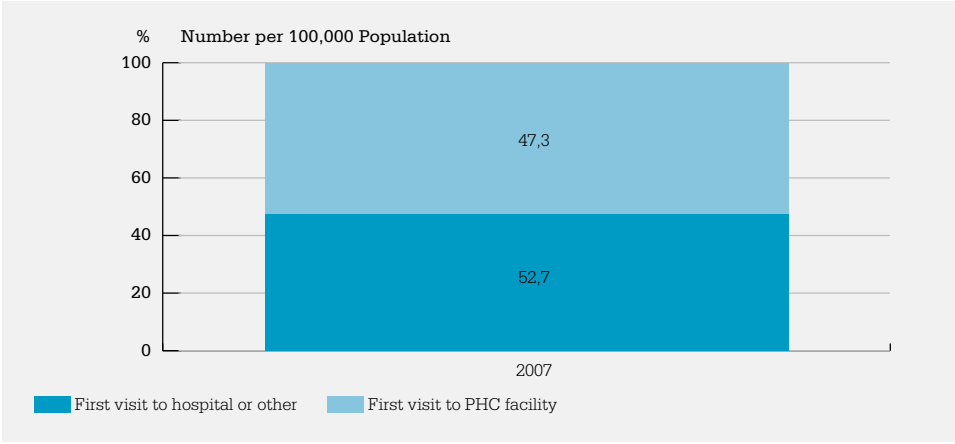
Improvement of coordination between levels of care

During the transition period from the Soviet system, with its severe underfunding of the health system, the coordination between levels of care was disrupted. Individuals tended not to seek health care at all, or to bypass dilapidated and poorly supplied primary health care facilities in favour of secondary care facilities in the hope of getting better quality care *(10)*. Starting in 2000, the government made significant efforts to strengthen the resource base for the primary health care system and to gradually improve the quality of primary care services. This performance subdimension addresses the policy question of whether the population is accessing health care at the appropriate level, implying that the first contact with a health system should occur in primary health care settings, as strong primary health care is associated with both better health outcomes, more cost-effective service delivery and greater responsiveness to patients' expectations *(11)*. The indicator for this performance subdimension is the percentage of outpatient care visits per person per year taking place at primary care and hospital levels. An increasing proportion of primary health care first contacts is considered to be a positive trend.

Results of the countrywide Health Utilization and Expenditure Survey (2007) (HUES07) regarding the health-seeking behaviour of the population once they decide to seek care are presented in Fig. 20. According to the survey findings, slightly more than half (53%) of individuals seeking care choose the primary health care setting as their first contact point with the health system. This is consistent with similar survey findings in the year 2000 (although this survey excluded Tbilisi and Poti), with 53% of patients seeking care having first contact with primary health care facilities, and the remainder visiting hospital outpatient care departments and other facilities (12). It should also be noted that there is almost no difference in the percentage of patients

initiating first contact with primary health care facilities between urban and rural settings, which is shown in Table 9.

Fig. 20. First visits to primary health care facilities vs. hospitals and other facilities as a percent of total first visits, 2007



Source: Health Utilization and Expenditure Survey 2007

Table 9. First visits to primary health care facilities versus hospitals and other facilities as percent of total first visits, Georgia and urban/ rural split, 2007

	Total	Urban	Rural
First visits to PHC facility (percent)	52.7	52.4	53.1
First visit to hospital or other (percent)	47.3	47.6	46.9
Total number of visits captured by survey	3942		

Source: Health Utilization and Expenditure Survey 2007

The findings from the 2000 Household Survey and HUES07 cannot be directly compared, as the 2000 survey excluded Tbilisi and Poti. Given the absence of comparable historical and international data, an appropriate national target should be developed for this indicator.

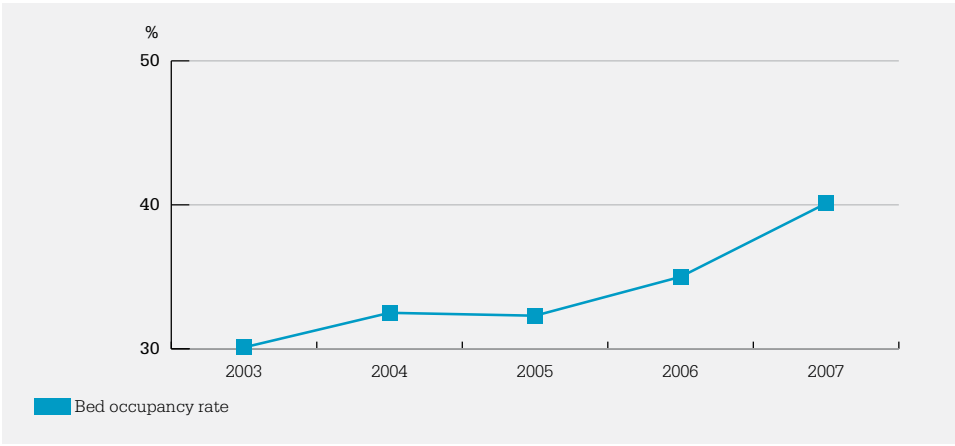
Improvement of hospital efficiency and effectiveness

This performance subdimension assesses the efficiency and effectiveness of health services delivery with the emphasis on inpatient services, which remain one of the

main priorities for the national health reform agenda. The indicators selected to evaluate this subdimension are bed occupancy rate and average length of (hospital) stay. Increased bed occupancy rates and decreased hospital stays contribute to increased efficiency and effectiveness of hospital services.

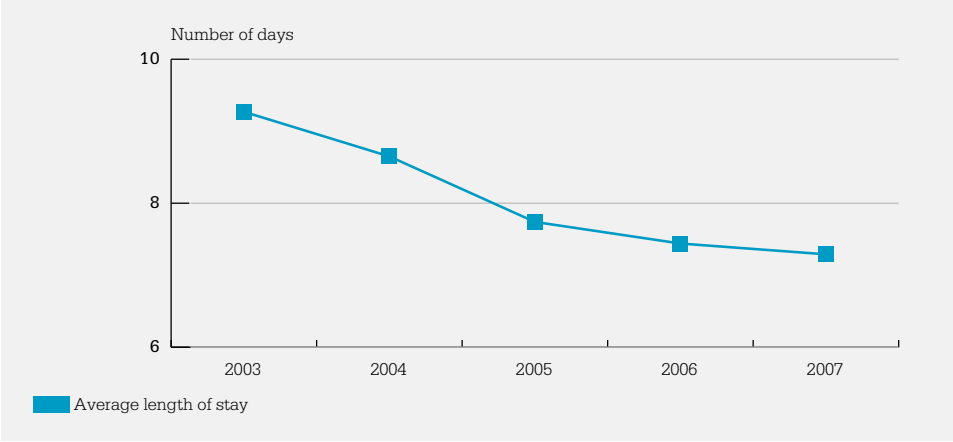
Figs. 21 and 22 show that from 2003 to 2007 the bed occupancy rate increased from 30% to 40% and the average length of stay decreased by two days from 9.3 to 7.3 days, which are signs of increased efficiency in the system. An increase in the total number of discharged patients by 35% in the same period may also indicate not only greater utilization of hospital services but also improved efficiency, as average cost per patient stay decreases with a reduced length of stay. However, the national bed occupancy rate still compares unfavourably to the European Union and CIS average figures, particularly considering that the result for Georgia, unlike international data for bed occupancy rates, also includes the data from long-term care hospitals (tuberculosis and psychiatry) with traditionally high bed occupancy, driving up the national average figure for occupancy rate. If tuberculosis and psychiatric hospitals are excluded, the national occupancy rate would have been 32% instead of 40% in 2007, as shown in Fig. 23. At the same time, the decrease in average length of stay has placed Georgia among the European Region's leaders, as Fig. 24 indicates.

Fig. 21. Bed occupancy rate, 2003–2007



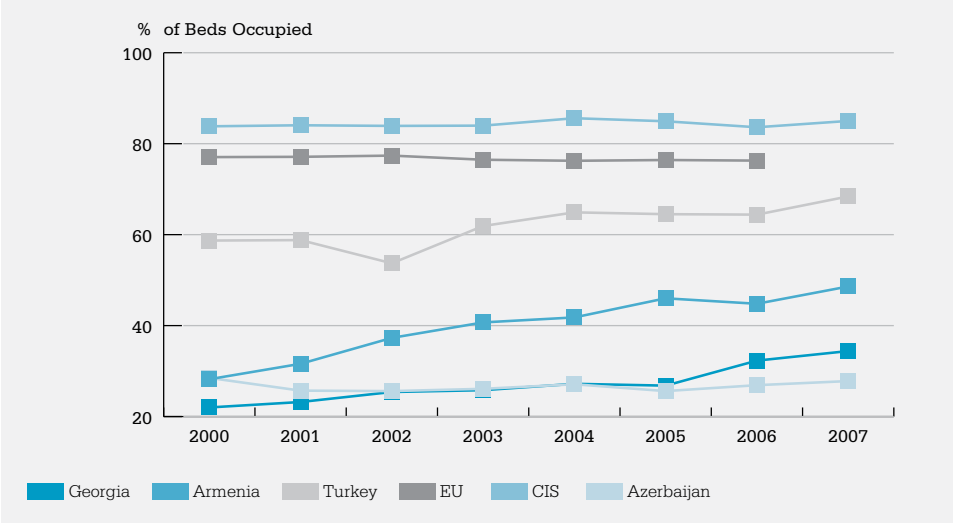
Source: National Centre for Disease Control

Fig. 22. Average length of (hospital) stay, 2003–2007



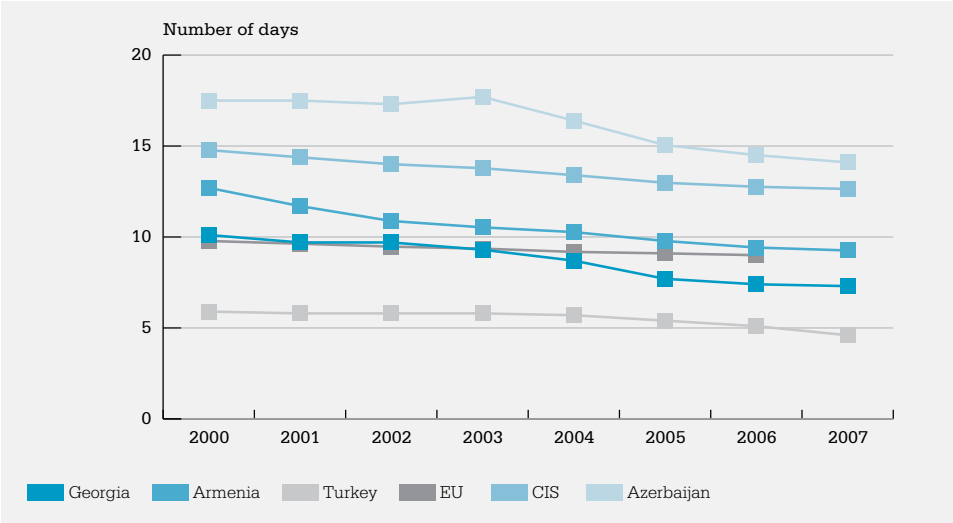
Source: National Centre for Disease Control

Fig. 23. Bed occupancy rate. Georgia, selected countries, EU and CIS averages, 2000–2007



Source: WHO European Health for All Database (6)

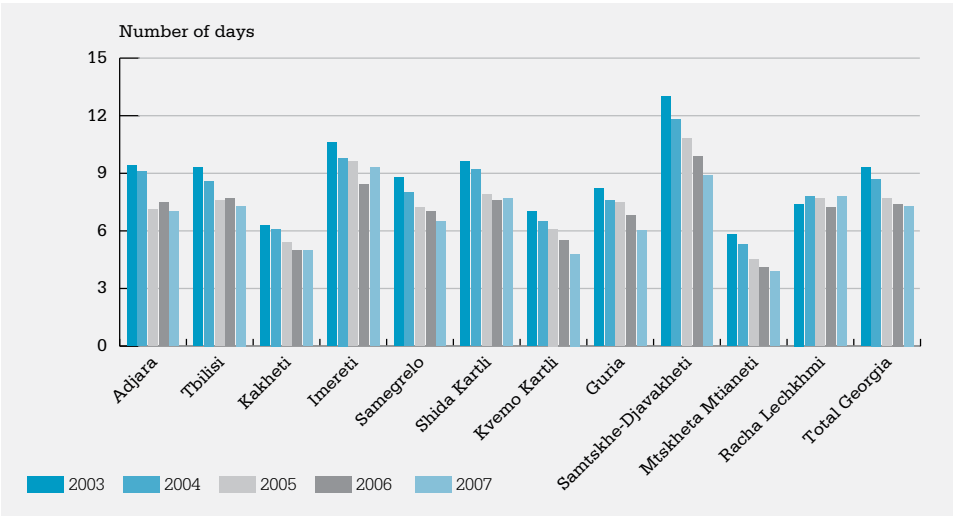
Fig. 24. Average length of (hospital) stay, Georgia, selected countries, EU and CIS averages, 2000–2007



Source: WHO European Health for All Database (6)

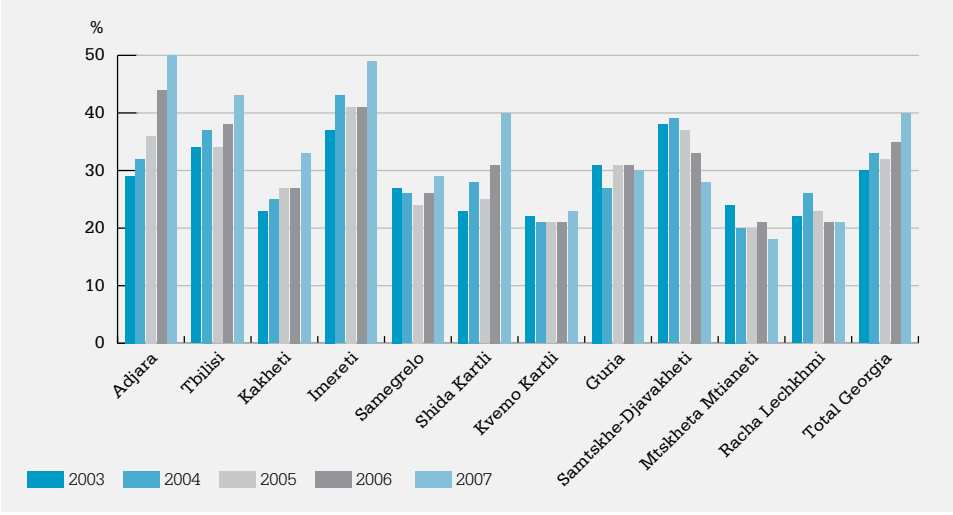
There are considerable differences in length of stay and bed occupancy rates from region to region within Georgia (Figs. 25 and 26). Careful analysis, however, reveals that the relatively long hospital stays and high occupancy rates in the two regions of Imereti and Samtskhe-Djavakheti are most likely related to the presence of long-term hospitals (both tuberculosis and psychiatric care facilities), which boost the regional averages for both indicators.

Fig. 25. Average length of (hospital) stay, Georgia and country regions, 2003–2007



Source: National Centre for Disease Control

Fig. 26. Bed occupancy rate, Georgia and country regions, 2003–2007



Source: National Centre for Disease Control

The data do not allow for stratification by type of pathology or for comparison of best practices in length of stay; therefore only comparisons over time and across regions

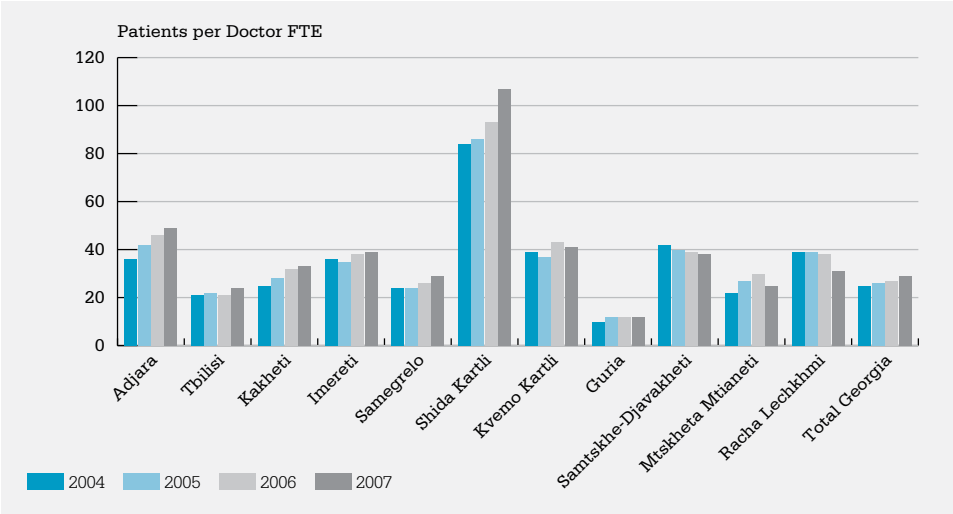
and facilities can be made. If standard reporting on case mix in the country's health facilities is initiated, then benchmarking length of stay results for specific interventions can be considered in order to develop potential improvements in care efficiency.

Improvement of staff productivity

Improved staff productivity is not only one of the main tools for increasing health system efficiency, but it is also a means for creating better paid and motivated medical professionals, as the predominant provider reimbursement mechanism in Georgia rewards health providers for services delivered. This performance subdimension assesses if the productivity of medical personnel is increasing over time. The indicator selected for this purpose is the number of patients per medical doctor, broken down by level of care. A higher ratio indicates improved staff productivity.

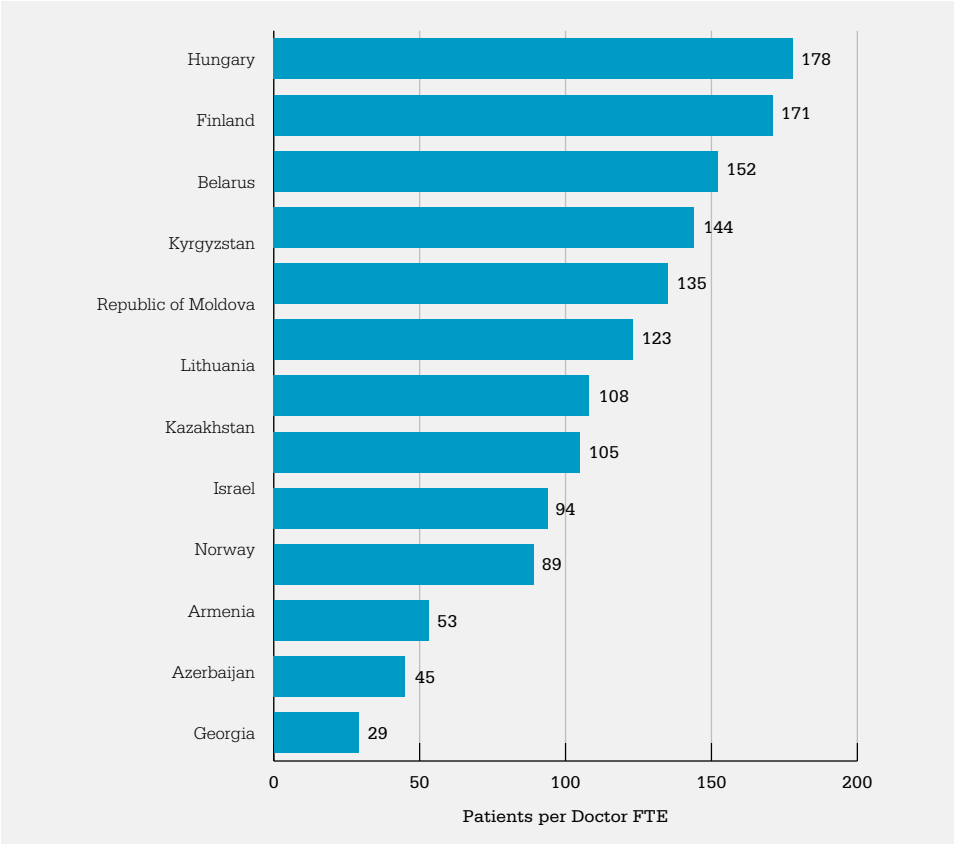
The ratio of number of patients per full-time-equivalent doctor across Georgia's regions is presented in Fig. 27 and shows that staff productivity has been steadily increasing during the last four years from 25 patients to 29 patients annually per full-time-equivalent doctor. Despite this increase, however, physician productivity fails to meet any reasonable standard and ranks lowest in the European Region and CIS (Fig. 28). This result means that there are fewer than three inpatients per month per full-time-equivalent doctor, on average. Fig. 27 also shows that there are significant regional disparities, with Shida Kartli having the highest ratio of inpatients per employed doctor (107), nearly ten times that of Guria (12), even though the number of doctors is the same (269 per 100 000 population) for both regions. The variance between these two regions can be explained only by differences in patient flow, which in turn may be associated with a high level of referrals to Shida Kartli facilities from the Georgian villages of the neighbouring conflict region of South Ossetia. For the remaining regions, both the difference in number of doctors and the difference in patient flow are involved. In two out of ten regions of Georgia (Samtskhe-Djavakheti and Racha-Lechkhumi) the ratio of inpatients per full-time-equivalent doctor has been falling, even though national results have increased over this period.

Fig. 27. Ratio of number of patients hospitalized annually per hospital full-time-equivalent doctor, Georgia and country regions, 2004–2007



Source: National Centre for Disease Control

Fig. 28. Ratio of number of patients hospitalized annually per hospital full-time-equivalent doctor working in hospitals, Georgia and selected countries, 2007



Source: WHO European Health for All Database (6)

At the primary health care level (the ambulatory polyclinic network), performance results are presented in the form of utilized capacity[7] for patient visits per shift, which is directly linked to the number of medical personnel providing outpatient services and thus can serve as a proxy for assessing staff productivity at the primary health care level. Table 10 presents the utilization rates for the last seven years and shows a growth trend from approximately 26% in 2001 to 40% in 2006. For the year 2007 a 3%

7 Planned capacity of ambulatory visits per day for primary health care facilities is reported by the National Centre for Disease Control and estimated based on the norms of patient daily visits per full-time-equivalent doctor (15 patients per day).

drop in primary health care capacity utilization is reported. This is directly related to the reported reduction in outpatient ambulatory visits in the same year and should be investigated further.

Table 10. Primary health care services utilization rates, 2001–2007

	2001	2002	2003	2004	2005	2006	2007
Planned capacity of Ambulatory Visits per Day	94 271	98 249	94 390	94 319	92 061	87 977	84 819
Actual Number of Visits per Day	24 796	26 014	29 936	32 881	33 533	35 603	30 789
Ambulatory Capacity Utilization Rate (%)	26.3	26.5	31.7	34.9	36.4	40.5	36.3

Source: National Centre for Disease Control

Stratification by level of care, by facility and by medical specialty profile for the ratio of hospital inpatients per full-time-equivalent physician is not yet possible. For primary health care, a proxy indicator was used, since the total number of physicians (in full-time-equivalent doctors) working in ambulatory polyclinic settings and providing primary health care services is not available.

Summary Findings and Policy Recommendations for Dimension 4: Improve the Efficiency and Effectiveness of Health Services

Situation	Policy Recommendations
It is generally accepted that a health system in which patients use secondary care facilities as their first point of contact is less effective than a health system in which the majority of the population goes through the primary health care level first. Strong primary health care is associated with better health outcomes and higher cost–effectiveness (11). The increased number of ambulatory visits and hence, increased utilization of primary health care services over the last seven years have not yet resulted in measurable redirection of patient flows to the appropriate level of care. According to the HUES07 findings, only half of the surveyed population both in urban and rural areas prefer to use primary care facilities as a first point of contact with the health system. The primary health care system remains weak in a number of areas: inappropriate referral patterns are still considerable; the level of primary health care services usage by the population is still low; and the utilization of available resources and capacity in ambulatory polyclinic settings ineffective.	Improve access to primary health care services for the population. The scope of primary health care services included in publicly financed (or cofinanced) benefit packages should be extended to further encourage use of these services. Set a national target (70%–80%) for the share of patients with health problems seeking first contact in primary health care facilities (ambulatory polyclinic network) in order to be able to measure the progress towards achievement of the objective of redirecting most of the patients to the primary health care level.
It is expected that ongoing wide scale privatization and restructuring efforts in the national hospital sector will maintain and most likely enhance the improvement in increased effectiveness and efficiency of hospital services, in terms of shortened length of hospital stay and improved bed occupancy rates (albeit from a very low base). New and refurbished buildings, new equipment and technologies and a more entrepreneurial approach are to be introduced into the system by private owners competitively selected for implementation of the Hospital Development Master Plan "100 New Hospitals". If realized as planned, major improvements in both efficiency and effectiveness of hospital services are expected beyond the year 2011.	Carefully monitor the impact of increased efficiency and cost effectiveness to ensure that these are not taking place at the expense of the best interests of patients or worsening of quality of care. Further reduction in length of stay, without matching enhancements in technologies,[8] may be an indication that providers are discharging patients without regard for medical indications in an attempt to decrease cost per case. This further emphasizes the need to have good data from health care providers in order to monitor length of stay and understand whether improvements are due to technology or to inappropriate early discharge. It would be useful to have information about readmission rates and complications in the future.
Staff productivity in outpatient and particularly in inpatient facilities, although slowly improving, remains among of the lowest in the European Region and CIS. Low staff productivity, along with decreased efficiency, leads to low pay levels and low motivation among medical personnel, which affects the quality of care and medical outcomes.	Optimize the numbers and improve the skill mix of medical personnel countrywide – numbers which appear to be high, even when unmet demand for health services due to financial barriers is taken into account.

DIMENSION 5: IMPROVE FINANCIAL, GEOGRAPHICAL AND INFORMATIONAL ACCESSIBILITY OF THE HEALTH SYSTEM

Minimizing barriers to access to services is one of the key objectives of a health care system and one of four declared priorities of the Georgian health system strategy. There are financial, informational and geographical barriers that need to be addressed with relevant strategies. Subdimensions include reducing out-of-pocket health expenditures through public and private risk pooling schemes, increasing public awareness regarding health benefit entitlements and facilitating physical and geographical access to health providers.

Reduction of financial barriers to access to care for the entire population

Financial barriers in accessing health care services are one of the major problems of the health system in Georgia, as in many countries of the region. Financial barriers often prevent citizens from seeking essential health care services, or the high cost of services drives them into poverty (10). This performance subdimension aims to assess gains generated by government policies in removing or reducing financial barriers to access to health services and alleviating the financial burden on households related to the use of health care. Two performance indicators were selected for this section: percentage of population not seeking basic health care services when needed due to the high cost of services (Table 11) and the share of expenditure that is paid by the population out-of-pocket compared to total health expenditures (Table 12).

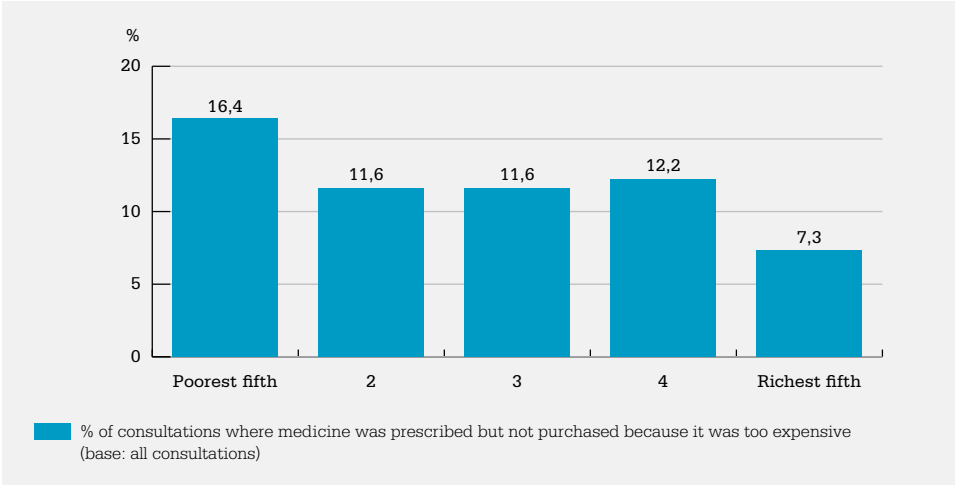
8 Introduction of new technologies in many specialties and particularly in surgery (such as arthroscopy, laparoscopy and lasers in ophtalmic surgery) has led to natural decrease in length of inpatient stay, or made certain procedures possible on an outpatient basis.

Table 11. Percentage of population not seeking basic health care (medicines, lab tests and hospitalization) when needed or prescribed, Georgia and urban/rural split, 2007

	Total	Urban	Rural	N (base)
Percentage of consultations where medicine was prescribed	82.1	77.8	86.6	4946
Percentage of consultations where medicine was prescribed but not purchased because it was too expensive (base: consultations where medicines were prescribed)	14.4	15.2	13.6	4061
Percentage of consultations where a lab test was prescribed	43.5	42.5	44.5	4946
Percentage of consultations where a lab test was prescribed but not done because it was too expensive (base: consultations were lab tests were prescribed)	27.1	27.8	26.5	2152
Percentage of population who were reported to need hospitalization in the last year but were not hospitalized	15.9	12.3	19.3	225
Percentage of population who were reported to need hospitalization in the last year but were not hospitalized because it was too expensive/they did not have enough money (base: those that were not hospitalized)	74.2	95.9	61.1	22

Source: Health Utilization and Expenditure Survey 2007

Fig. 29. Percentage of medical consultations where medicine was prescribed but not purchased because of affordability, by income quintile, 2007



Source: Health Utilization and Expenditure Survey 2007

Table 11 presents the countrywide 2007 Health Utilization and Expenditure Survey (HUES07) results regarding the affordability of basic health services to the urban and rural population once they decide to seek care and obtain medical consultation. The following elements are included in basic health services: medicines, lab tests and hospitalizations. The data show that a considerable number of both urban and rural residents cannot afford prescribed medicines (approximately 14%) and lab tests (approximately 27%), because they are too expensive. Approximately 16% of individuals avoided recommended hospitalizations, three-quarters of these for financial reasons.[9] A relatively large difference in affordability of hospitalization is observed between urban and rural residents.

Fig. 29 presents the percentage of population who were not able to afford prescribed medications, by income quintile. The poor-rich gradient is considerable, as more than twice the percentage of individuals from the poorest quintile (approximately 16%) are unable to obtain necessary medicines compared to those from the richest quintile (approximately 7%).

9 The total number of the respondents who were not hospitalized captured by the survey was very low (22) which limits the representativeness of this finding.

Private, predominantly out-of-pocket expenditures by type of medical service as a share of total health expenditures are presented in Table 12. These show that the out-of-pocket expenditure for each type of medical service remained fairly constant over the last seven years, with the out-of-pocket expenditure for curative care decreasing from 34% in 2001 to 28% in 2007; the out-of-pocket expenditure for additional medical services increasing from 7% to 9%; and the out-of-pocket expenditure for medical supplies and equipment (including medicines) increasing from 31% to 34% in the same period. The decrease in private share of expenditure for curative services may be associated with increased public funding (at least in absolute terms) allocated to financing the outpatient and inpatient services for the population.

Table 12. Private health expenditures as a percentage of total health expenditures, by type of medical service, 2001–2007

Medical Service Type	2001	2002	2003	2004	2005	2006	2007
Curative services	34%	29%	29%	30%	30%	29%	28%
Inpatient curative services	19%	16%	17%	17%	16%	16%	15%
Outpatient curative care	15%	13%	13%	13%	13%	13%	13%
Additional medical services	7%	8%	8%	8%	8%	9%	9%
Medical supplies and medical equipment	31%	34%	40%	40%	39%	34%	34%
Total Private expenditure	72%	71%	77%	78%	77%	72%	71%
Total Health Expenditure	100%	100%	100%	100%	100%	100%	100%
Total Health Expenditure (in 1000 GeL)	521.6	650.7	724.8	835.9	998.3	1,159.6	1,386.6

Source: National Health Accounts

Increased involvement in private insurance schemes

Provision of universal coverage for health care services for the entire population is one of the main objectives of the health reform and the means to achieve one of the intrinsic goals of the health system – ensuring fairness in financing health care. Georgia has chosen its own path towards achieving this objective, with the state assuming the responsibility for purchasing coverage through private insurance companies for essential health services for the poor population (until 2007 referred to as state medical vouchers and covered by the Health and Social Programmes Agency under the MoLHSA) and for a selected cadre of public servants (teachers, law enforcement and military). In addition, the state subsidizes private voluntary insurance for

defined essential health services for the rest of the population. State subsidization of private voluntary insurance covering a basic package of services (emergency care, urgent care and basic primary health care) is expected to promote insurance, make it more affordable by creating a national risk pool and thus motivate citizens to obtain additional coverage from their chosen insurance carriers to reduce private health expenditures and use prepayment rather than out-of-pocket payment, the dominant mode of private expenditure.

This performance subdimension assesses how successful the state is in meeting these objectives. Three performance indicators were proposed for this section: percentage of people not eligible for medical or insurance vouchers from the state who hold a health insurance policy (voluntarily or through their employer); share of the poor population who receive medical or insurance vouchers, to monitor the extent of the insurance coverage of poor and non-poor populations; and per capita private expenditures, to monitor how the penetration of insurance has affected the structure of private expenditures.

Table 13 presents the most recent available data on the number of persons holding publicly and privately financed health insurance and the percentage of people holding a health insurance policy (voluntarily or through their employer), of those not eligible for medical or insurance vouchers from the state.

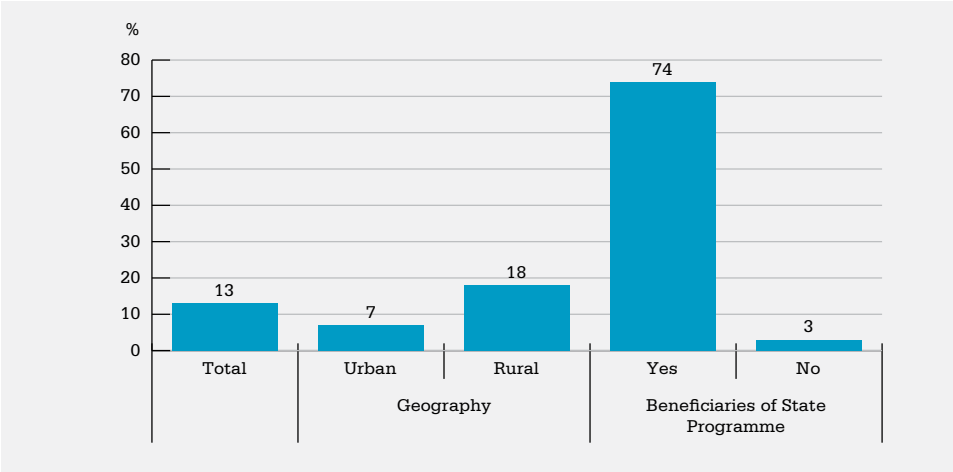
Table 13. Number of persons insured through public programmes, employer or voluntary health insurance, and the percentage of people holding an insurance policy of those not eligible for medical or insurance vouchers from the state, in September, 2008

Total number insured through public programmes	808 501
Insured through employer (public and private)	235 969
Voluntarily insured	28 296
Total privately insured	264 265
Total population	4 382 100
Percentage of total population insured through any insurance	24.5%
Percentage of total population holding health insurance policy of those not eligible for medical or insurance vouchers from the State	7.4%

Source: State Financial Supervision Agency

The data show that nearly one-quarter of the population had health insurance coverage of any type. Up to 265 000 persons, or 7.4% of the total population of those not eligible for public health insurance benefits, were covered through either employer-based or individual voluntary health insurance plans during 2008. Comparable data for previous years do not exist. When compared with the HUES07 findings that showed considerably lower (slightly above 3% of total population) private health insurance coverage of the non-poor population for the year 2006 (see Fig. 30) it appears that health insurance coverage is rising significantly for the non-poor population but was still at a very low level in September 2008.

Fig. 30. Percentage of individuals covered by any form of health insurance, 2006



Source: Health Utilization and Expenditure Survey 2007 (23)

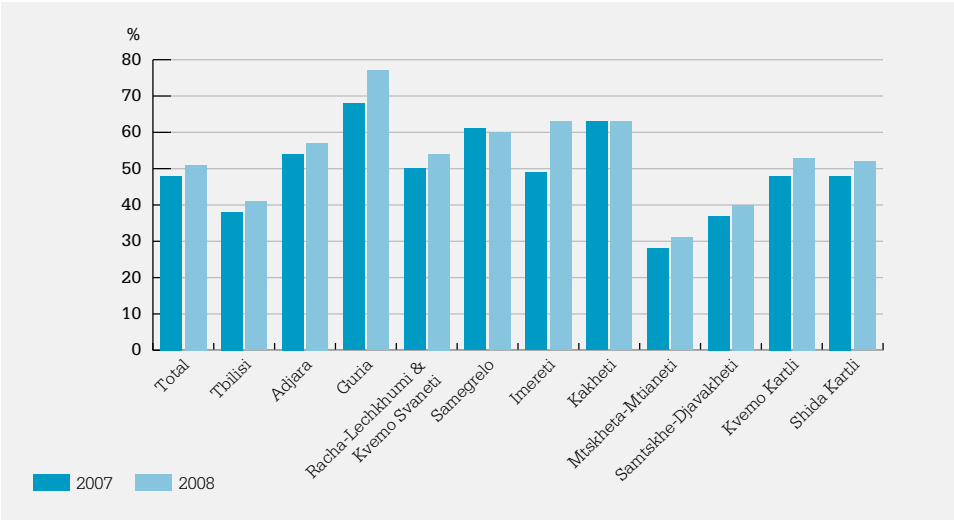
Table 14 shows that the poor population covered through the State Health benefit and/or medical vouchers has increased over the last two years and reached over 750 838 people, or 17% of the total population in 2008. Fig. 31 presents, by region, the shares of poor population covered by the State Health benefit and/or medical vouchers out of the total number of poor registered in the database of the Health and Social Programmes Agency, responsible for determining eligibility and issuing vouchers for the state insurance programmes. The data also indicate an increasing share of the poor population covered by state-financed health insurance from 48% in 2007 to 52% in 2008. The regional coverage of the poor population varies from 31% in Samtskhe-Djavakheti to 77% in Racha-Lechkhumi and Kvemo Svaneti.

Table 14. Numbers of poor population covered through State health benefit and/or medical vouchers, Georgia and country regions, 2007–2008

Regions	2007	2008	% Change
Tbilisi	68 464	81 120	18%
Guria	33 874	36 767	9%
Racha-Lechkhumi and Kvemo Svaneti	20 929	24 871	19%
Kakheti	83 400	93 675	12%
Imereti	153 526	157 468	3%
Mtskheta-Mtianeti	25 527	30 381	19%
Samegrelo-Zemo Svaneti	99 771	104 002	4%
Samtskhe-Djavakheti	23 229	25 734	11%
Kvemo Kartli	53 726	61 035	14%
Shida Kartli	58 780	66 935	14%
Adjara	71 506	80 750	13%
Abkhazia	1 211	1 187	-2%
Total Georgia	673 014	750 838	12%

Source: Health and Social Programme Agency

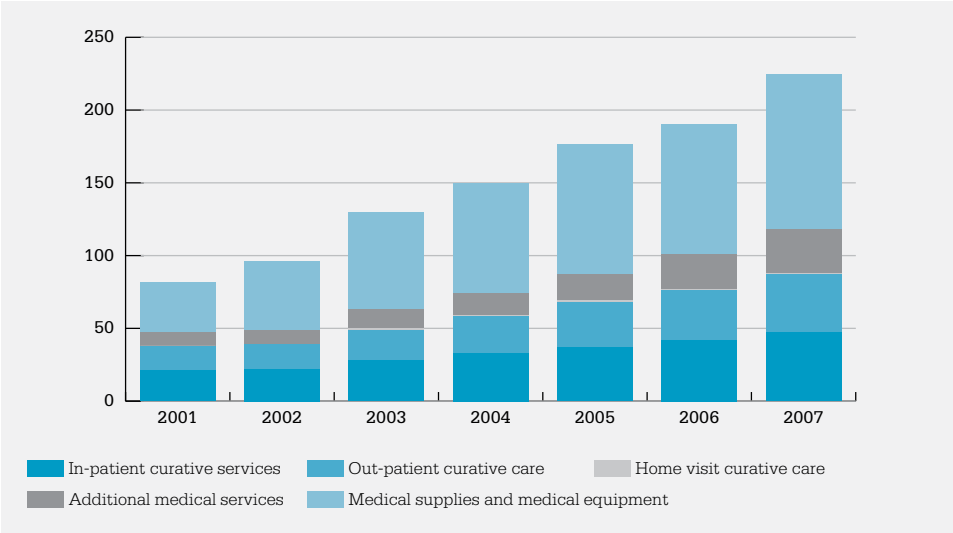
Fig. 31. Poor population covered by the state health benefit or medical vouchers as a percentage of the total numbers of poor registered in the Health and Social Programme Agency database, 2009



Source: Health and Social Programme Agency

The private out-of-pocket expenditures per capita on health by types of health services for 2001–2007 are presented in Fig. 32. The data show a steady increase in private health expenditures from 82 GeL to 224 GeL per capita. This rate of increase (270%) in private health expenditures exceeds by more than two times the cumulative rate of inflation (190%) during the same period and hence represents significant real growth in out-of-pocket expenditures for health. Growth in expenditures was observed across all types of services; however, most notable was the growth in private expenditures on medical supplies and medical equipment, which was driven mainly by increased expenditure on pharmaceuticals.

Fig. 32. Private per capita health expenditures, by type of service, 2001–2007

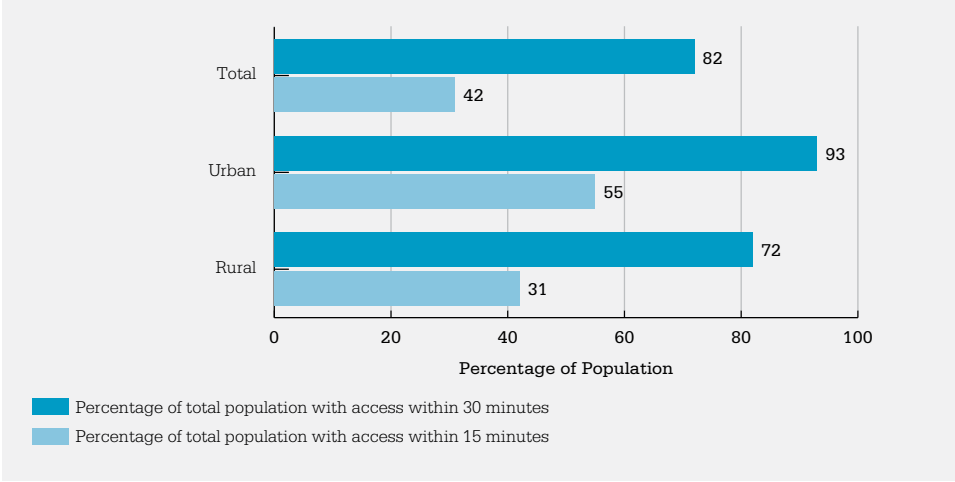


Source: National Health Accounts

Optimization of physical distribution and access to different levels of health care services

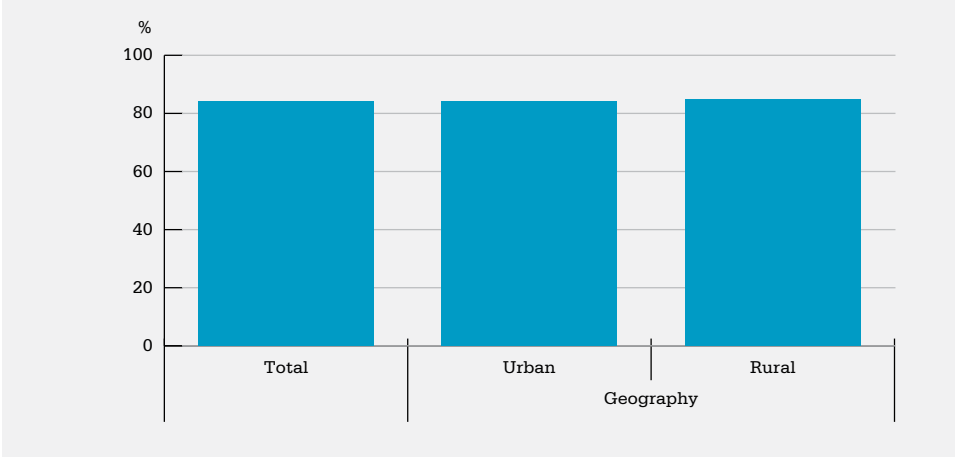
This subdimension was assessed by examining results for two indicators. The first was the percentage of the total population with access within 30 minutes by normal means of travel to their usual health care facility. Fig. 33 presents the results from HUES07. Overall, over 80% of the population indicated that they were able to access their normal place of health care within 30 minutes. Even in rural areas, over 72% had access within 30 minutes. In addition, according to the HUES07, the median time for travel to the place of the most recent consultation was 30 minutes for all areas. Fig. 34 presents results for the second measure, the percentage of the population able to get needed lab tests at the same place they went for their last consultation. The data show that over 80% of patients both in urban and rural locations were able to get required lab tests at the same place they went for their last consultation, indicating reasonable physical access to basic health services for the population.

Fig. 33. Percentage of the total population with access within 15 and 30 minutes by normal means of travel to a facility where they would normally see a doctor, Georgia and by urban/rural, 2007



Source: Health Utilization and Expenditure Survey 2007

Fig. 34. Percentage of patients who report physical access to basic health services (able to get needed lab tests at the same place they went for last consultation), Georgia and by urban/rural, 2007



Source: Health Utilization and Expenditure Survey 2007

Decreased informational barriers to access to care

The indicator used to assess performance for this subdimension was the percentage of population who are aware of state entitlements to benefits. Although this could not be reviewed for the entire population, information from a survey of beneficiaries of the State Medical Insurance Programme (MIP) for the poor population, commissioned by the ministry and the World Bank, was available. Results indicated that while most of the respondents were aware of their insurance status (more than 92%), significant shares of beneficiaries had misperceptions regarding the entitlements that this programme provides. Less than half of the survey respondents were aware of the specific services included in the benefit package, as indicated in Table 15.

Table 15. Percentage of State Medical Insurance Programme beneficiaries who report knowing about specific entitlements included in the programme, 2008

Specific entitlements	Share of Respondents Answering "Yes"
Hospital urgent care	35%
Hospital planned surgery	35%
Outpatient clinic care	36%
Prescription drugs	16%
Preventive exams	0.1%

Source: Medical Insurance Programme Impact Evaluation, 2009 (13)

Reliable data on the privately insured population is hard to obtain. Until recently private insurance companies did not maintain databases distinguishing the insurance holders by type of insurance (state coverage, employer-based or individual coverage). With recent state initiatives to subsidize private voluntary insurance for the non-poor population, the insurance companies are currently restructuring their information systems to be able to produce the data on insurance holders by type of insurance. It is expected that they will be able to report and analyse such data for the next HSPA report. The data on private expenditures are obtained from National Health Accounts, and stratification by age and sex is not possible.

Summary Findings and Policy Recommendations for Dimension 5: Improve Financial, Geographical and Informational Accessibility of the Health System

Situation	Policy Recommendations
With respect to geographical access, there appears to be good distribution of facilities and availability of basic health services. Although there may be some isolated geographical access problems, most of the population are able to access health care within target times.	
Lack of good information about entitlements to health benefits and services can also be a barrier to access. According to the 2009 impact evaluation of the Georgian Medical Insurance Programme (2009 Impact Evaluation of the Survey), there are considerable misunderstandings of entitlements among the beneficiaries of this largest health sector public programme covering the poor population.	Prioritize increasing awareness regarding the entitlements provided through publicly financed programmes and specifically through the Medical Insurance Programme for the poor population.
Although significant numbers of the poor population are covered through state health benefits and/or medical vouchers (673 000 in 2007, increasing to 751 000 in 2008), a relatively small proportion of the total population is covered by any form of health insurance (approximately 25%). An even smaller portion (7.6%) of the non-poor population (not eligible for state health benefits) holds private health insurance.	Increase the share of the population covered by health insurance during 2009 and 2010 by expanding the implementation of recent initiatives for a government-subsidized minimal insurance package open to the whole population.
Low insurance coverage and increasing out-of-pocket payments for health are leading to financial access barriers to basic health services, as indicated by the fact that one out of four Georgian citizens cannot afford prescribed laboratory diagnostic tests and one out of ten cannot purchase prescribed medicine or go to the hospital due to financial hardship.	Establish a target to reduce by half the share of population without access to basic health services (prescribed medicines, lab tests and recommended hospitalization) to be achieved as a result of the reforms within five years. Current results establish a baseline for assessing the impact of reforms.

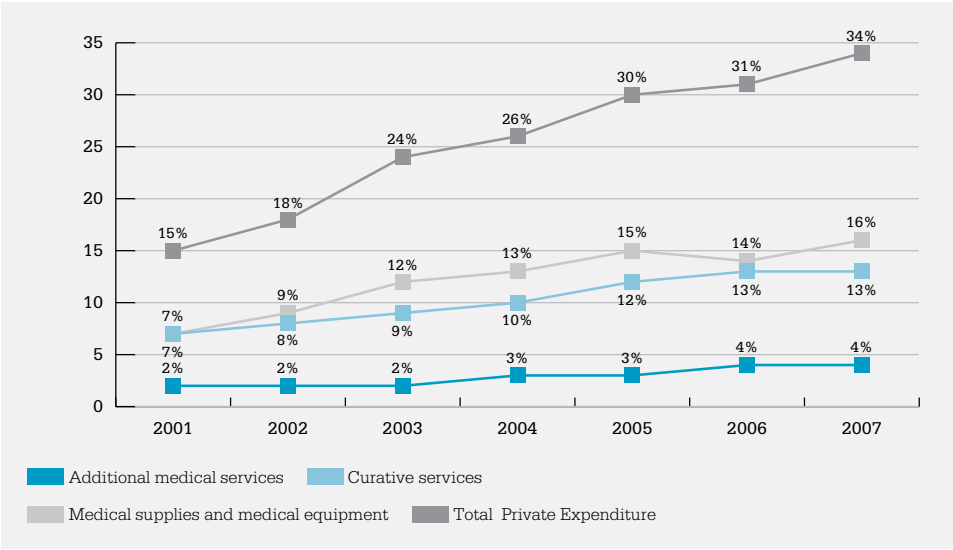
DIMENSION 6: IMPROVE EQUITY AND FINANCIAL PROTECTION IN THE HEALTH SYSTEM

Fair distribution of the financing burden for health care – fair financing – is one of the three ultimate goals of the health system *(1)*. This performance dimension assesses how well this goal has been achieved and looks at the extent to which the population is protected from catastrophic expenditures on health. Subdimensions are ensuring fair distribution of the burden of health system funding; and ensuring financial protection of the population against catastrophic health expenditures.

Ensuring fair distribution of the burden of health system funding

The first subdimension was evaluated using an indicator that examined household financial contribution to health care. Figs. 35 and 36 present the data on household health expenditures for the years from 2001 to 2007, obtained through the National Health Accounts. As noted above, while national, private, out-of-pocket expenditures as a share of total health expenditures remained at approximately the same (very high) level for the last seven years, the relative share of out-of-pocket expenditures in total household non-subsistence expenditures, or capacity to pay,[10] has more than doubled over this time from approximately 15% in 2001 to 34% in 2007 (see Fig. 35) and reached 20% of all household spending (see Fig. 36). In other words, household private spending on health care has increased at a substantially faster rate than total household expenditures and income. It should be noted that this is the national average, with some households devoting a higher share and others devoting a lower share of their income to health care. The average rate observed in 2007 is close to 40% of capacity to pay, a widely accepted threshold, beyond which household expenditures on health are considered to be catastrophic.

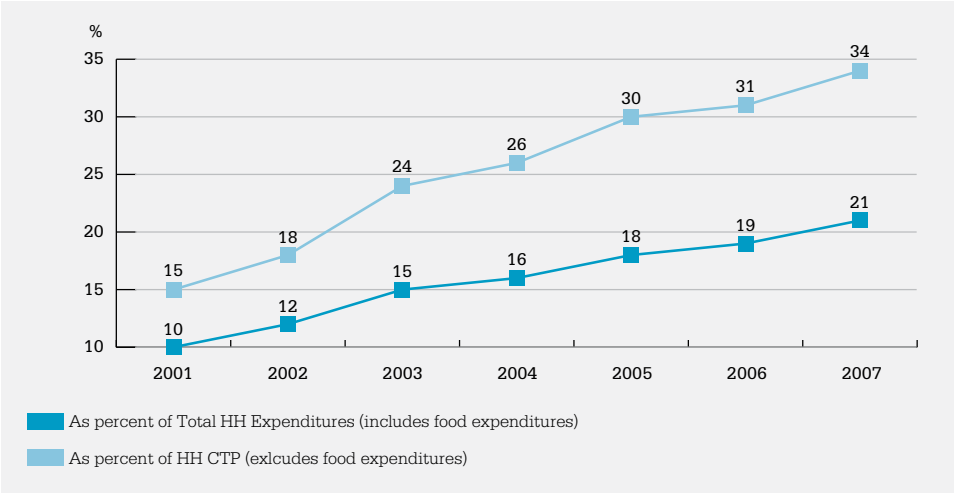
Fig. 35. Private health expenditures as a percentage of household capacity to pay, by type of medical service, 2001–2007



Source: National Health Accounts and SDS

10 Non-subsistence expenditures, or capacity to pay, are defined as all household (monthly or annual) expenditures excluding expenditures on food.

Fig. 36. Household health expenditures as a percentage of total household expenditures and household capacity to pay, 2001–2007

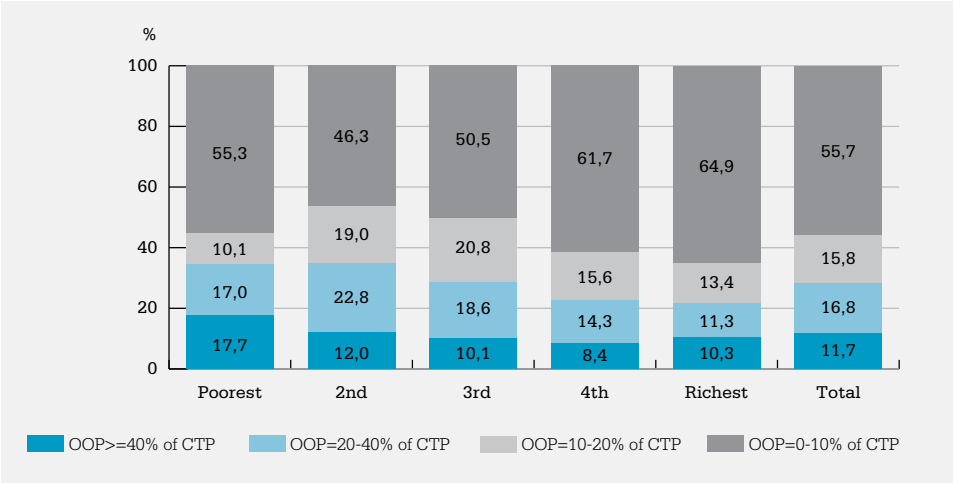


Source: National Health Accounts and SDS

Ensuring financial protection of the population against catastrophic health expenditures

If household health expenditures are assessed by income quintiles it is possible to achieve a clearer understanding of the proportion of the population incurring catastrophic level of health expenditure. Overall, results show that for more than ten percent of the households, health-related expenditures exceeded 40% of their non-food expenditures. There is also a considerable income gradient in the proportion of households exceeding 40% of capacity to pay on health expenditures (see Fig. 37). Close to 18% of households in the poorest quintile report health expenditures in excess of 40% of capacity to pay, while 10.3% of the households in the richest quintile report health expenditures at this level.

Fig. 37. Household out-of-pocket (OOP) health expenditures as a percentage of household capacity to pay (CTP), by income quintile, 2007



Source: Health Utilization and Expenditure Survey 2007

The findings presented here will serve as a baseline and can only be updated to assess trends in fair financing when the next HUES is conducted (planned in 2010).

Summary Findings and Policy Recommendations for Dimension 6: Improve Equity and Financial Protection in the Health System

Situation	Policy Recommendations
Citizens should receive needed health services regardless of ability to pay and should not be impoverished due to payments for health care services. Surveys of household expenditures point to increasing constraints on the capacity of households to pay for out-of-pocket health care expenses. Close to 12% of households reported spending more than 40% of non-food expenditures on health. In the poorest quintile of households, over 17% spent more than 40% of non-food expenditures on health. Although this rate was lower for other income quintiles, they were still close to 10%. A significant health problem could push almost any household, poor or rich, over the 40% rate. Overall results for indicators in this dimension point to concern over the increasing extent of out-of-pocket payments for health care services. According to the National Health Accounts data, the average percentage of household non-food expenditures on health increased from 15% in 2001 to 34% in 2007, more than doubling. Over 20% of all household spending went to health expenditures in 2007. Although all categories of health spending increased significantly during this time frame, a large part of the increase came from spending on medical supplies and medical equipment (primarily drugs) which increased from 35 GeL per capita in 2001 to 107 GeL per capita in 2007.	Expand insurance coverage further to prepay health expenses and to allow households to manage the financial risks associated with catastrophic health care needs. Current trends in increasing out-of-pocket spending at the point of care jeopardize access to needed care services.

DIMENSION 7: IMPROVE HEALTH PROMOTION, HEALTH BEHAVIOURS, DISEASE PREVENTION, MONITORING AND DETECTION

Health promotion, disease prevention and monitoring and detection programmes and policies have significant impact on the population's health status. Through education and promotion of healthy lifestyles the prevalence and impact of chronic diseases can be reduced. Early detection and screening programmes help to identify potential health problems at a treatable stage. Subdimensions are the increased awareness of the main health risk factors and public health threats; and the increased participation in screening and early detection programmes.

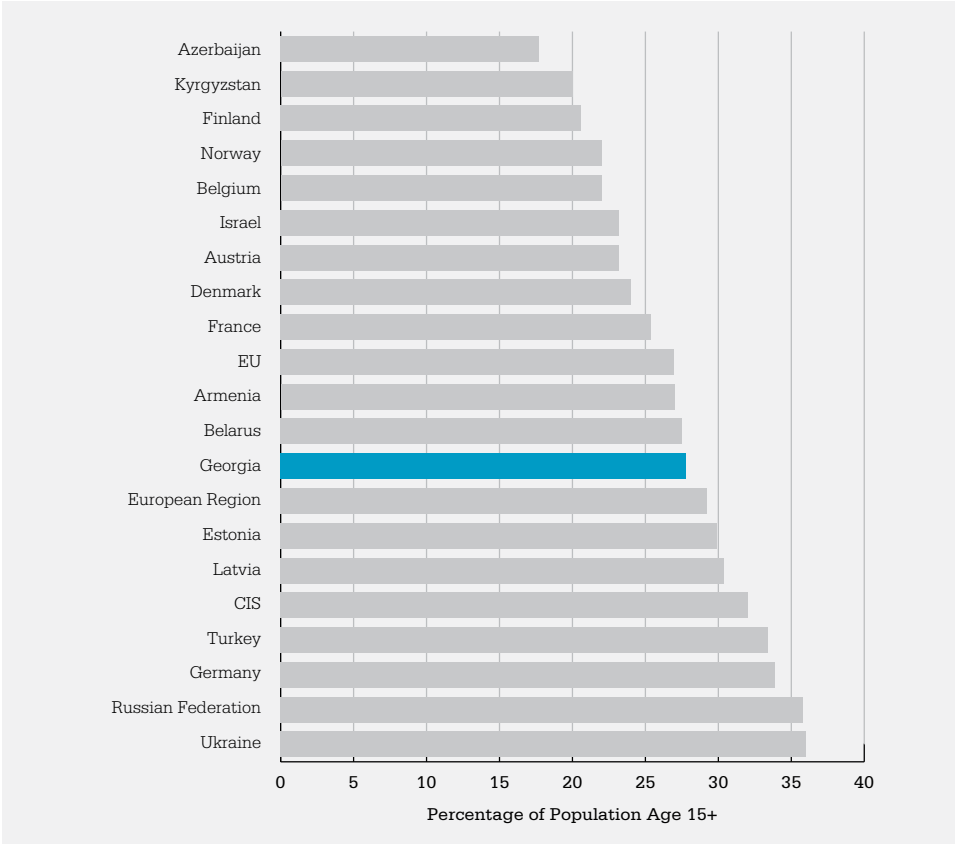
Increased awareness of the main health risk factors and public health threats

Public education and promotion of awareness for the main risk factors affecting health are among the basic roles of public health. This performance subdimension assesses the level of awareness and the behaviour of the population regarding the main lifestyle factors harmful to health. A number of the indicators initially proposed for this subdimension were excluded due to the absence of current and reliable data. These

include lack of physical activity and unsafe sexual practices. Similarly, the indicator assessing the quality of DPT-3 vaccination (timely versus delayed) was excluded, as no information was available. The remaining indicators used to measure population awareness regarding unhealthy behaviours are: rate of alcohol consumption; rate of tobacco consumption; and level of awareness about modern contraception methods in women of reproductive age.

Despite the fact that there is no regular collection of data for indicators measuring the main health risk factors in the country, information on tobacco use and alcohol consumption has been obtained from various sources in order to present the scope of the lifestyle risks affecting public health and to compare Georgia to other countries. According to the survey conducted by the Public Health Department of the ministry in 2005, 27%–39% of the population smokes tobacco (27% in 2001 *(6)*). Results for Georgia and selected countries are shown in Fig. 38. About 50%–65% of men and about 22% of women are smokers. The percentage of women smokers has been increasing rapidly; over the last 16 years the number of women smoking has increased by six times. According to the same survey, the share of adolescents aged 14–16 years who regularly smoke reached 23.3%. More than 93% are regularly exposed to tobacco smoke, and 74% have repeatedly seen tobacco advertising. This situation is typical for the countries of the former Soviet Union, where a special study conducted in 2001 found some of the highest smoking rates in the world *(14)*.

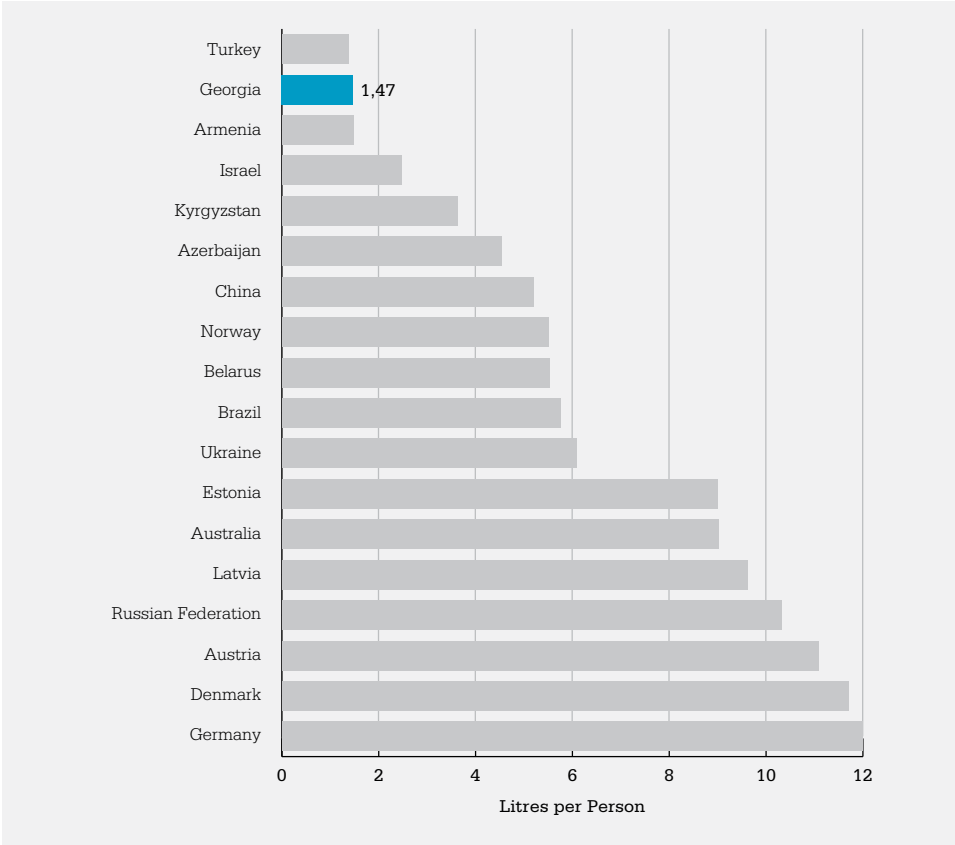
Fig. 38. Rate of smoking for population aged 15+ years, Georgia[11] and selected countries, most recent data available



Alcohol consumption levels are not considered problematic in Georgia. The per capita annual consumption rate (1.47 litres of pure alcohol per person) is relatively low compared to other countries, as shown in Fig. 39. According to the National Centre for Disease Control, only 0.5% of the adult population consumes alcohol in large quantities (more than 20 g per day for women and 40 g per day for men).

11 Result reported for Georgia is from 2001.

Fig. 39. Average adult alcohol consumption (litres per person) among adults aged 15+ years, Georgia and selected countries, 2003

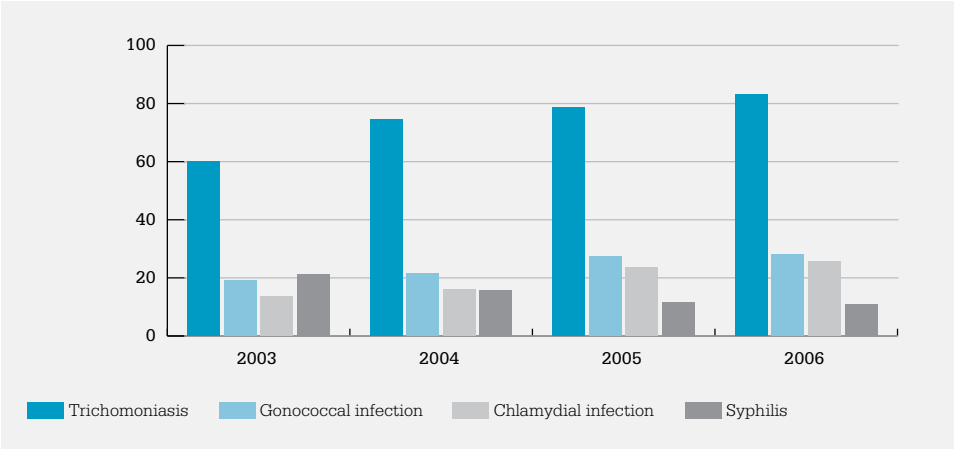


Source: World Health Statistics 2008 (22)

The use of illegal drugs is considered to be one of the major public health challenges in the country. The number of registered drug users has been increasing rapidly, and it is estimated that beyond the 24 000 officially registered users, there were about 250 000 unregistered drug users in Georgia in 2006 *(24)*. Intravenous drug use is one of the most important reasons for the spread of hepatitis B and C and HIV/AIDS. The incidence of hepatitis B and C has also increased considerably since 1995. Incidence of hepatitis B was 10.3 cases per 100 000 in 2000, rising to 17.2 in 2005 and 19.8 in 2006. Hepatitis C incidence rose from 6.0 cases per 100 000 in 2000 to 22.0 in 2005 and 23.1 in 2006. About two-thirds of the officially registered HIV/AIDS cases (over 1100 in 2007) were acquired through injection drug use *(25)*.

Although regular data on sexual practices are not available through routine information sources, the increasing incidence of sexually transmitted diseases, with the exception of syphilis, over the last five years (see Fig. 40) may indicate lagging public awareness and an increase in unsafe sexual behaviour.

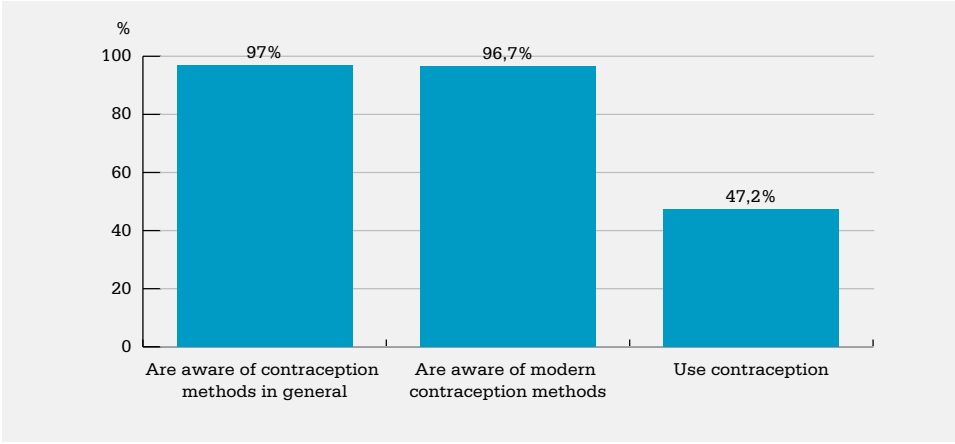
Fig. 40. Incidence of sexually transmitted diseases per 100 000 population, 2003–2006.



Source: National Centre for Disease Control

Fig. 41 presents the results of the Women's Reproductive Health Survey (GERHS05) on the awareness of modern contraception methods among women of reproductive age. Awareness levels about contraception in general and modern contraception in particular appear to be high at 96%–97%, indicating that public education efforts on this issue have achieved objectives. The actual utilization rate for contraception, however, is considerably lower at 47%, indicating a gap between knowledge and practice.

Fig. 41. Percentage of women of reproductive age who are aware of contraception methods and who use contraception, 2005



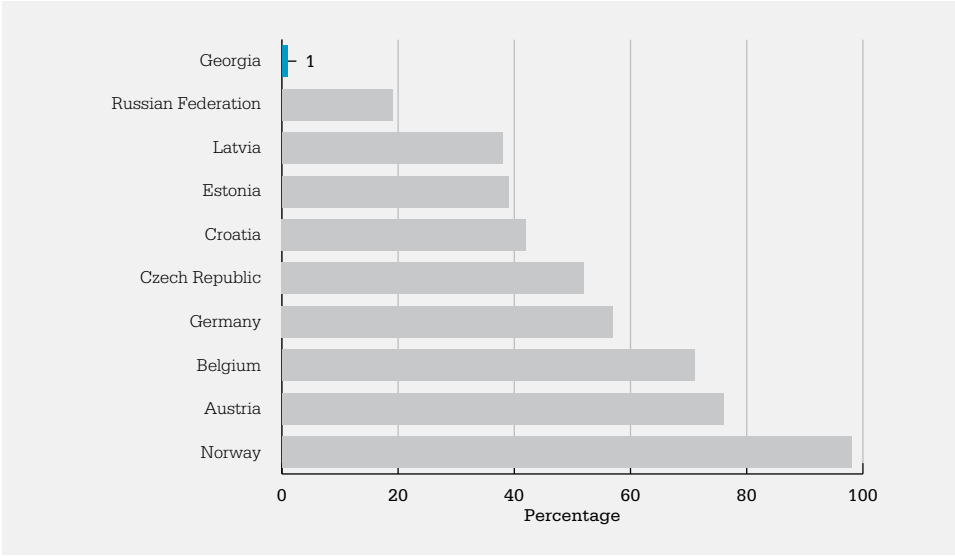
Source: Women's Reproductive Health Survey (UNFPA 2006)

Increased participation in screening and early detection programmes

The effectiveness of screening and early disease detection programmes is assessed in this subdimension. The indicator used is the share of women who have had screening for cervical cancer (Pap smear) and breast cancer (mammography).

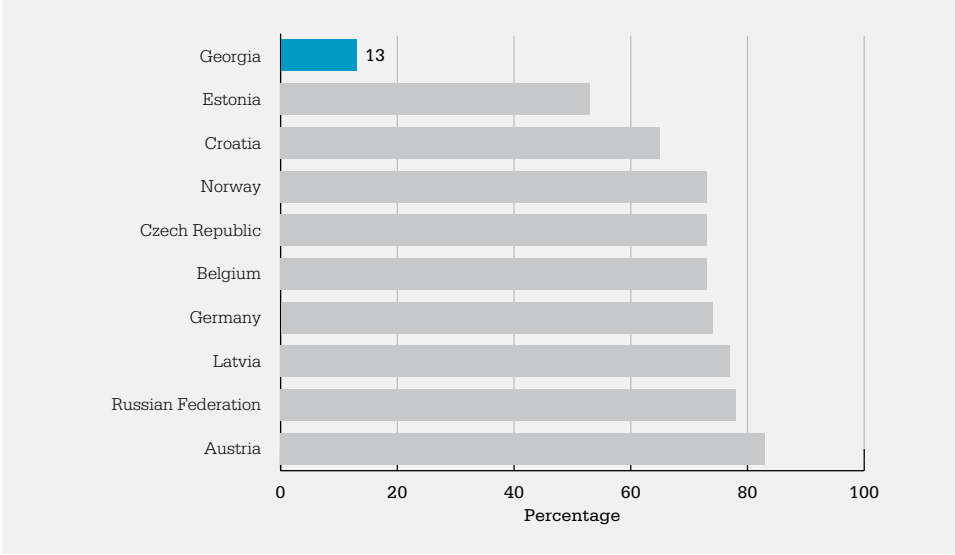
While there is sufficient evidence (15) that mammography screening alone of women aged 50–69 years could reduce mortality from breast cancer by 15%–25%, according to the results shown in Fig. 42 only 1% of Georgian women undergo mammography each year. In this subdimension, Georgia lags far behind other countries in the region and the world. Screening rates for cervical cancer are also much lower than those reported in other countries, as Fig. 43 shows.

Fig. 42. Percentage of women who have had mammography, Georgia and selected countries, most recent reported result



Source: World Health Statistics 2008. (WHO 2008c)

Fig. 43. Percentage of women who have had a Pap smear, Georgia and selected countries, most recent reported result



Source: World Health Statistics 2008. (WHO 2008c)

Summary Findings and Policy Recommendations for Dimension 7: Improve Health Promotion, Health Behaviours, Disease Prevention, Monitoring and Detection

Situation	Policy Recommendations
High prevalence of tobacco use and drug abuse is a major public health problem for the country. Georgia has one of the highest rates of male smoking in the world (over 50%), and 5% of the total population is estimated to use illegal drugs (24). Though the data is limited, it also appears that both smoking and drug use have been increasing over time, while the funding for public health programmes and prevention has decreased. At the same time, legislative measures adopted in the last decade to combat drug use and to reduce the prevalence of smoking have so far not yielded any measurable results. Limited funding and ineffective legislation constrain the government's ability to effectively cope with these problems.	Consider increasing funding for public health and prevention programmes with the focus on prevention of the main risk factors affecting the population's health: tobacco and drug use and unsafe sexual behaviour. Further refinement of the legislation on tobacco and drug use is also warranted.
Governmental efforts in health promotion and disease prevention can have significant impact on health status by preventing chronic diseases and detecting health problems at a treatable stage. There are presently few indicators available to assess national health system performance in this dimension. The health information system should be able to measure and report on rates of: smoking; alcohol and drug abuse; obesity and overweight; physical activity; sexual behaviour and awareness. These results could then be compared to those routinely reported by other countries. While some dated results are available for smoking (reported in 2005 and 2006 National Health Reports), and several studies and surveys have been conducted in the past on alcohol consumption and awareness of sexually transmitted diseases, there is no systematic reporting system using either routine or population-based data sources.	Include questions on health system performance in promoting healthy lifestyles in future surveys (such as HUES 2010) in order to monitor behaviours and to understand the impact of health promotion and disease prevention initiatives.
Awareness of contraception methods can be measured and is included in the reproductive health survey. Results from 2005 indicate awareness is quite high and education efforts have been successful in raising awareness. However, the gap between awareness and utilization is still quite large.	Review reasons for low utilization of contraception and remove barriers to access to contraception.

DIMENSION 8: IMPROVE QUALITY OF HEALTH SERVICES AND CLINICAL OUTCOMES

Quality of health care may be broadly defined as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" *(16)*. Quality of care means receiving the right care, in the right setting, from the right professional, at the right time.

Significant problems with quality have been identified in the most advanced health systems in the world. Eliminating variations in the delivery of evidence-based care across health care systems could save up to hundreds of thousands of lives each year. Studies in the US have found that billions of dollars in lost productivity and hospital costs could be saved through more consistent delivery of evidence-based best practices in medical services and administrative practices. Many people are receiving more care than they need; many are receiving less than they need; and many are receiving the wrong kind of care. In addition, preventable and harmful errors are occurring frequently. Moreover, these problems are not always recognized or addressed adequately by governments, regulators or those who deliver care.

Key challenges for improving quality of health care services include: redesigning care processes based on best practices; using evidence-based medicine to improve clinical practice; improving information technologies to increase access to clinical information and support clinical decision-making; coordinating care across patient conditions, services and settings over time; and incorporating performance and outcome measurements for improvement and accountability. The Georgian health system faces the same challenges, and this performance dimension assesses the scope and monitors the achievement of improvements in the four subdimensions that were identified as intrinsic components for improving quality of care: improvement of compliance with clinical guidelines; improvement of patient safety; improvement of clinical effectiveness; and improvement of responsiveness to patients, including monitoring patient satisfaction and experience with care.

Improvement of compliance with clinical guidelines

Implementation of and adherence to clinical practice guidelines are major steps forward in improving the quality of care and clinical outcomes. This section assesses the state of development and implementation of evidence-based clinical guidelines in the health care delivery system. The indicator proposed for this purpose is the share of implemented guidelines compared to the total number of approved guidelines.

There is a special committee in the ministry responsible for coordinating the development and adoption of clinical practice guidelines, which are usually proposed by the state, by professional associations or by the donor community. Thirty guidelines have been approved so far; thirty-eight are ready for approval; and another twenty-five are at various stages of development. When guidelines are approved, they are published on the ministry's web site and distributed to professional organizations. However, there is no comprehensive plan for guidelines to be developed and therefore no denominator

for this performance indicator. Furthermore, no mechanisms are in place to monitor the implementation of guidelines and evaluate their impact on health care outcomes.

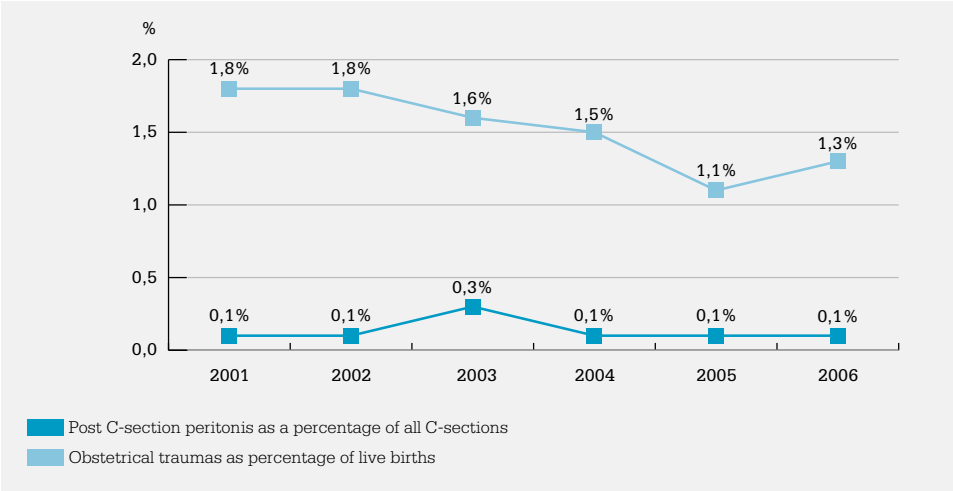
Considering the importance of clinical practice guidelines for improving clinical outcomes, it is necessary to introduce a formal process for monitoring the adherence to officially adopted guidelines and to develop policies to support the implementation of the guidelines. The health information system should be able to track and report the data necessary to assess this subdimension of health system performance.

Improvement of patient safety

To achieve an acceptable standard of patient safety, the health care system should be capable of preventing errors – through appropriate regulation, implementation of clinical guidelines and improved quality of care – and of learning from errors when they do occur. Development of such a system requires a commitment from government and other stakeholders to a culture of safety as well as improved information systems for continuous performance measurement. One indicator, the share of adverse events and complications (such as caesarean section peritonitis and obstetrical traumas) in all hospital admissions, was selected at this stage to address this issue. A downward trend would indicate improvement.

Fig. 44 presents 2001–2006 data on the incidence of caesarean section peritonitis and obstetrical trauma in Georgia. The percentage of caesarean sections complicated by peritonitis have remained stable at approximately 0.1% with a single-year surge to 0.3% in 2003. These figures are low, considering that the rate of puerperal infections (including sepsis and peritonitis) following caesarean sections ranged from 2.7% to 3.1% for the countries of the European Region in the year 2000 *(17)*. The percentage of obstetrical trauma cases decreased from 1.8% of all live births in 2001 to 1.3% in 2006. Again, the share of obstetrical trauma seems low in when compared internationally, considering, for example, that 3.8% of all live births were complicated with obstetrical trauma in the United States in the year 2006 *(18)*. It is likely that the low reported rates are due to the underreporting from health providers, once again underscoring the importance of reliable data.

Fig. 44. Percentage of selected adverse events related to childbirth, 2001–2006



Source: National Centre for Disease Control

The availability and scope of indicators for patient safety for which data can be collected are limited. For example, it is impossible to report on such important patient safety indicators as nosocomial (hospital-acquired) infections and post-surgical complications and mortality rates. The data quality for existing indicators also raises concern. The international comparisons suggest a certain degree of underreporting for caesarean section complications and obstetrical trauma with the result that even where some data are available they are not suitable for monitoring and reporting on the safety of health care services.

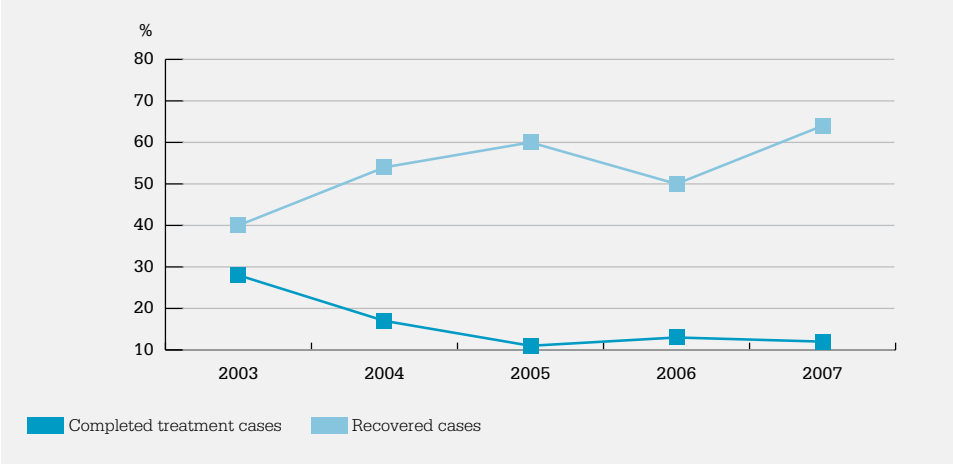
Improvement of clinical effectiveness

Improved clinical effectiveness of services leading to better treatment outcomes is an important aspect of the health system. This performance subdimension assesses whether the services delivered in health facilities are leading to the expected clinical outcomes. Three indicators were proposed as proxies for a wide range of treatment outcomes that cannot presently be reported. The indicators are: treatment outcome rates in cases of tuberculosis registered 12 months before the assessment; share of multidrug-resistant tuberculosis (MDR-TB) cases out of all new and previously treated cases; and share of neoplasm (cancers) detected in stages I–II.

Fig. 45 presents data on tuberculosis treatment outcomes for cases registered and undergoing treatment 12 months before the reporting year. The data shows year-by-

year improvement in the share of recovered cases, with a 10% drop in 2006 followed by a 14% improvement in 2007, resulting in an overall positive trend. The chart also shows that the share of completed treatment cases (cases when treatment has been successfully completed without bacteriological evidence of success) has decreased from 28% in 2003 to 12% in 2007. It should also be noted that the total number of registered tuberculosis cases undergoing treatment has increased more than twofold during the same period from 762 to 1580, which may indicate improved case detection and registration.

Fig. 45. Recovered and completed treatment cases as a percentage of total registered tuberculosis cases, 2003–2007

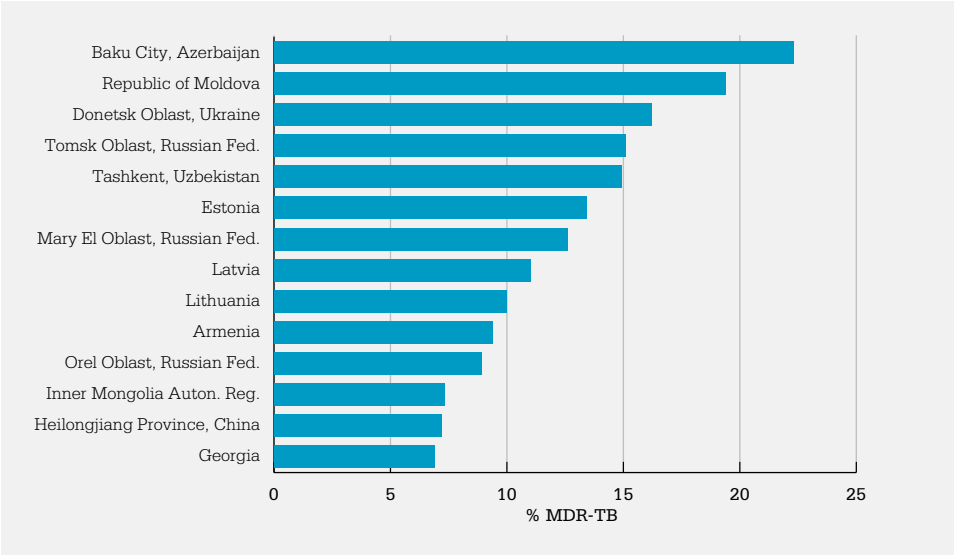


Source: Tuberculosis National Programme

Anti-tuberculosis drug resistance is a major global public health problem that also threatens the success of DOTS (Directly Observed Therapy, Short-course) and the national tuberculosis control programme in Georgia. Drug resistance arises due to the improper use of antibiotics in the treatment of drug-susceptible tuberculosis patients, as a result of a number of actions, including administration of improper treatment regimens by medical personnel and failure to ensure that patients complete the whole course of tuberculosis treatment. Source: Anti-tuberculosis drug resistance in the world: fourth global report *(19)*

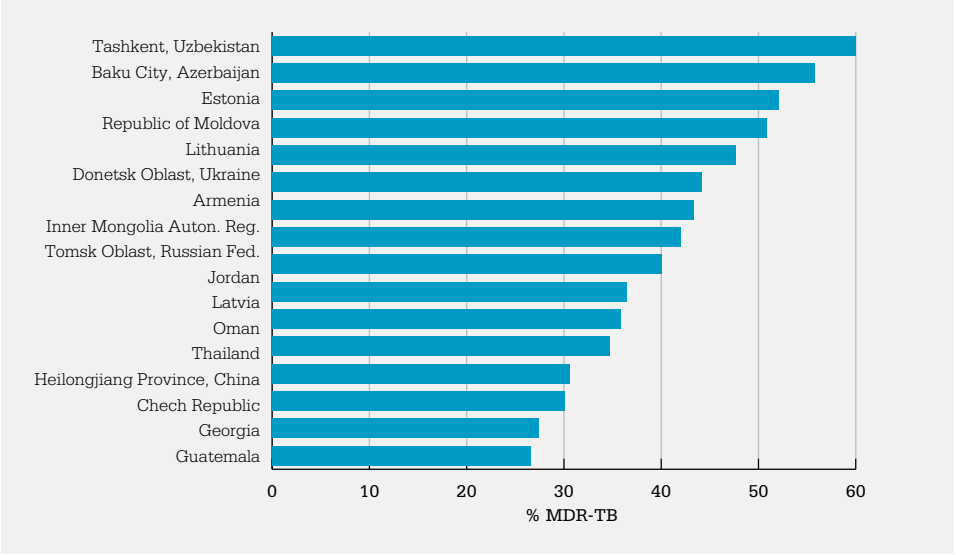
Figs. 46, 47 and 48 present surveillance data on the prevalence of tuberculosis strains with any drug resistance among new cases and prevalence of multidrug-resistant (MDR) tuberculosis strains among new and previously treated cases of the disease from the WHO/UNION Global Project on Anti-tuberculosis Drug Resistance (19). The data show that Georgia is among the countries with the highest prevalence and ranks third in prevalence of any resistance and fourteenth in prevalence of multidrug resistance among new cases. For multidrug-resistant tuberculosis prevalence in previously treated cases, Georgia is also among the fifteen countries with prevalence rates above 30%.

Fig. 46. New multidrug-resistant tuberculosis cases as a percentage of all new tuberculosis cases, countries and settings with a percentage higher than 6%, 2002–2007



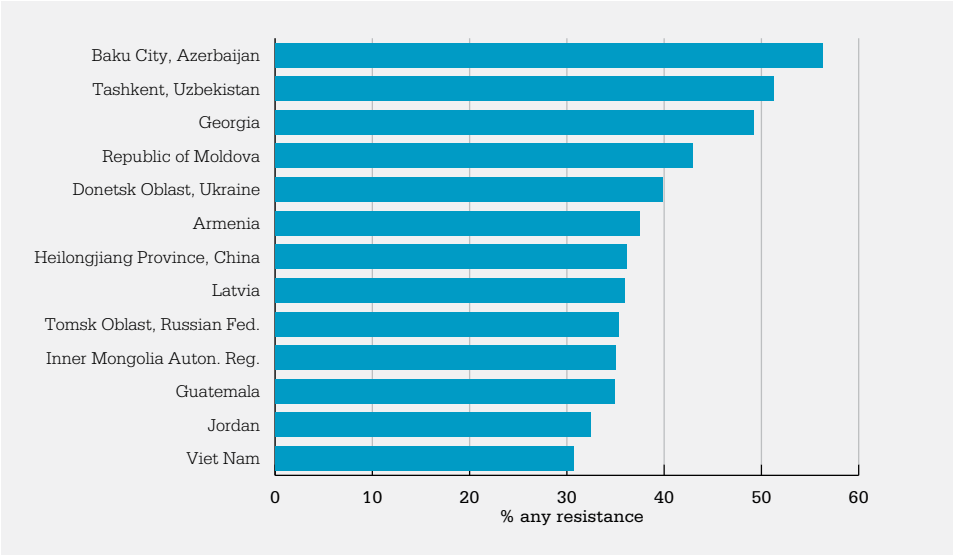
Source: Anti-tuberculosis drug resistance in the world: fourth global report (19)

Fig. 47. Multidrug-resistant tuberculosis cases as a percentage of previously treated cases, countries and settings with a percentage higher than 30%, 2002–2007



Source: Anti-tuberculosis drug resistance in the world: fourth global report (19)

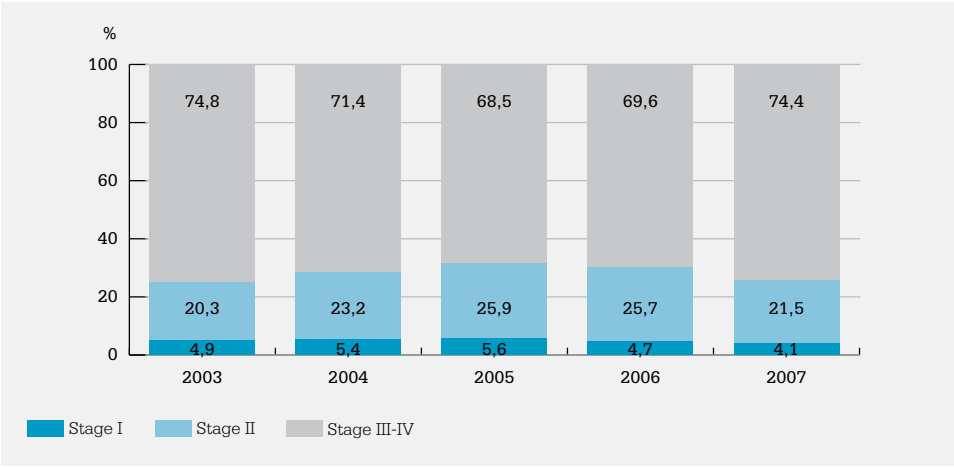
Fig. 48. New tuberculosis cases with any drug resistance as percentage of all new tuberculosis cases, countries and settings with a percentage higher than 30%, 2002–2007



Source: Anti-tuberculosis drug resistance in the world: fourth global report (19)

The percentage of neoplasm detected in the first and second stages, when treatment prognosis is more benevolent and survival rates are higher, is presented in Fig. 49. The data show that the share of neoplasm detected in the earlier stages has never exceeded 30% during the last five years (2003–2007), and in 2007 it was about 25%, almost the same as in 2003. By contrast, the share of cancers diagnosed at stages I and II was 49%–57% in the United States (20).

Fig. 49. Percentage of neoplasms diagnosed at stages I, II and III–IV, 2003–2007



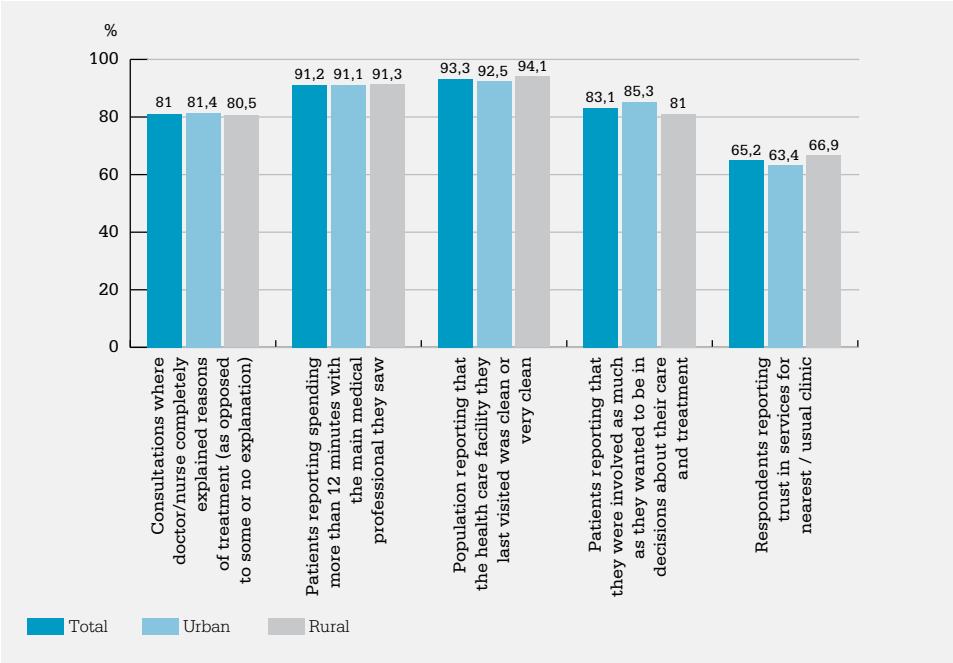
Source: National Cancer Registry

The quality of the data supplied by the national tuberculosis programme and national cancer registry is relatively good. Further work is required to stratify data on early detection of neoplasm by cancer type, age and sex.

Improvement of responsiveness to patients, including monitoring patient satisfaction and experience with care

This section examines the extent to which patients are satisfied with different aspects of the health care services they have received. Fig. 50 presents the Health Utilization and Expenditure Survey 2007 (HUES07) findings on this indicator, which show a fairly high degree of satisfaction with most aspects of health care services, both in urban and rural locations. Rates of satisfaction with explanation of reasons for treatment, adequate time spent with patients, clean or very clean facilities and involvement of patients in treatment decisions were all close to or over 80%. The percentage of respondents reporting trust in the services at their usual clinic was somewhat lower at approximately 65%.

Fig. 50. Percentage of population expressing satisfaction with different aspects of health services, Georgia and by urban/rural, 2007



Source: Health Utilization and Expenditure Survey 2007

Summary Findings and Policy Recommendations for Dimension 8: Improve Quality of Health Services and Clinical Outcomes

Situation	Policy Recommendations
There are institutional mechanisms in place for development and adoption of evidence-based clinical guidelines, an effective mechanism for improving the quality of care and clinical outcomes. Up to 40 clinical practice guidelines have been developed and the majority of them officially approved by a special ministerial committee. However, the Ministry of Labour, Health and Social Affairs has not yet processes and procedures for monitoring the practical application of guidelines and their impact on clinical practice.	Introduce formal procedures for monitoring and evaluating the application of officially adopted guidelines and to develop incentives for the implementation of the guidelines. The Health Information System should be capable of reporting the data required to assess this performance domain.

Situation	Policy Recommendations
The data availability and scope of patient safety indicators for which data can be collected are limited. For example, it is impossible to report on such important patient safety indicators as nosocomial (hospital-acquired) infections and post surgical complications and mortality rates. The data quality of existing indicators also raises concerns. International comparisons suggest underreporting for caesarean section complications and obstetric trauma and render even this one indicator, where data is available, unsuitable for monitoring and reporting on safety of health care services.	Improve the data quality for existing indicators (caesarean section complications and birth trauma). Additional patient safety indicators are recommended for monitoring. These include the rate of hospital-acquired (nosocomial) infections and post-surgical complications and mortality rates.
There is an overall positive trend in tuberculosis treatment outcomes: the rate of completed treatment cases (without bacteriological evidence of success) is declining and rate of recovered (cured) cases is on the rise, with an increase of more than 50% from 2003 to 2007, indicating successful achievement of the national tuberculosis control programme. At the same time the data on multidrug-resistant tuberculosis prevalence in Georgia raise concern. High prevalence of multidrug-resistant tuberculosis threatens the success of DOTS and the national TB control programme in Georgia. The country ranks among fifteen countries in the world with the highest prevalence of multidrug-resistant tuberculosis both among new cases (5%) and previously treated cases (23%).	Apply further efforts to improve various aspects of the national tuberculosis control programme. Specific attention should be given to regulating the use of first line antibiotics used for chemotherapy and motivating patients to fully complete the tuberculosis treatment.
The percentage of neoplasm diagnosed in stages I and II (when there is a greater likelihood of successful treatment) was approximately 25% in 2007, almost unchanged from 2003. This rate is low by international standards and it points to a need for coordinated screening guidelines and programmes to encourage screening, particularly where proven effective for breast, cervical and colorectal cancer. Tbilisi Municipality and international partners are financing screening and public awareness programmes for breast and cervical cancer in Tbilisi, but no nationwide cancer screening programme exists.	Develop a national programme for cancer screening, funded through the State budget through the expansion of existing screening programmes.
HUES07 results in general show a fairly high degree of satisfaction with most aspects of health care services when people access care. Rates of explanation of reasons for treatment, adequate time spent with patients, clean or very clean facilities and involvement of patients in treatment decisions were all nearly or over 80%. The percentage of respondents reporting trust in the services at their usual clinic was somewhat lower at approximately 65%.	Regularly assess and report information on components of health system responsiveness and patient satisfaction in future surveys

DIMENSION 9: IMPROVE THE HEALTH STATUS OF THE POPULATION

Improving the population's health status is in fact the ultimate and defining goal of the health system *(1)*. Achieving the highest attainable standard of health and living a productive life are considered fundamental human rights. Every country should strive to enhance the performance of its health system to achieve a decrease in mortality and morbidity for targeted health conditions.

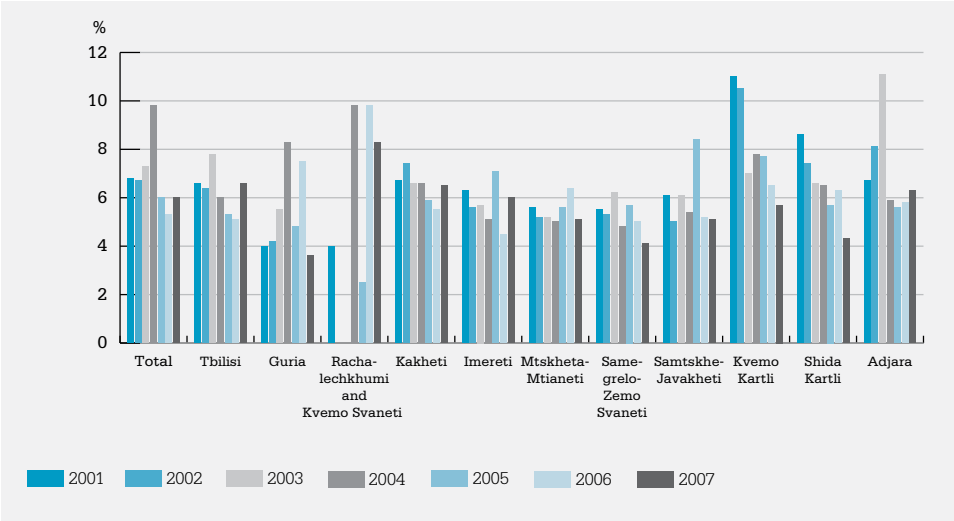
Decrease in mortality and morbidity for targeted health conditions

This performance dimension assesses how well the health system delivers improved health status outcomes. Several proxy indicators for selected conditions are used for this purpose:

- number of low birth weight babies per 100 live births;
- morbidity per 100 000 population for the five leading causes;
- mortality per 100 000 population for the five leading causes;
- infant mortality, under-five mortality and maternal mortality; and
- life expectancy at birth.

The number of low-birth-weight babies per 100 live births shows some progress, dropping from approximately seven in 2001 to six in 2007. The rate has also varied over time, however, with a reported rate closer to 10 per 100 live births in 2004, and it remains above the average European Union rate. There is also some variation across the country regions (Fig. 51).

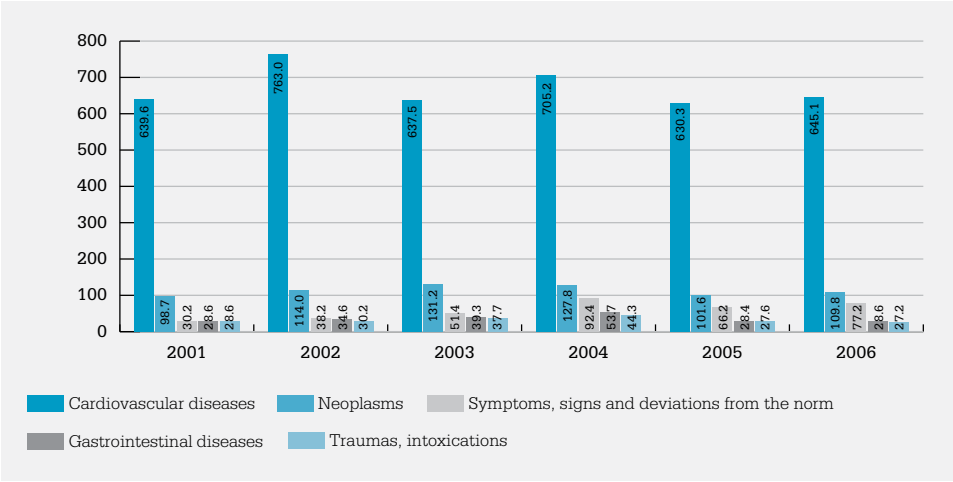
Fig. 51. Low-birth-weight babies (less than 2500 g) as percentage of all live births, Georgia and country regions, 2001–2007



Source: National Centre for Disease Control

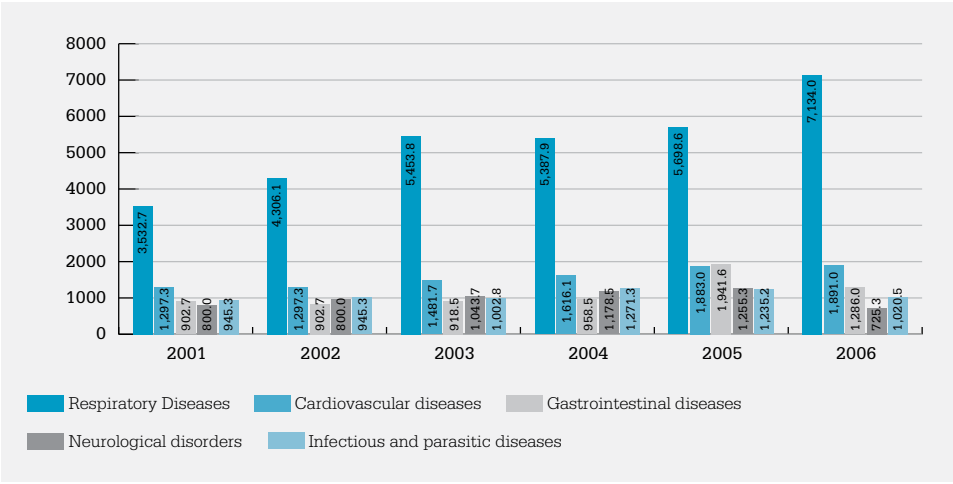
Mortality and morbidity patterns (Figs. 52 and 53) show that cardiovascular diseases are the leading cause of mortality, and the mortality rate for cardiovascular diseases has remained unchanged at approximately 640–645 from 2001 to 2006. This rate compares favourably to the average CIS rate; however, it is higher than the European Region and EU averages, as Fig. 54 indicates. The rate of deaths due to neoplasm is high in Georgia compared to other countries, although it dropped from 118 per 100 000 in 2001 to 110 per 100 000 in 2006 (Fig. 52). Respiratory diseases are the leading cause of morbidity, increasing from 3500 cases per 100 000 in 2001 to more than 7000 cases per 100 000 in 2006. In the same period, morbidity due to cardiovascular disease increased by close to 50% (Fig. 51).

Fig. 52. Mortality per 100 000 population for the five leading causes of death, 2001–2006



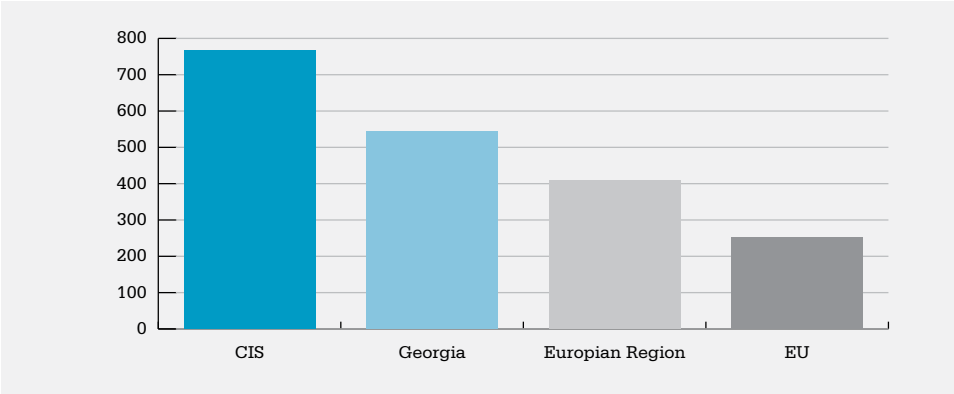
Source: National Centre for Disease Control

Fig. 53. Morbidity per 100 000 population for the five leading causes, 2001–2006



Source: National Centre for Disease Control

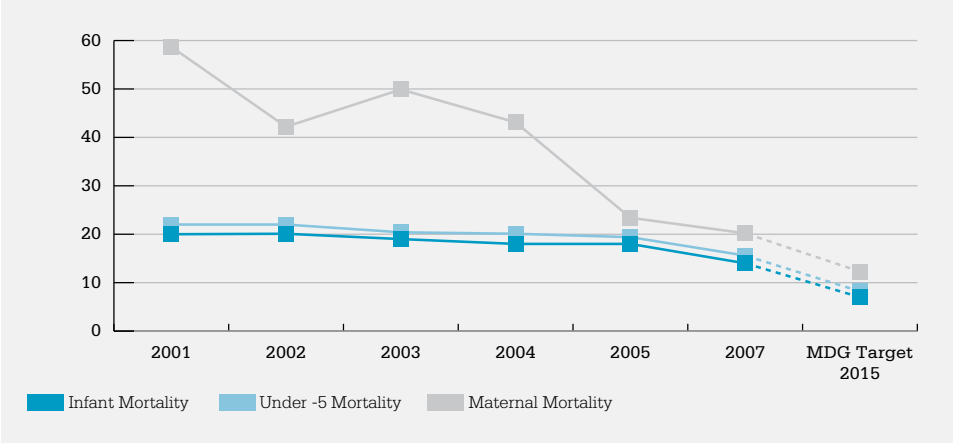
Fig. 54. Standardized mortality rate for diseases of circulatory system all ages per 100 000, Georgia and selected comparators, more recent results



Source: WHO European Health for All Database (6)

Progress has been made in reducing the rates of infant and maternal mortality, which are key international indicators of health status. Infant mortality has dropped from 20 per 1000 live births in 2001 to 14 per 1000 live births in 2007. However, there is still some way to go to achieve the Millennium Development Goal (MDG) target of seven deaths per 1000 live births by 2015. Maternal mortality decreased from 58.7 per 100 000 live births in 2001 to 20.2 per 100 000 in 2007 and is approaching the MDG target of 12.3 (Fig. 55). There is significant variation across regions for infant mortality and under-five mortality, with Tbilisi having the highest rates, probably because the most complicated cases are transferred to Tbilisi through the state referral programme (Tables 16 and 17).

Fig. 55. Rates of infant, under-five and maternal mortality, 2001–2007, compared to Millennium Development Goals, 2015



Source: National Centre for Disease Control

Table 16. Rates of infant mortality per 100 000 live births, Georgia and country regions, 2001–2007

Region	2001	2002	2003	2004	2005	2006	2007
Adjara	19.6	20.4	18	21	23	21	19
Tbilisi	33.6	32.6	29	25	27	28	19
Kakheti	10.6	16.0	10	12	7	8	8
Imereti	21.1	16.4	17	20	20	19	19
Samegrelo	5.0	7.0	9	6	7	7	6
Shida Kartli	20.4	12.1	17	13	9	7	5
Kvemo Kartli	4.7	8.6	5	7	5	5	5
Guria	4.8	10.2	9	8	6	10	5
Samtskhe Djavakheti	6.2	6.3	7	9	7	6	3
Mtskheta Mtianeti	7.8	10.8	7	10	7	9	2
Racha-Lechkhumi	3.3	14.0	8	11			8
Georgia	20.0	20.1	19	18	18	18	14

Source: National Centre for Disease Control

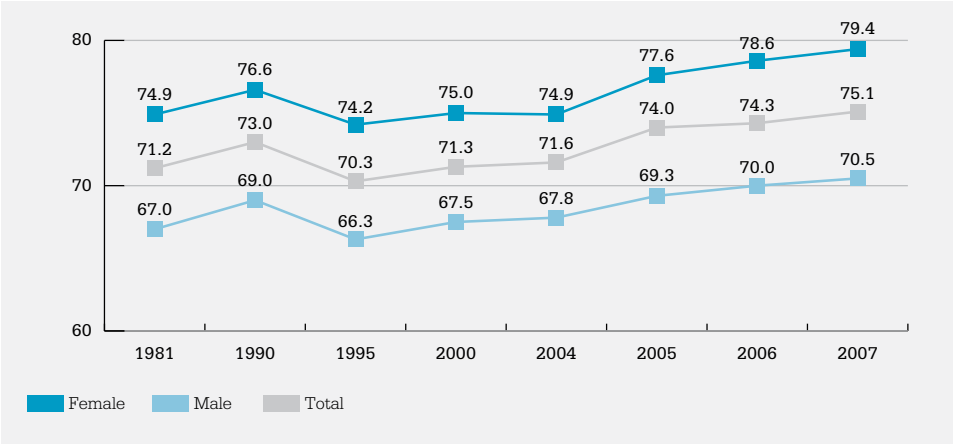
Table 17. Rates of under-five years mortality, Georgia and country regions, 2001–2007

Region	2002	2003	2004	2005	2006	2007
Adjara	22.9	21.1	21.8	25.1	21.2	20.9
Tbilisi	35.7	32.1	28.0	28.7	29.6	21.1
Kakheti	17.7	9.7	13.5	8.2	9.0	7.8
Imereti	17.8	17.2	21.6	20.0	19.9	19.4
Samegrelo	8.1	9.1	6.9	6.8	6.8	5.9
Shida Kartli	13.5	17.6	14.1	8.5	8.3	5.8
Kvemo Kartli	9.1	5.6	8.1	5.5	5.9	5.4
Guria	10.2	10.4	12.3	5.6	12.3	7.9
Samtskhe Djavakheti	7.2	8.5	9.1	7.5	7.3	3.9
Mtskheta Mtianeti	10.8	6.6	11.7	7.1	9.1	6.6
Racha-Lechkhumi	14.0	8.4	10.8			8.1
Georgia	22.0	20.4	20.1	19.4	19.7	15.6

Source: National Centre for Disease Control

Life expectancy in Georgia fell dramatically in the early 1990s, but has improved since then (see Fig. 56). Average life expectancy in Georgia in 2005 was 74 years, rising to 75.1 in 2006. This is below the EU average of 78.5 years, slightly above the European Region average of 74.6 years and considerably higher than the CIS average of 67.0 years in 2005 *(6)*. The most recent health-adjusted life expectancy data for Georgia was estimated to be 67 years for women and 62 for men in 2003, which is similar to the regional and CIS averages *(6)*.

Fig. 56. Average life expectancy at birth, by sex, selected years 1981–2007



Source: National Centre for Disease Control

There are significant limitations to the data reported above for morbidity and mortality, including, for example, suspected misclassifications of cause, incomplete diagnosis data, a large number of ill-defined causes of death and failure to standardize by age and sex. Certain significant yearly changes or anomalies in the regional data on low-birth-weight infants may indicate problems with reporting. Data quality is better for child and maternal mortality.

Summary Findings and Policy Recommendations for Dimension 9: Improve Health Status of the Population

Situation	Policy Recommendations
Overall progress in reducing rates of infant and maternal mortality – key international indicators of health status – has been observed. The country is making progress towards the MDG targets. Some progress has been made in improving maternal health outcomes, as the percentage of low-birth-weight infants, though fluctuating over the years, has decreased slightly.	Continuous attention and priority must be devoted to achieving the Millennium Development Goals.
Cardiovascular diseases are by far the largest cause of mortality, and the rate has remained unchanged at approximately 640 from 2001 to 2006. This rate is higher than the EU average but lower than average rate for CIS countries. The rate of deaths due to neoplasm has also been high, although the rate has dropped since 2003. Respiratory diseases are by far the leading cause of morbidity and have doubled over the period from 2001 to 2006.	Expand health promotion efforts to promote reduction in tobacco use, increased physical activity and lower prevalence of overweight and obesity to improve mortality due to cardiovascular diseases. Efforts to reduce smoking would also help to reduce morbidity due to respiratory diseases. The continuing high rate of mortality due to neoplasm reinforces the need for screening programmes to detect cancer at earlier stages for better treatment outcomes.

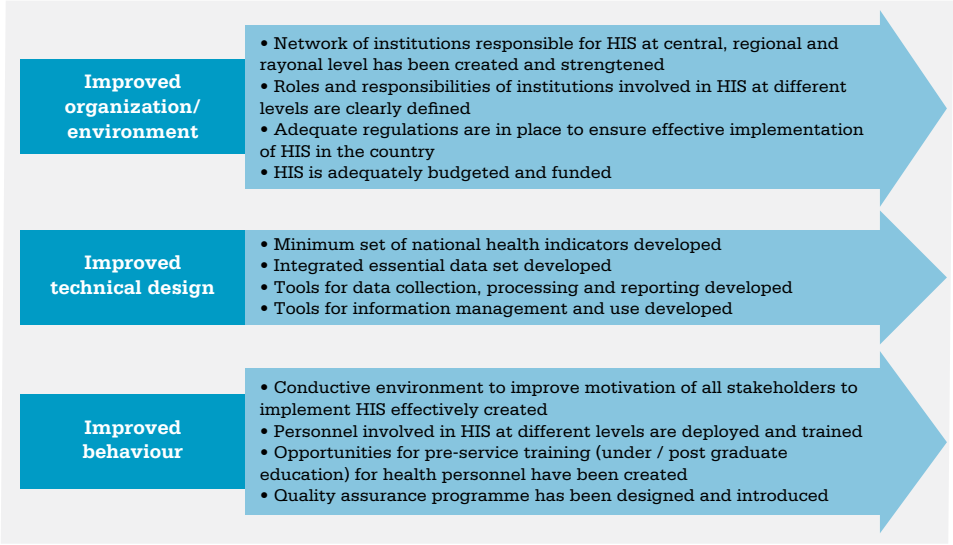
RECOMMENDATIONS FOR HEALTH INFORMATION MANAGEMENT AND INSTITUTIONALIZATION OF HEALTH SYSTEM PERFORMANCE ASSESSMENT

Health system performance assessment is an effective tool for health policy-making and for implementation of a continuous, evidence-based decision-making process, which requires accurate, valid and timely data on different indicators. The performance assessment findings presented in the previous sections highlight numerous information gaps, data quality issues and validity concerns for the different health system performance domains.[12] Many of these weaknesses can only be addressed through systemic improvements in the national Health Information System.

Several assessments of the national Health Information System in recent years have identified the necessary systemic improvements and proposed strategies to deliver them. Most notable from the HSPA standpoint are the *Strategic plan for the development of health information systems in Georgia (21) and the Development of HMIS concept, definition of indicators and HMIS implementation Plan for Georgia Primary Health Care Development Project (22).* The recommendations in these documents include a set of comprehensive measures for strengthening the health information system by changing and/or introducing institutional, legislative and funding mechanisms for improving health information organization and environment, technical design and the behaviour of actors involved in health information management. The documents, also propose a concrete implementation plan with measurable goals, objectives, outcomes and outputs as well as an estimate of detailed implementation costs. The main recommendations of the strategic plan are grouped across three priority areas with expected outcomes. These are presented in Fig. 57.

12 Further discussion of data issues for each HSPA indicator is also presented in the Health System Performance Assessment Technical Report (Annex 2).

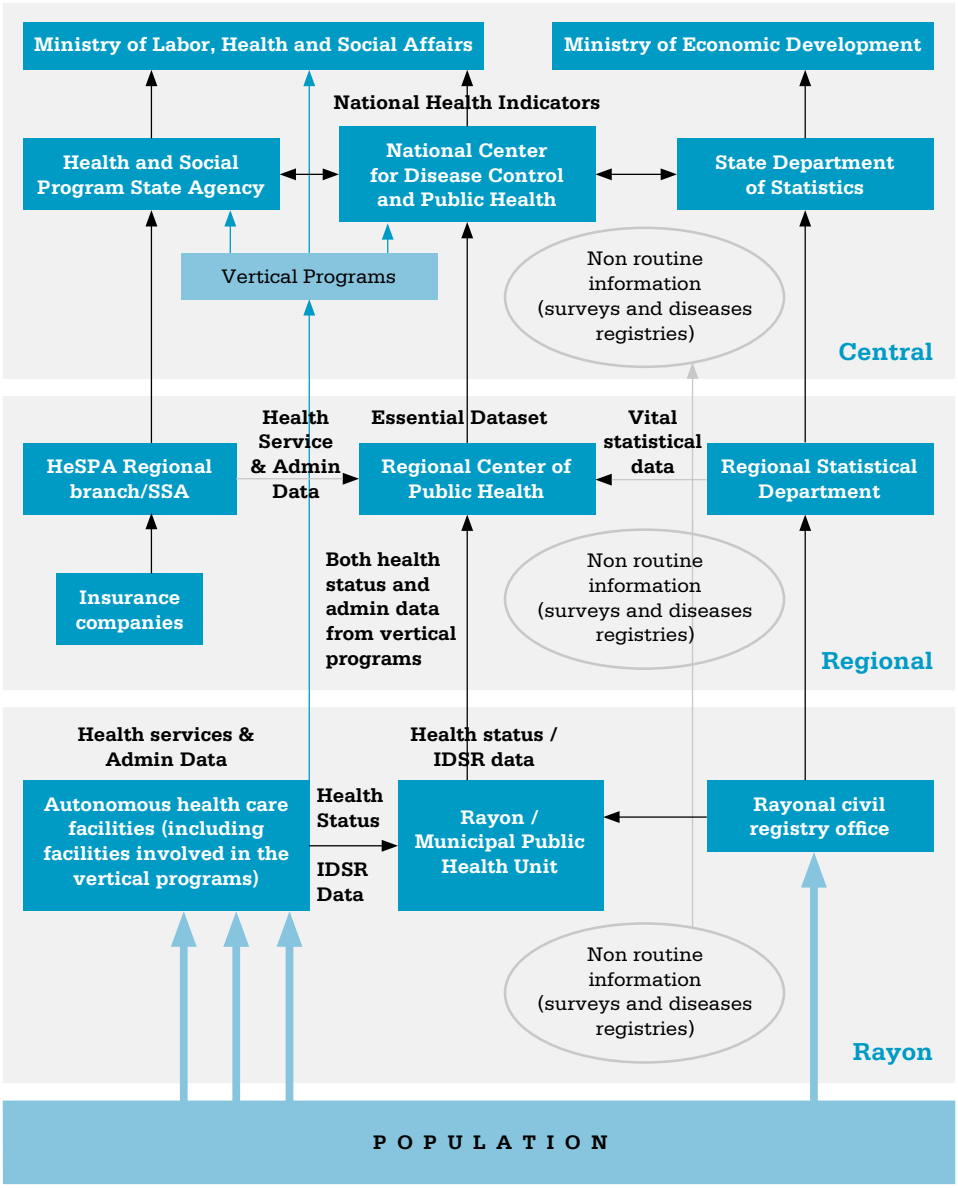
Fig. 57. Priority areas and expected outcomes and results for health information system development strategic plan



Source: Strategic Plan for the Development of the Health Information System in Georgia *(21)*

One of the important outcomes of the HSPA is the development of the minimum set of national health indicators, which was proposed under the strategic plan as a precondition to improved health information system technical design. The indicators selected and assessed for the HSPA will form the minimum set of national indicators, the foundation upon which the integrated essential data set and an integrated health information system model will be built (Fig. 58).

Fig. 58. Integrated model of health information system proposed under the Strategic Plan for the Development of the Health Information System in Georgia



Source: Strategic Plan for the Development of the Health Information System in Georgia *(21)*

The *Strategic Plan* defines the steps for developing this new integrated health information system model, which includes changes in regulation, institutional reorganization, development of a new health information system and management tools and funding mechanisms. This is an ambitious plan which could take years to implement and will require considerable effort and resources, with an estimated cost of approximately 13 million GeL over five years. Meanwhile, there is a need to come up with a plan that will address the immediate information requirements of the HSPA and support its institutionalization. The HSPA information requirements for indicators used to assess each performance domain are presented in Annex 2. The indicators are grouped by type and source of information. Data availability and quality status are also described: *current* indicates available data with fair quality; *current with limitations* indicates that data availability and/or quality is limited; *required* indicates that data is not currently available but is required for the HSPA. In order to address these information requirements and institutionalize the performance assessment process, the following actions are proposed:

- elaboration and approval of a new Presidential (or Cabinet of Ministers) decree on the production of HSPA and National Health Reports, replacing the 2000 Presidential Decree that promulgated the production of the National Health Report and defining in detail the timelines for production of the reports and the responsible bodies for data collection, analysis and preparation of the reports;

- initiation of legislative changes incorporating the information requirements for key HSPA indicators into the Law on State Statistics and introducing the enforcement clause and penalties for not complying with the State Statistical Reporting requirements on data collection by public and especially private health providers into the Georgian Administrative Code;

- implementation on a regular basis (at least once every two years) of the Health Utilization and Expenditure Survey, the most reliable source of data for a significant number of HSPA indicators, and reconciliation of the different methodologies used to measure household health expenditures in the Health Utilization and Expenditure Survey and the Household Budget Quarterly Survey;

- addition of questions to the 2010 Health Utilization and Expenditure Survey regarding public awareness of state entitlements in health care (at least for the Medical Insurance Programme and state-subsidized private insurance beneficiaries captured by the survey) and of the major lifestyle risk factors (tobacco and alcohol consumption, body mass index, sexual behaviour, targeted screening for breast,

cervical and prostate cancers); or design of a new countrywide survey to assess awareness and lifestyle indicators on a regular basis; introduction of new data collection instruments (including forms and manuals) for the HSPA indicators listed in Table 1 that are not currently included in routine reporting by health providers in addition to training of health providers in reporting these indicators; and

- introduction of training for health providers in data collection, analysis and reporting of the HSPA indicators for which data quality is currently deemed problematic (see Annex 3).

Table 18. Required HSPA indicators currently not reported to the National Centre for Diseases Control

Indicators
Medication errors and adverse effects
Surgical site infections or hospital-acquired infections
Patients readmitted within 30 days of discharge following treatment for AMI
Deaths within 30 days of admission for AMI
Number of guideline cases treated
Number of cases treated according to guideline
Primary reason for PHC visit (or coding according to ICPC 2, if introduced)
DPT-3 vaccination administered • Timely • Delayed
Number of guideline cases treated
Number of cases treated according to guideline
Hospital admission information (information required for each admission as appropriate in addition to already reported information): • Admitting diagnosis (ICD-10) • Most responsible diagnosis (ICD-10) • Principal procedure

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ANNEXES

ANNEX I. GEORGIA HEALTH SYSTEM PERFORMANCE DIMENSIONS, SUBDIMENSIONS AND RELATED HEALTH POLICY QUESTIONS

Performance Dimensions	Performance Subdimensions	Main Policy Questions
Improve health system stewardship	Implement an evidence-based policy cycle including evidence-based allocation of resources	Is the government consistently using evidence and performance information in its resource allocation process?
	Optimize distribution of expenditure by level of care, including health promotion and public health	Is the government distributing resources in an optimal way to achieve better health outcomes?
	Improve regulation of the health sector, e.g. public-private relationships, promotion of international health regulations, patient safety, drug safety	Is the government using its regulatory power in an adequate way to define the rules of the game for the health system?
	Ensure health system disaster preparedness	Is the government ensuring that appropriate planning and mechanisms are in place to respond to situations of emergency and disaster?
	Ensure intersectoral collaboration for promoting better health and health protection	Is the health ministry reaching out to other ministries to advocate for better health and ensure that public policies include a health perspective?
Improve health information system	Improve data collection and data quality (including timeliness, validity, reliability)	How good is data quality and is it improving over time?
	Implement and use relevant performance indicators for assessment and management of the performance of the health system	Is performance information used for decision-making in the MoLHSA?
Ensure efficient allocation of health system resources	Optimize health system infrastructure and technology	Are health services delivered in an increasingly efficient manner?
	Ensure an appropriate level and mix of well-trained and motivated human resources including health care managers	Is the mix of human resources in the system appropriate to deliver high-quality health services and cover the population?

Performance Dimensions	Performance Subdimensions	Main Policy Questions
Improve the efficiency and effectiveness of health services	Improve coordination between levels of care	Do people access care at the appropriate level?
	Improve hospital care efficiency and effectiveness	Are hospital services delivered in an increasingly efficient manner?
	Improve staff productivity	Is the productivity of medical doctors increasing over time?
Improve financial, geographical and informational accessibility of the health system	Reduce financial barriers to access to care for the entire population (reduced out-of pocket payments)	Are there financial barriers to access to health care services?
	Increase involvement in private insurance schemes	Are more people covered through private insurance schemes and how many people remain without insurance coverage in the system?
	Optimize physical distribution and access to different levels of health care services	Are there geographical barriers to access to health care services?
	Decrease informational barriers to access health care	Is the population aware of their rights and entitlements?
Improve equity and financial protection in the health system	Ensure financial protection of the population against catastrophic expenditures	Is the population protected from catastrophic expenditures related to health?
	Ensure fair distribution of the burden of funding	Are the variations in the distribution of household health expenditures by income a sign of growing inequalities in access to health services?
Improve health promotion, health behaviours, disease prevention, monitoring and detection	Increase health awareness of the population for main risk factors and public health threats	What is the level of health awareness of the population with regards to main risk factors?
	Increase participation in screening and early detection programmes	Is the population participating in effective screening programmes?
Improve the quality of health services and clinical outcomes	Improve compliance with clinical guidelines	Are best practice guidelines developed and implemented?
	Improve patient safety	Are health care services delivered safely to the patients?
	Improve clinical effectiveness	Are services delivering good clinical outcomes?
	Improve responsiveness to patients, including monitoring patient satisfaction and experience with care	Is the health system responsive to the patients?

Performance Dimensions	Performance Subdimensions	Main Policy Questions
Improve the health status of the population	Decrease mortality and morbidity for targeted conditions, e.g. maternal and child health, tuberculosis, STDs, non-communicable diseases	Is the health system delivering positive results?
		What are the patterns in morbidity and what are the consequences for the health system?
		What are the patterns in mortality and what are the consequences for the health system?
		What are the outcomes of the health system for infant and under-five mortality?
		What are the outcomes of the health system for maternal health?

ANNEX 2. GEORGIA HSPA INFORMATION REQUIREMENTS

NATIONAL CENTRE FOR DISEASE CONTROL (NCDC)

Grouping	Data requirement	Current or Required
Health care providers	Number of health care providers/facilities included in the sectoral reporting system	required
Mortality	Number of deaths prior to age 1	current
	Number of deaths prior to age 5	current
	Number of maternal deaths	current
	Number of deaths by 3-digit ICD-10 code	current, but limitations
Births	Number of live births	current
	Number of obstetrical traumas	current, but limitations
	Number of caesarean sections	current, but limitations
	Number of caesarean sections with complications of peritonitis	current, but limitations
	Number of live births weighing less than 2500 gm.	current
Immunization	DPT-3 coverage rate	current
Morbidity	Numbers of reported diseases by 3-digit ICD-10 code	current, but limitations
Hospital Information	Number of hospital beds broken down by classification (at minimum psychiatry and TB)	current
	Total number of days of hospital stay for admitted patients	current
	Total number of days of hospital stay for admitted patients (excluding TB and psychiatric hospitals)	current
	Total number of admitted (or separated patients)	current
	Total number of admitted (or separated patients) (excluding TB and psychiatric hospitals)	current
	Number of physician FTEs (by specialty)	current
	Number of nursing FTEs	required
	Number of surgical site infections	required
	Number of patients admitted for AMI	required
	Number of patients readmitted within 30 days of discharge following treatment for AMI	required
	Number of patients admitted for AMI who died within 30 days of admission	required
PHC/Polyclinic Information	Total number of visits	current
	Total number of PHC patients	required

GENERAL NATIONAL INFORMATION

Grouping	Data requirement	Current or Required
Population demographics	Total population estimates by: • age • gender • region	current
	Estimate of number of poor (based on eligibility for state programmes)	required
Economy	Gross Domestic Product	current

NATIONAL HEALTH ACCOUNTS

Grouping	Data requirement	Current or Required
Health revenues	Total health state revenues	current
	Total health private revenues	current
	Total health revenues from donor contributions	current
	All health revenues	current
Health expenditures	Total health expenditures (THE)	current
	Total public (state) health expenditures	current
	Total private health expenditures	current
	Public (state) outpatient expenditures	current
	Public (state) pharmaceutical expenditures	current
	Public health services (state) expenditures	current
	Health promotion (state) expenditures	current
	Private expenditures on inpatient curative services	current
	Private expenditures on outpatient curative services	current
	Private expenditures on additional medical services	current
	Private expenditures on medical supplies and medical equipment	current

SURVEY DATA

Survey	Data requirement	Current or Required
GERHS (UNFPA reproductive survey)	Estimate of infant mortality (under age 1) rate	current
	Estimate of under-five mortality rate	current
	Estimate of maternal mortality rate	current
	Number of female respondents of reproductive age indicating they: • are aware of contraceptive methods in general • are aware of modern contraceptive methods • use contraceptives	current
UNICEF MICS	Estimate of infant mortality rate	current
	Estimate of under-five mortality rate	current
UNICEF CCIRB	Estimate of DPT-3 coverage rate	current
HUES	Number of first visits to PHC facility	current
	Number of first visits to hospital or other facility	current
	Total number of ambulatory/outpatient visits	current
	Total number of consultations reported	current
	Number of consultations reported where: • medicine was prescribed • medicine was prescribed but not purchased because it was too expensive • lab test was prescribed • lab test was prescribed but not done because it was too expensive	current
	Total number of survey respondents who were reported to need hospitalization	current
	Number of survey respondents who were reported to need hospitalization • but were not hospitalized • but were not hospitalized because it was too expensive/they did not have enough money	current
	Demographic information: • income quintile • region • age • sex	current

Survey	Data requirement	Current or Required
HUES	Number of survey respondents who did not seek essential (basic + additional) health care services when needed due to inability to afford them	required
	Number of respondents reporting to be covered by insurance • who are beneficiaries of state programme • who are not beneficiaries of state programme	current
	Respondent travel time to place of last consultation (in minutes)	current
	Respondent travel time to facility where they would normally see a doctor	current
	Number of respondents aware of state entitlements	required
	Number of respondents who required a lab test at their last consultation	
	Number of respondents who were able to obtain the test at the same place they went for last consultation	current
	Consultations where patients reported that the doctor/nurse completely explained reasons for treatment as % of all consultations	current
	Consultations of more than 12 minutes with main medical professional as % of all consultations	current
	Percent of respondents reporting that the last health care facility they visited was clean or very clean	current
	Percent of respondents reporting that they were involved as much as they wanted to be in decisions about their care and treatment	current
	Percent of respondents reporting trust in services for their nearest/usual clinic	current
	Household reported out-of-pocket (OOP) expenditures on health care services by age and sex	required
	Total household reported OOP expenditures on health care services	current
	Total household reported expenditures	current
	Total household reported non-food expenditures (capacity to pay)	current
	Total household reported OOP expenditures on health by income quintile	current

Survey	Data requirement	Current or Required
New population-based survey (or addition to HUES)	Number of respondents in target age for breast screening programme Number of respondents in target age who report receiving a screening mammogram in the previous 2 years (time frame to be based on guidelines)	required
	Number of respondents in target age for cervical screening programme Number of respondents in target age who report receiving a Pap smear in the previous year (time frame to be based on guidelines)	required
	Number of respondents who report using tobacco daily	required
	Number of respondents who report having BMI greater than 30 (requires reporting of height and weight)	required
	Alcohol consumption reported by respondents	required

ADMINISTRATIVE AND REGULATORY

Agency	Data requirement	Current or Required
MTEF	Public health expenditures not reflected in MTEF	current
	All public health expenditures defined by the Budget Law	current
Drug Agency	Total number of controlled drugs	current, but limitations
	Total number of circulated drugs (including registered/unregistered)	current, but limitations
	Number of fake drugs	current, but limitations
	Number of substandard drugs	current, but limitations
	Number of expired drugs	current, but limitations
State regulatory agency of medical activities	Total number of licensed health care providers by type of provider	required

Agency	Data requirement	Current or Required
State health programmes	Number of state health programmes that include monitoring and evaluation (M&E) framework	current
	Total number of state health programmes	current
	Total expenditure on state health programmes that include M&E framework	current
	Total expenditure on all state health programmes	current
	Number of M&E indicators defined for state health programmes that are routinely monitored and reported	required
	Number of M&E indicators defined for state health programmes that are used to evaluate the effectiveness of programmes	required
	Total number of M&E indicators defined for state health programmes	current
PHC reform programme	Number of functioning PHC teams	required
	Total number of PHC teams defined in the development master plan	current
	Number of PHC doctors retrained	current
	Number of PHC nurses retrained	current
	Target number of PHC doctors to be retrained	current
	Target number of PHC nurses to be retrained	current
HeSPA	Total number of poor registered in HeSPA database	current
	Total number of poor registered in HeSPA database who have received state programme vouchers	current
Agency responsible for treatment guidelines	Number of guidelines approved	current
Tuberculosis National Programme	Number of TB cases registered	current
	Number of recovered TB cases	current
	Number of completed treatment TB cases	current
National Cancer Registry	Total number of neoplasms diagnosed	current
	Number of neoplasms diagnosed at: • stage I • stage II • stages III and IV	current

REQUIRED REPORTING BY FACILITIES/PROVIDER TO SDS AND/OR NCDC TO SUPPORT NCDC DATA REQUIREMENTS

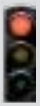
Area	Reporting requirement	Current or Required[i]
Death registrations	Date	current
	Age	current
	Cause (ICD-10 code)	current, but limitations
	Sex	current
	Region	current
Birth registrations	Date	current
	Sex	current
	Birth weight	current
	Weeks' gestation	required
Hospital admission information (information required for each admission as appropriate)	Number of admissions	current
	Number of separations (discharges, transfers, deaths)	current
	Length of stay / total days' stay	current
	Admitting diagnosis (ICD-10)	required
	Most responsible diagnosis (ICD-10)	required
	Principal procedure	required
	Live births	current
	Obstetrical trauma	current, but limitations
	Caesarean section	current
	Caesarean sections with complications of peritonitis	current, but limitations
	Medication errors	required
	Surgical site infections OR hospital-acquired infections	required
	Patients readmitted within 30 days of discharge following treatment for AMI	required
	Deaths within 30 days of admission for AMI	required
	Number of guideline cases treated[ii]	required
	Number of cases treated according to guideline	required
Hospital facility information	Number of beds (by classification)	current
	Number of physician FTEs (by specialty)	current
	Number of nursing FTEs	required

Area	Reporting requirement	Current or Required[i]
PHC/Ambulatory visit information (information required for each admission as appropriate)	Number of visits	current
	Primary reason for visit[iii]	required
	DPT-3 vaccination administered • timely • delayed	required
	Number of guideline cases treated	required
	Number of cases treated according to guideline	required
PHC/Ambulatory facility information	Number of physician FTEs	required
	Number of nursing FTEs	required

i Reporting requirements indicated as "required" may be already reported by facilities/providers to SDS or NCDC, but were not used to produce the current HSPA report. Availability should be confirmed.
ii This requirement will depend on the guidelines defined and approved. For example, if a guideline requires that diabetics receive an eye exam each year, then total guidelines cases treated would be the total number of diabetic patients and the number of cases treated according to guideline would be the number of diabetic patients who received an eye exam.
iii If a current coding system is in place, it should be used.

ANNEX 3. GEORGIA HSPA INDICATOR RESULTS AT-A-GLANCE

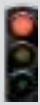
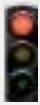
HSPA RESULTS AT A GLANCE

	Results are improving and/ or compare favourably to targets or internationally.		Concerns with either result or recent trend. Data may be questionable or not available to assess consistently.		Results lower than desired or targeted and have not been improving. There may be serious data concerns.

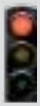
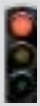
IMPROVE HEALTH SYSTEM STEWARDSHIP

Performance Subdimensions	Performance Indicators			Comments
Implementation of an evidence-based policy cycle including evidence-based allocation of resources	1	Share of public health expenditures in the fiscal year that is not reflected in the MTEF divided by all public health expenditure defined by Budget Law		Small differences between MTEF and Budget Law health expenditures. However, insufficient information to examine programme level results
Optimize distribution of expenditure by level of care, including health promotion and public health	2	Change in health revenues by public/private/ donor		Although slightly decreased over the past 3 years, private sources still provide 3/4 of all health care financing.
	3	Change in health expenditure by component		Total public expenditures as % of GDP remains relatively low; but resources are shifting from inpatient to outpatient care
Improve regulation of the health sector, e.g. public-private relationships, promotion of international health regulations, patient safety, drug safety	4	Share of drugs in the total amount of drugs subjected to state quality control, broken down by fakes/substandard/ expired		Very few drugs are subject to state quality control
Ensure health system disaster preparedness		Qualitative assessment		Activities and planning appear to be in place
Ensure intersectoral collaboration for promoting better health and health protection		Qualitative assessment		There is evidence of intersectoral collaboration, but no formal processes in place.

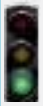
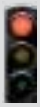
IMPROVE HEALTH INFORMATION SYSTEMS

Performance Subdimensions	Performance Indicators			Comments
		Share of health care providers included in the sector reporting system		The data for this indicator could not be validated and quality of reporting cannot be tracked.
Improve data collection and data quality (including timeliness, validity, reliability)	5	a) Difference between data results collected through routine information sources and through population-based surveys for infant, child and maternal mortality		Results are reasonably close given survey statistical sampling error
		b) Difference between data results collected through routine information sources and through population-based surveys for immunization coverage		
Implementation and use of relevant performance indicators for assessment and management of the performance of the health system	6	a) Share of M&E indicators of the health policy implementation strategies and adequate state programmes that are integrated into routine information systems		Although partially used in 2007, M&E indicators were essentially dropped the following year.
		b) Share of M&E indicators based on which the effectiveness of the health policy implementation strategy and state programmes were evaluated		M&E indicators have not been used to evaluate effectiveness of state programmes

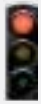
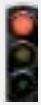
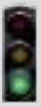
ENSURE EFFICIENT ALLOCATION OF HEALTH SYSTEM RESOURCES

Performance Subdimensions	Performance Indicators			Comments
Optimize health system infrastructure and technology	7	Number of functioning hospital/inpatient beds per 100 000 population against the national target set by the hospital master plan		Over capacity still exists, but making progress to meeting targets. However there is no evidence that targets are related to the health needs of the population, due to financial barriers to access.
	8	Ambulatory visits per person per year		Improving, but still well below international comparisons. Results for 2007 require explanation.
	9	Achievement of the targets for PHC teams set in the PHC development plan		Still significant retraining required in some regions, but making progress to meeting targets.
Ensure an appropriate level and mix of well-trained and motivated health human resources including health care managers	10	Ratio of health workers (doctors and nurses) per 100 000 population compared to the Health Human Resources Development Strategy targets		Specialist and total physicians are over targets, while nurses and PHC physicians are under targets; total physicians per population unchanged recently, while the rate of nurses per 100 000 population has been decreasing.

IMPROVE THE EFFICIENCY AND EFFECTIVENESS OF HEALTH SERVICES

Performance Subdimensions	Performance Indicators			Comments
Improve coordination between levels of care	11	Percentage of outpatient care visits per person per year at the primary care and hospital levels		Result could be higher; must be monitored to determine trend.
Improve hospital care efficiency and effectiveness	12	Bed occupancy rate		Improving, but still very low
	13	Average length of (hospital) stay		Improving with good result.
Improve staff productivity	14	a) Ratio of number of patients per medical doctor in hospitals b) Ratio of number of patients per medical doctor in ambulatory care		Some improvement over last 4 years, but remains well below a reasonable level

IMPROVE THE EFFICIENCY AND EFFECTIVENESS OF HEALTH SERVICES

Performance Subdimensions	Performance Indicators			Comments
Reduce financial barriers to access to care for the entire population (reduced out-of-pocket payments)	15	Percentage of population not seeking basic health care services when needed due to financial lack of affordability		Although not excessive, a significant portion of the population forgoes medications and lab tests when prescribed due to lack of affordability
	16	Share of expenditure that is paid by the population out of pocket in total health expenditure		Total private expenditure remains high.
Increase involvement in private insurance schemes	17	Percentage of people holding health insurance policy (voluntarily or by employer) of those not eligible to medical or insurance vouchers from the State		Less than 10% of population of ineligible population holds health insurance; this may be changing with implementation of government-subsidized basic package.
	18	Share of the poor population having received medical/insurance voucher		Over 50% of poor population registered in HeSPA are covered, increasing slightly
	19	Per capita private expenditures		High and continuing to grow much faster than overall rate of inflation.
Optimize physical distribution and access to different levels of health care services	20	Percentage of total population with access within 30 minutes by normal means of travel to their usual facility for care		Over 80% within 30 minutes. No trend available.
	21	Percentage of population able to get needed lab tests at the same place they went for their last consultation		Over 80% can obtain lab test where they went for consultation. No trend available.
Decrease informational barriers to access health care	22	Percentage of population who are aware about State entitlements to benefits		High awareness of eligibility for insurance, but low awareness of specific entitlements

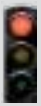
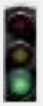
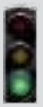
IMPROVE EQUITY AND FINANCIAL PROTECTION IN THE HEALTH SYSTEM

Performance Subdimensions	Performance Indicators			Comments
Ensure fair distribution of burden of health system funding	23	Household financial contribution to health care		Increasing (and significant) percent of household expenditures are related to health. Inconsistency in data sources must be considered in assessment.
Ensure financial protection of the population against catastrophic expenditures	24	Proportion of the population incurring catastrophic level of health expenditure		More than 10% and with considerable income gradient. Inconsistencies in data sources must be considered in assessment.

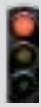
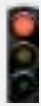
IMPROVE HEALTH PROMOTION, HEALTH BEHAVIOURS DISEASE PREVENTION, MONITORING AND DETECTION

Performance Subdimensions	Performance Indicators			Comments
Increase health awareness of the population for main risk factors and public health threats	25	Rate of tobacco consumption		Current rate is very high. Lack of information available to assess trends and progress.
	26	Rate of alcohol consumption		Reasonable average consumption levels. Lack of information available to assess trends and progress. Level of illegal drug use is a concern, however.
	27	Level of awareness about modern contraception methods in women of reproductive age		Level of awareness is high. However usage is low and should be further investigated.
Increase participation in screening and early detection programmes	28	a) Share of women that have had screening for cervical (Pap smear) cancer b) Share of women that have had screening for breast (mammography) cancer		Rates are very low. There is no coordinated screening and screening rates are not regularly tracked.

IMPROVE THE QUALITY OF HEALTH SERVICES AND CLINICAL OUTCOMES

Performance Subdimensions	Performance Indicators			Comments
Improve compliance with clinical guidelines		Share of implemented guidelines in number of approved guidelines		Processes for developing and approving guidelines are in place. But there is no comprehensive plan and no data to track implementation.
Improve patient safety	29	Share of adverse events and complications (caesarean section peritonitis, obstetrical trauma) in all hospital admissions		Reported results are unrealistically low and unreliable. Data for other adverse events not available.
Improve clinical effectiveness	30	Treatment outcome rates in cases of tuberculosis registered 12 months before the assessment		Outcomes have improved substantially since 2003. Continued monitoring is required.
	31	Share of MDR-TB cases out of all new and previously treated cases		Georgia among the 15 countries with the highest prevalence of MDR-TB.
	32	Share of neoplasms detected in stages I–II		Rates are low and have not improved since 2003.
Improve responsiveness to patients, including monitoring patient satisfaction and experience with care	33	Extent to which patients are satisfied with different aspects of the health care services they have received		More than 80% of patients satisfied with most aspects of care. Requires monitoring.

IMPROVE THE HEALTH STATUS OF THE POPULATION

Performance Subdimensions	Performance Indicators			Comments
Decrease mortality and morbidity for targeted conditions, e.g. maternal and child health, Tuberculosis, STD, noncommunicable diseases, etc.	34	Number of low birth weight babies per 100 live births		Improving somewhat, but more progress required. Results consistent with European Region countries.
	35	Mortality per 100 000 population for the five leading causes		No improvement in the high rate of mortality due to cardiovascular disease.
	36	Morbidity per 100 000 population for the five leading causes		Rate of morbidity due to respiratory and cardiovascular diseases is high and continues to increase.
	37	Infant, under-five and maternal mortality		Good progress since 2000, but still close to twice MGD 2015 targets
	38	Life expectancy at birth		Consistent improvement for both men and women since 1995.

WHO/IS/E99060

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