

Report No: AUS0001002

Fiscal Space for Health in the Kyrgyz Republic

Background Report

May 21, 2019

Health, Nutrition, and Population Global Practice
Europe and Central Asia Region



© 2017 The World Bank
1818 H Street NW, Washington DC 20433
Telephone: 202-473-1000; Internet: www.worldbank.org

Some rights reserved

This work is a product of the staff of The World Bank. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Rights and Permissions

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Attribution—Please cite the work as follows: “World Bank. 2019. Fiscal Space for Health in the Kyrgyz Republic. Background Report. © World Bank.”

All queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.

Table of Contents

Acknowledgements	i
Abbreviations	ii
Summary	iv
Introduction	1
1. Resource Needs and Overall Efficiency	4
1.1. Relative efficiency of public health expenditure:	4
1.2. Health outcomes and expenditure	8
2. Fiscal Space from Macroeconomic Projections, External Funding, and Potential Reprioritization	15
2.1. Macroeconomic conditions	15
2.2. Debt sustainability	18
2.3. Development assistance	20
2.4. Reprioritization of health in public expenditure.....	25
2.5. Summary: Budget simulations.....	30
Health expenditure	32
3. Potential to Raise Health Sector Domestic Revenues	33
3.1. Health insurance rates, co-payments, and exemption policies	35
a. Increasing mandatory contributions to the MHIF.....	36
b. Changes in the scope of the benefit package	40
c. Extending coverage beyond employment periods.....	40
d. Co-payments and exemptions	41
3.2. Innovative taxation of income	42
3.3. Excise taxes on tobacco, alcohol, and possibly sugary beverages and fatty foods	43
Simulations results: Higher tobacco taxes will generate fiscal space via increased tax revenues and reduced health expenditure	51
Increasing taxes on alcohol and other harmful products	54
3.4. Private sector participation in public health provision	57
4. Potential to Decrease Financial Needs through Improved Financing Efficiency.....	60
4.1. Revenue collection	61
4.2. Budget execution	64
4.3. Foreign aid absorption and predictability	66
4.4. PFM issues affecting service delivery in health	68
a. Financial management performance.....	68
b. Budget process and budget spending rules	69
5. Potential Savings from Improvement in Expenditure Efficiency in the Health Sector	71
5.1. Opportunities for efficiency gains from adjusting allocative priorities	72
Suggested policy solutions.....	77
5.2. Opportunities for efficiency gains in the production of health care.....	79
Evidence on production inefficiencies	79
5.3. Policies to increase production efficiency	101

a. Hospital Rationalization and Strengthening of Outpatient care.....	102
b. Medicine procurement and price regulation.....	104
c. Increasing the use of incentives (rewards for good performance)	105
5.4. Capturing savings from efficiency gains.....	106
6. Potential Gains and Summary of Options.....	107
6.1. Assessment of total fiscal space potential	107
6.2. Summary of options and feasibility	109
References.....	118
Annex	122
Data Sources	122
Chapter 3: Methodology - Simulating Total Gains from Increasing Tobacco Taxes	123
Chapter 5: Allocative and Technical Framework.....	124

Figures

Figure 1.1. Trends in Communicable Diseases and Maternal, Neonatal, and Nutritional Disorders, Kyrgyz Republic versus Regional Averages, 1990–2015 (DALYs per 100,000)	9
Figure 1.2. Trends in NCDs, Kyrgyz Republic versus Regional Averages, 1990–2015 (DALYs per 100,000)	10
Figure 1.3. Years of Life Lost (YLLs) per 100,000 from Top Two Causes, Regional Comparison, 2015 (Age-Standardized)	10
Figure 1.4. Prevalence of BP Monitoring in Primary Health Care (PHC) Visits by Oblast, 2015	11
Figure 1.5. Percentage of Screened Hypertensive Persons on BP Medication	11
Figure 1.6. Years of Life Lived with Neoplasm (Cancer) and GDP per Capita.....	12
Figure 1.7. THE and OOP Expenditure Share Comparisons, 2014 (percentage of GDP)	13
Figure 1.8. Public and OOP Expenditure Comparisons, Average 2011–2014 (US\$ per capita)	13
Figure 1.9. Trend in Government Health Expenditure to GDP Compared to Regional and Income Average, 2005–2014.....	14
Figure 1.10. Trend in OOP Health Spending Compared to Regional and Income Average, 2005–2014	14
Figure 1.11. OOP Expenditure as a Share of Household Budgets, 2003–2014	15
Figure 1.12. Relative Efficiency Analysis Results, 2011–2015, and 10-year change for the Kyrgyz Republic	7
Figure 2.1. Projected Real GDP Growth and Inflation (consumer prices) 2017–2022	16
Figure 2.2. Budget and Current Account Balance Projections, 2017–2022	16
Figure 2.3. Ex Post Comparisons of GDP Projections, April 2017 vs 2014 Data Updates.....	17
Figure 2.4. Debt-to-GDP Ratios in Central Asia and Caucasus	19
Figure 2.5. Budget Deficits and Debt-to-GDP Ratios in Caucasus, Central Asia, and the EAEU, 2016	19
Figure 2.6. Interest Payments on the Debt as Share of GDP, 2007–2016 and Projected 2017–2022	20
Figure 2.7. ODA, Regional Comparison, 2010–2015 (share of GDP).....	21
Figure 2.8. Health ODA, Regional Comparison (share of GDP)	21
Figure 2.9. Health ODA, Regional Comparison (US\$ per capita).....	22
Figure 2.10. Per Capita ODA for Health before and during Transition to IBRD Lending status, Armenia and Georgia (US\$ per capita, constant).....	22
Figure 2.11. Transition Path to Self-financing of Immunization (GAVI)	23
Figure 2.12. GAVI Financing 2005–2018 (current US\$).....	24
Figure 2.13. Funding from the Global Fund to Fight TB, HIV, and Malaria, 2010–2015	25
Figure 2.14. Public Health Expenditure Trends vs Income Group and Regional Benchmarks, 2003–2014	27
Figure 2.15. Trends in Government Expenditure by Sector: Operational Budget, 2007–2016	28
Figure 2.16. Share of Health in ODA, CAC Countries and Averages by Income Groups (2010–2015).....	29
Figure 2.17. Maximum Expenditure Space under Alternative Revenue to GDP Scenario 2017–2022 (% of GDP).....	31
Figure 2.18. Total Fiscal Space from Growth Projections in Constant KGS (billions, base = 2016)32	
Figure 2.19. Total Fiscal Space for Health from Growth Projections and Potential Reprioritization (Difference from 2016 Actual GHE)	33
Figure 3.1. Weight of Select Tax Categories, Kyrgyz Republic vs EU Average, 2015.....	35

Figure 3.2. Real Monthly Salary Average in Kyrgyz Republic and Social Contribution Rates, 1999–2016 (Constant KGS, prices of 2016)	38
Figure 3.3. Average Price and Share of Excise Tax in Filter Cigarettes, Actual 2011–2016 and Forecast 2018–2022	45
Figure 3.4. Average Retail Price (Most Sold) and Share of Excise Taxes by Country Income Level, 2014 (US\$ PPP)	47
Figure 3.5. Average Price of Cigarettes and Excise Tax per Pack 2003–2017 (in constant KGS, base = 2010)	47
Figure 3.6. Cigarette Prices in the EAEU and Neighboring Countries, 2014 (US\$ per pack)	48
Figure 3.7. Budgetary Effects of an Increase in Excise Tax on Cigarettes over Time: Example from the United States	54
Figure 4.1. Total MHI Contributions Received in Percentage of Contributions Expected (Social Fund), 2010–2016	63
Figure 4.2. Percentage Deviations between Received and Planned MHI Contributions, 2010–2015	64
Figure 4.3. Republican Budget Execution Rates in Health versus Total, 2005–2011	65
Figure 4.4. Unspent Revenues by Facility Type, Percentage of Allocated Funds, 2015	65
Figure 4.5. Average Deviations from Donors’ Aid Forward Plans, Regional Comparison	67
Figure 4.6. Commitments and Disbursements to the Health Sector, Total 2010–2015	68
Figure 4.7. Identified Violations of the System in Health Organizations, 2015 (audit of the MHIF)	69
Figure 4.8. Release of Funds by Republican Budget and MHI to Health Facilities by Quarter, 2015	70
Figure 4.9. Unfilled Vacancies at Health Facilities in 2015 (Percentage of Sanctioned Posts).....	71
Figure 5.1. Allocation of Health Expenditure from Budgetary Funds, 2016	73
Figure 5.2. Program Based Budget of the MHIF (Single Payer), 2017	76
Figure 5.3. Global Evidence on Health Sector High-impact/Low-cost Activities (2015)	79
Figure 5.4. Expenditure Allocation by Inputs in GHE, 2016.....	81
Figure 5.5. Expenditure Allocation by Inputs, Hospitals and FGPs, 2015.....	81
Figure 5.6. Evolution of Salaries in Health Relative to National Average and Government Salaries, 1990–2016	82
Figure 5.7. Average Informal Payments and Share of Patients Paying, 2001–2013	83
Figure 5.8. Staff Ratios Compared to Regional and Income Benchmarks (Averages 2010–2013) 83	
Figure 5.9. Nurses and Physicians per 1,000 Population in the Kyrgyz Republic, 2006–2013	84
Figure 5.10. Staff Ratios Compared to Most Efficient Countries (Averages 2010–2013)	84
Figure 5.11. Primary Care Doctors (GPs) per 100,000 in the Kyrgyz Republic Compared to Most Efficient Countries and International Benchmarks (Averages 2010–2013)	85
Figure 5.12. Doctors per 1,000 Resident Population in Oblasts and Main Cities, 2006–2015.....	85
Figure 5.13. Vacancy Rates for Doctors by Type of Facilities and Region, 2015	86
Figure 5.14. Vacancy Rates and Part-time Ratios in PHC Facilities and Hospitals, 2005.....	87
Figure 5.15. Trend in Beds and Health Facilities, 2000–2015 (Index corrected for population growth, 2002 = 1).....	87
Figure 5.16. Hospital Beds per 1,000 People, Kyrgyz Republic Compared to Most Efficient Countries and International Benchmarks (2010–2013 averages)	88
Figure 5.17. Hospital Beds per 1,000 Resident Population by Oblast, 2006–2014	88
Figure 5.18. Adequacy of Basic Infrastructure in General Hospitals, 2012–2013	89
Figure 5.19. Total Expenditure on Medicines Compared to Most Efficient Countries and International Benchmarks (2006)	90

Figure 5.20. Public Expenditure on Medicines Compared to Most Efficient Countries and International Benchmarks (2006)	90
Figure 5.21. Health Seeking Behavior by Region (2015)	93
Figure 5.22. Perception of Cost and Access from Exit Surveys at Inpatient Facilities (2012–2013)	93
Figure 5.23. PHC Contacts per Person per Year, Trend (1998–2015) and Regional Comparisons	94
Figure 5.24. Productivity vs Vacancy Rates and Overtime for Doctors at the PHC level, 2015	94
Figure 5.25. Hospital Productivity: Treated Cases per Staff, 2015	95
Figure 5.26. Trends in Utilization of Hospital Facilities, 2000–2015	96
Figure 5.27. Length of Stay in Hospitals, Trends in Central Asian Countries and European HICs, 2000–2015	97
Figure 5.28. Average Length of Stay in Hospital in the Kyrgyz Republic against Regional and Most Efficient Benchmarks, averages 2013–2015	97
Figure 5.29. Length of Stay in Hospital, as Reported by Patients (2015)	97
Figure 5.30. Unjustified Hospitalization in General Hospitals across Cities/Oblasts, 2016 (% of treated cases)	98
Figure 5.31. Treatment and Examination Quality across Cities/Oblasts, 2016 (percent)	100
Figure 5.32. Knowledge Assessment for Maternal and Neonatal Health in Hospitals (2012–2013)	101
Figure 5.33. Patients’ Satisfaction: Results of Exit Surveys (2012–2013).....	101
Figure 6.1. Fiscal Space for Health in the Kyrgyz Republic Quantified along the ‘Five Pillars’ (percentage increase relative to 2016 GHE) ^{a/ b/}	108

Tables

Table 1.1. Relative Efficiency Analysis Results: Kyrgyz Republic, 2001–2005 to 2011–2015.....	6
Table 1.2. Efficiency Results, Regional Comparisons	8
Table 2.1. Expected Change in Government Funding For Health with Increases in GDP	18
Table 2.2. Debt Sustainability Will Limit Borrowing Capacity, Kyrgyz Republic, 2015 (%).....	18
Table 2.3. Share of Public and External Funds in THE by Lending and Income Groups, 2014	23
Table 2.4. Fiscal Space from Macroeconomic Conditions and Reprioritization, 2019–2022 with Extrapolation to 2028 (in percentage of 2016 health expenditure).....	33
Table 3.1. SHI Contribution Rates, International Comparison	37
Table 3.2. Percentage Contributions to SHI by Insured Categories, 2015	37
Table 3.3. Fiscal Space Projections: 1 Percent Payroll Tax vs 1 Percent Generalized Contribution (%).....	43
Table 3.4. Regional Comparison of Prices and Share of Excise Tax on Most Sold Brand of Cigarettes, 2014.....	46
Table 3.5. Price of Marlboro Brand Cigarette Packs in the EAEU and Neighboring Countries, 2016	48
Table 3.6. Actual and Announced Tobacco Taxes in the Kyrgyz Republic vs Kazakhstan and Russia	49
Table 3.7. Tobacco Tax Revenues, Tobacco Tax, and Estimated Volume of Sales, 2011–2016....	50
Table 3.8. Estimated Income Elasticity of Demand for Tobacco, 2015	50
Table 3.9. Alternative Feasible Cigarette Tax Scenarios and Their Simulated Effects on Total Tax Revenues, Demand, and Supply to 2028.....	52
Table 3.10. Fiscal Space for Health from Tax Revenues and Averted Expenditures under Different Cigarette Tax Scenarios, 2019–2028	53

Table 3.11. Taxes on Vodka and Hard Liquor, Actual and Announced in the Kyrgyz Republic, Kazakhstan, and Russia	55
Table 3.12. Potential Revenue Gains from a Threefold Increase in Tax on Vodka and Liquor	56
Table 3.13. Costs and Benefits to Consider in Public-Private Partnership Using the Hemodialysis Study Example (IFC)	57
Table 4.1. Budget Execution and Planning, Health Sector, 2016	65
Table 4.2. Predictability of External Aid, 2010–2013	67
Table 5.1. Inpatient Care in GHE, Trends in Central Asia	73
Table 5.2. MHIF Program Budget Structure and Relative Program Weights, 2017	74
Table 5.3. Median Availability and Relative Price of Selected Generic Medicines (2007–2013) ..	91
Table 5.4. Estimate of Potential Bed Reduction in the South and South-West Regions.....	103
Table 6.1. Fiscal Space for Health - Summary of Options	109

Acknowledgements

This background report on the fiscal space for health was developed by the World Bank Health, Nutrition and Population Task Team with inputs from the Ministry of Health and Mandatory Health Insurance Fund of the Kyrgyz Republic. The author of the report is Syvestre Gaudin, World Bank consultant. Ana Milena Aguilar Rivera edited the report for consistency and Ha Thi Hong Nguyen wrote the summary. Sagyn Esenalieava supported the data collection in the country, and Maya Razat and Meerim Sagynbaeva provided logistic support. Other members of the team included Mohirjon Ahmedov, Asel Sargaldakova, Alaa Hamed, Michael Kent Ranson, and Iryna Postolovska. The findings, interpretations, and conclusions in this research are entirely those of the author. They do not necessarily represent the views of the World Bank Group, its executive directors, or the countries they represent.

The team would like to thank the leadership of the Ministry of Health and Mandatory Health Insurance Fund of the Kyrgyz Republic for collaboration during the study. The team also thanks the Central Asia Country Unit and management of the Health, Nutrition and Population Practice for their support. Special thanks go to Bolormaa Amgaabazar, Country Manager for the Kyrgyz Republic, and Tania Dmytraczenko, Practice Manager for Eastern Europe and Central Asia region, for their valuable guidance. Inputs from peer reviewers, Laurence Lannes and Volkan Cetinkaya, are greatly appreciated.

The study is part of the Advisory Service and Analytics work program “Towards a more Sustainable and Effective Universal Health Coverage in Kyrgyz Republic” funded by the Japan Policy and Human Resources Development Trust Fund. Co-financing was provided by the “Expanding and Extending Health Gains in the Kyrgyz Republic” program supported by the Global Alliance for Vaccine and Immunization under the World Bank Targeted Country Assistance work program for the Kyrgyz Republic and an Externally Funded Output arrangement with the Swiss Agency for Development and Cooperation in support of the Second Health and Social Protection project (SWAp2).

Abbreviations

ADB	Asian Development Bank
ADP	Additional Drug Package
ALOS	Average Length of Stay
BP	Blood Pressure
CAC	Central Asia and Caucasus
CBO	Congressional Budget Office
CMR	Child Mortality Rate
CPA	Country Programmable Aid
CSG	Generalized Social Contribution (<i>Contribution Sociale Généralisée</i>)
CVD	Cardiovascular Disease
DALY	Disability-Adjusted Life Year
EAEU	Eurasian Economic Union
ECA	Europe and Central Asia
EU	European Union
FDI	Foreign Direct Investment
FGP	Family Group Practice
FMC	Family Medicine Center
FSA	Fiscal Space Analysis
FTE	Full-time Equivalent
GBS	Global Burden of Disease Study
GDP	Gross Domestic Product
GGE	General Government Expenditure
GHE	Government Health Expenditure
GHED	Global Health Expenditure Database
GHO	Global Health Observatory
GNI	Gross National Income
GP	General Practitioner
GPC	General Practice Center
HFA	Health for All
HIC	High-Income Country
HIPC	Heavily Indebted Poor Countries
HNP	Health, Nutrition, and Population
IDS	International Debt Statistics
IFC	International Finance Corporation
IHME	Institute for Health Metrics and Evaluation
IMF	International Monetary Fund
IRAI	IDA Resource Allocation Index
LDC	Least Developed Country
KfW	Kreditanstalt für Wiederaufbau
KIHS	Kyrgyz Integrated Household Budget Survey
LIC	Low-Income Country
LMIC	Low- and Middle-Income Country
MCH	Maternal and Child Health
MeTA	Medicine Transparency Alliance
MHI	Mandatory Health Insurance
MHIF	Mandatory Health Insurance Fund

MoE	Ministry of Economy
MoF	Ministry of Finance
MoH	Ministry of Health
MMR	Maternal Mortality Ratio
NCD	Noncommunicable Disease
NDS	National Development Strategy
NHA	National Health Account
NGO	Nongovernmental Organization
NSC	National Statistical Committee
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-Pocket
PBB	Performance-Based Budgeting
PE/E	Pre-Eclampsia/Eclampsia
PER	Public Expenditure Review
PFM	Public Financial Management
PHC	Primary Health Care
PPP	Purchasing Power Parity
RBF	Result-based Financing
SGBP	State Guaranteed Benefit Program
SHI	Social Health Insurance
STS	State Tax Service
SWAP	Sector-Wide Approach
TB	Tuberculosis
THE	Total Health Expenditure
UHC	Universal Health Coverage
UMIC	Upper-Middle-Income Country
VAT	Value Added Tax
WDI	World Development Indicators
WEO	World Economic Outlook
WHO	World Health Organization
YLDs	Years of Life with Disability
YLL	Years of Life Lost

Summary

The objective of this Fiscal Space Analysis (FSA) is to provide an analytical basis to inform the government of the Kyrgyz Republic in securing sources of additional funds and savings for the health sector. Fiscal space is defined as “the availability of budgetary room that allows a government to provide resources for a given desired purpose without any prejudice to the sustainability of a government’s financial position” (Heller, 2006). The FSA for health is traditionally organized around five pillars (Tandon and Cashin, 2010), which are:

- **Pillar I** - conducive to macroeconomic conditions: potential from economic growth prospects and other macroeconomic conditions, assuming health will continue to receive the same budget share.
- **Pillar II** - reprioritization: considers whether there are opportunities to increase funding for health at the expense of other sectors.
- **Pillar III** - external funding: potential for additional sector-specific resources from development assistance for health. Additional resources may be obtained either by increasing total external funding to the country or directing more of existing funding toward health.
- **Pillar IV** - sector-specific resources: potential to raise additional resources for health, for example, by use of ‘sin’ taxes, earmarking social health insurance, leveraging the private sector).
- **Pillar V** - efficiency: policy options to reduce financial needs by improving the efficiency of existing and/or new health sector outlay.

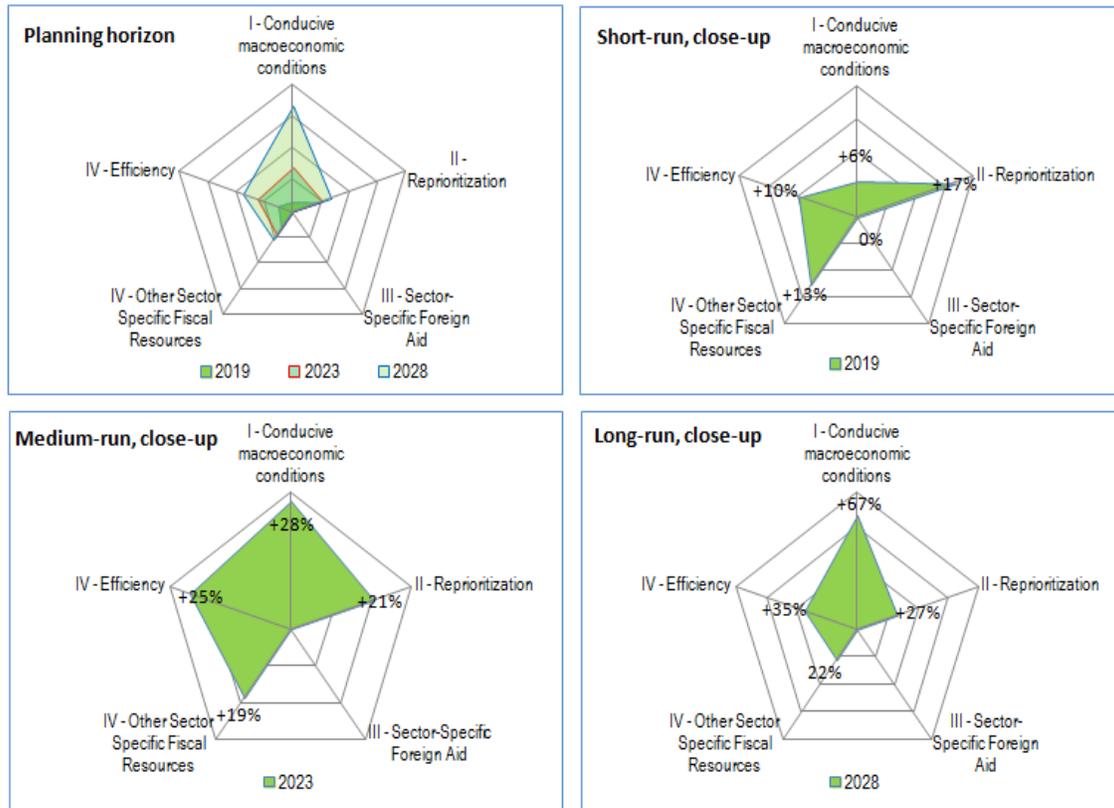
A large number of issues included under the five pillars are examined in detail in the report. The report’s main conclusions are that:

- Macroeconomic conditions are expected to generate limited fiscal space in the short term. In the long run, extrapolations to the year 2028 suggest that, if growth can be sustained, it can become the major source of funding for health and, combined with sustained reprioritization, could potentially double health expenditure by 2029.
- Properly targeted health spending is identified as generating very high socioeconomic returns to society. Government health spending, estimated at 12% of general government expenditure, is not low compared with many countries in the region. However, based on past trends in the use of budgetary funds of the operational budget, it may be feasible to rebalance allocations of budgetary funds to health to bring it to the level of 2013 (16%);
- For the development assistance, the Kyrgyz Republic has managed to secure appreciable external financing over time. As the Gross Domestic Product of the country continues to grow, the country is likely to receive less financing coming from foreign partners.
- There could be a scope to increase mandatory social contribution for health. Compared to many countries, the contribution rate for social health insurance is exceptionally low (2% of salaries of the formally employed). Base on the past experiences, small increases in social contribution rates are not expected to have a significant effect on salaries and informality.

- Expenditures of the Mandatory Health Insurance Fund on behalf of exempt categories could be reduced while improving the distribution of benefits toward the poorest and most vulnerable categories. The current system of exemptions is targeted to special socioeconomic groups and people with certain medical and disease conditions regardless of income. Shifting the system of co-payment exemptions so the poor are specifically targeted and fully covered may reduce the total cost of exemption coverage while improving equity.
- Increasing and expanding taxes on harmful consumption goods can raise additional revenues while reducing future health costs and complying with tax harmonization rules of the Eurasian Economic Union. Considering prices of tobacco products in the Kyrgyz Republic relative to other countries in the same income group and the region in 2014, there was ample room to increase tobacco taxes. Increasing tobacco taxes would generate fiscal space equivalent to 7–8% of the 2016 health budget under the current plan. Additionally, there is plenty of room to increase taxes on alcohol and other products on the basis of their harmful health effects.
- There are rooms to improve allocative and technical efficiency. Funding needs to be targeted more toward high burden conditions and high cost-effective services. Expenditure on pharmaceuticals is disproportionately high, accounting for about half of the total health expenditure, and the price of basic generic medicines were much higher than international prices. Staff productivity is low but varied widely across the country, indicating potential gains from hospital restructuring. There are significant opportunities to reduce unnecessary hospitalizations, improve medical record keeping, encourage preventive activities, and generally increase quality of care through incentives.

Best estimates of fiscal space can be combined using the traditional five pillar graph to represent total potential fiscal space in the short, medium, and long run for the Kyrgyz Republic. The figure below represents the quantified estimates of total fiscal space that could be realized by 2019 (the expected start of the program), 2023 (5-year horizon), and 2028 (10-year horizon) along the traditional five pillar graph. Potential increases in budgetary space (either by adding funding or reducing resource needs) are expressed in percentage of government health expenditure realized in 2016. The graph highlights the fact that resources from the different pillars are likely multiplicative. The exact nature of the interaction, however, is not known and likely different across different pillars, so changes in the size of the area are just an approximation of overall fiscal space.

Fiscal Space for Health in the Kyrgyz Republic Quantified along the ‘Five Pillars’ (percentage increase relative to 2016 Government Health Expenditure)



It should be noted that the estimates derived from various simulations in this FSA and presented in the figure above should be considered indicative. Simulations rely on many assumptions, some of them may not hold down the road. However, the analysis points to the general directions of effects of relevant policy actions and suggest strategies to improve the fiscal prospect for the health sector.

Introduction

The fiscal space analysis (FSA) is expected to feed into the development of a new National Health Strategy and motivate an early start on reforms that are most likely to secure additional funding/savings. The Den Sooluk National health care reform program, originally meant to cover 2012–2016, was extended to 2018 (MoHKR 2016). The sector is struggling with funding to fully implement the program. Assessing fiscal space in parallel with developing a new health strategy will help identify viable financing options and better establish priorities and set feasible targets that take account of financial constraints. In providing a menu of evidence-based options for proposing reforms, the FSA could feed positively into the upcoming National Development Strategy (NDS) to place health as a priority and to ensure that it includes directions for reforms that will help finance the new health strategy. Whether it can be incorporated into the NDS or not, action needs to be taken as soon as possible on the basis of recommendations in this analysis so that additional resources are in fact available on time to implement the new National Health Strategy, expected to cover 2019–2030 with a vision to 2040.

The report provides a sound analytical basis to guide the government in securing sources of additional funds/savings for the health sector. Fiscal space is defined as “the availability of budgetary room that allows a government to provide resources for a given desired purpose without any prejudice to the sustainability of a government’s financial position.” (Heller 2006). FSA for health, in addition to looking into potential increases in general government expenditure from economic growth and general public sector reforms, specifically looks at options that will generate more resources for the health sector, including potential efficiency gains from health sector reform. While considering space for the health sector, the context of preserving macroeconomic fundamentals needs to be kept in mind, including giving due consideration to competing needs in other sectors.

In April 2017, a mission took place where a draft outline was presented, and discussions were held regarding expectations on content, time frame, priority issues, and data constraints. Data collection and analysis were carried out in the subsequent months.¹ During the preliminary discussions the government counterparts (Ministry of Health [MoH], Mandatory Health Insurance Fund [MHIF], Ministry of Finance [MoF], Social Fund, and Ministry of Economy [MoE]) identified the following critical topics: budgetary funds to cover co-payments for exempt individuals and the way the MHIF can use these amounts to perform its function of single payer for health; sin taxes, particularly tobacco taxes; efficiency gains, especially hospital rationalization and scaling-up of Result-based Financing (RBF); and private sector partnerships/investment. The report addresses some but not all of these critical issues.

The FSA proposes options that could be implemented in the short, medium, and long run. The following time frames were agreed during the preparatory mission:

- Short term: Feasible in 2019–2020 (within first 2 years after Den Sooluk extension expires)
- Medium term: 2021–23 (5-year horizon)

¹ In addition to data obtained directly from the MHIF, the MoH, and the Social Fund the report draws on multiple secondary sources of verified data. Please refer to the annex for a complete list of data sources.

- Long term: 2024–2028 and beyond (10-year horizon)

Although FSAs generally refer to funding for the short to medium run (Tandon and Cashin 2010), many of the solutions to secure more funding or improve financing and expenditure efficiency require two or more years before they can be implemented and generate results. Furthermore, some of the important reforms may not be implementable within the medium term. It is therefore important that discussions on all desirable reforms can start rapidly, before 2019.

FSA for health is traditionally organized around five pillars (Tandon and Cashin 2010). The pillars correspond to different origins of funds:

- **Pillar I** - conducive to macroeconomic conditions: potential from economic growth prospects and other macroeconomic conditions, assuming health will continue to receive the same budget share.
- **Pillar II** - reprioritization: considers whether there are opportunities to increase funding for health at the expense of other sectors.
- **Pillar III** - external funding: potential for additional sector-specific resources from development assistance for health. Additional resources may be obtained either by increasing total external funding to the country or directing more of existing funding toward health.
- **Pillar IV** - sector-specific resources: potential to raise additional resources for health, for example, by use of 'sin' taxes, earmarking social health insurance, leveraging the private sector).
- **Pillar V** - efficiency: policy options to reduce financial needs by improving the efficiency of existing and/or new health sector outlay.

These five pillars are covered throughout the report; some pillars include multiple issues and require complex analysis (for example, efficiency) while others can be addressed in a small chapter subsection (for example, reprioritization). The report offers practical recommendations and separates solutions that rely on different types of actors, and it highlights the impact of each financing solution on the fiscal burden. For instance, it separates reforms that will increase funding or reduce resource needs based on changes in taxes, contributions, or benefits from reforms that will improve results (outcomes) for equal expenditure.

This report is organized into five chapters. Chapter 1 provides an estimate of the relative efficiency position of the Kyrgyz Republic, based on its health outcomes and health expenditure. It is then analyzed to understand whether the sector is mostly in need of additional funding or needs to spend more effectively, or a combination of both. Chapter 2 derives the base fiscal space scenario: what the health sector can hope for given macroeconomic projections, expectations of external funding, and options to reprioritize health in the budget. These options do not require any specific action short of some active lobbying to drag more resources toward health over arguments that the country overall would gain by getting more. Chapters 3 examines potential new sources of funds through feasibly and sustainably raising new domestic revenues for health or sources of budgetary savings that would come from limiting financing responsibilities of the health sector. Reforms needed mostly involve the general government as they imply changes in taxes or benefits.

Next, chapters 4 and 5 seek to identify areas where potential efficiency gains can be obtained. Although the analyses of financing and expenditure efficiency are organized in two different

chapters, it is clear that inefficiency in financing affect expenditure allocation and service delivery, which, in the end, determine overall performance. Financing efficiency is examined first as it is mostly about the State's ability to raise taxes and social contributions and to better manage public financing (PFM issues); it involves actors both inside and outside the health sector. Expenditure efficiency is examined last to identify the main areas where the health sector could generate better outcomes without spending more or, equivalently, generate better outcome with the money available.

Finally, fiscal space options suggested in the different chapters are summarized in the concluding section with an assessment of potential gains that can be reasonably expected along the five pillars, given current conditions.

1. Resource Needs and Overall Efficiency

The chapter first provides a summary diagnosis of the health sector relative to health outcomes and health expenditure, to evaluate the magnitude of financial needs. The second part analyzes where the country stands relative to others in terms of expenditure efficiency, to assess the relative importance of funding shortfalls versus potential efficiency gains. The analysis is used to evaluate how much fiscal space could potentially come from efficiency gains alone.²

1.1. Relative efficiency of public health expenditure:

The relative efficiency analysis presented here seeks to identify whether the country is mostly in need of additional resources or of improved efficiency and evaluates overall space for efficiency gains. Fiscal space can be obtained by increasing funding for health or/and by improving financing and expenditure efficiency to produce better outcomes without spending more (or, equivalently, produce the same outcomes spending less). Increasing funding for health will have the desired impact on health outcomes if it is spent efficiently. The following analysis uses internationally comparable data on health outcomes and spending to understand where the country stands relative to expectations—taking account of level of income and other country characteristics—and whether its efficiency position is mostly explained by level of funding or by performance on output measures. Given that individual efficiency gains are usually difficult to measure, it will also provide some benchmarks against which to value total potential gains from efficiency (what could the country reasonably hope to save from improved efficiency). The methodology and explanations on how to interpret the graphical results are given in Box 1.1.³

Box 0.1. Two-Dimensional Analysis of Relative Public Expenditure Efficiency in Health

Relative efficiency is assessed visually in two dimensions: results (approximated by standard indicators of health outcomes) and financial means (public expenditure on health). Instead of one summary efficiency score, as would be obtained with other methods, the analysis returns two numbers for each country: one number measures the difference between actual and expected outcomes, and the other measures the difference between actual and expected public spending. Expected outcomes and expected spending are statistically predicted values obtained independently of each other using data from a large sample of countries; they are estimated conditional on income levels and other selected structural country characteristics (so that the observed deviation cannot be explained by these characteristics).

The cross-sectional regression analysis presented here is used to measure efficiency *over a given period* based on period averages; it is repeated for two distinct periods to evaluate how the country's relative performance has changed over time. Given that the analysis uses cross-sectional data, it is important to use output indicators that can vary with changes in expenditure in the period considered.

Results of the analysis are expressed in such a way that countries can be compared against each other on the 'efficiency map', a four-quadrant graph where (0,0) is the point at which health outputs and expenditures are at levels predicted by the model. Percentage deviations from expected health outcomes

² The chapter does not address issues related to priority setting. In particular, evidence related to the share of health in the government budget is addressed in Chapter 2 (section 2.4 on reprioritization) and changes in health priorities (changes in the relative weight of disease categories) are covered in Chapter 5 (section 5.2 on allocative efficiency).

³ Details on the methodology can be found in Gaudin (2016). The methodology was developed for the Public Expenditure Reviews for Health and Education in Madagascar (2014), Health in Zimbabwe (2015), and Education in Mozambique (2017). The methodology here is closest to the one used for the Mozambique education Public Expenditure Review (PER), adapted for health.

are represented vertically (along the y-axis) and percentage deviations from expected expenditure horizontally (along the x-axis).

For most health outcome indicators considered, based on mortality or other disease incidence measure, a lower value is better, so a position in the southwest quadrant is the most efficient and a position in the northeast one is the least efficient. The northwest quadrant has countries with poor health outcomes and low expenditures—‘underachievers’. Those in the southeast quadrant spend more to achieve more and so are considered ‘overachievers’. When looking at changes over time, movements to the southwest are efficiency improving and movements to the northeast indicate efficiency losses. Movements in the other directions reveal important tradeoffs between expenditure and output performance. For some health outcome indicators such as life expectancy or healthy life expectancy, a higher value is better, so the interpretation of the graph needs to be adjusted with a movement from the southeast to the northwest showing unambiguous efficiency improvement. Expressing performance in percentage deviations also allows comparison of performance across different indicators.

The analysis focuses on public health expenditure but all health expenditures are expected to have some effect on outcome—so why exclude private expenditure on the resource side? Although data quality and availability are important constraints in measuring private expenditure, they are not the main reasons to focus on government expenditure. Indeed, the goal is to evaluate public expenditure needs on *efficiency grounds*: if a country can obtain better health outcomes with less public expenditure because the private sector can take on a larger part of the burden and do better than the public sector, it is indeed an efficiency improvement in public expenditure. Nevertheless, if countries A and B obtain similar results given the same level of government expenditure but B relies more on private health care than A, one would consider public expenditure to be more efficient in A. So, while it is inappropriate to include private expenditure as an input in the efficiency analysis, it is important to capture structural differences in public sector participation across countries. To this effect, a variable recording the share of private health expenditure in THE is used in the expenditure regression (so expected public expenditure take account of these differences).

It is important to remember that efficiency analysis results do not consider the distribution of outcomes. Some countries with higher spending may be less efficient in producing health care but better at reaching the poor, so they are less disadvantaged in health.

Source: Gaudin 2016.

The Kyrgyz Republic is still placed among efficient countries, but relatively higher increases in expenditures in the last 10 years were not accompanied by relatively better performance in outcomes, causing some overall efficiency loss. The analysis was run for two periods, 2001–2005 and 2011–2015, which roughly coincide with the periods before and after the Manas Taalimi National health program (2006–2011). Public health expenditure in PPP and per capita terms from the WHO’s GHED were used as indicator of input. To measure outcomes, different measures were used—DALY rate, infant mortality, child mortality, maternal mortality, and life expectancy. Table 0.1 presents results of the analysis in percentage deviations from expectations.⁴ Negative changes in expenditure deviations and most outcome deviations (except life expectancy) need to be interpreted as improvements. To evaluate efficiency changes, however, one needs to combine movements in both dimensions (outcome and expenditure).

⁴ Regression results for the outcome and expenditure models are not reported here as they require substantial space, but they are available upon request. Around 172 to 177 countries were used to estimate expectations (depending on the indicator used and time period). Coefficients on the income measure were positive significant in all regressions with p-values < 0.001 (except for GHE/GDP p-value < 0.05). The coefficient on private expenditure to THE in the expenditure regression was negative and significant (p-value < 0.001). Regression fit (adjusted R-squared) ranged from 0.65 to 0.8 for outcomes and 0.54 to 0.94 for expenditure. The regression using per capita health expenditure provided a better fit (0.94 in both time periods) and therefore offers more reliable expected values.

Changes in the country's efficiency position were relatively small across the two periods with an unambiguous but small loss of efficiency when using overall disease burden, maternal mortality rates, and life expectancy as outcome measures. For infant and child mortality, higher expenditure was accompanied by improved relative performance.

Table 0.1. Relative Efficiency Analysis Results: Kyrgyz Republic, 2001–2005 to 2011–2015

Indicator (Y)	Indicator value		Expected value		% Deviation from expected value		
	2001–2005	2011–2015	2001–2005	2011–2015	2001–2005	2011–2015	Diff.
Outcome dimension:							
Overall disease burden (DALY per 100,000)	35,094	30,879	43,429	37,422	-9.20	-17.50	1.71
Infant mortality (per 1,000 live births)	36.8	21.6	44.3	28.8	-16.90	-25.00	-8.04
Child under-5 mortality (per 1,000 live births)	42.7	24.3	53.2	35.1	-19.80	-30.80	-11.10
Maternal mortality (per 100,000 live births)	80.2	80.0	191	144	-58.00	-44.40	13.60
Life expectancy (years)	68.2	70.1	65.8	68.8	3.78	1.88	-1.90
Input dimension: Public Expenditure							
In per capita US\$	41.8	119	44.7	123	-6.46	-3.23	3.23
In percentage of GDP	2.17	3.85	2.20	3.58	-1.67	7.69	9.35

Source: Authors, using STATA 10 and World Bank HNP database (with data from World Development Indicators [WDI], International Monetary Fund [IMF], WHO, Institute for Health Metrics and Evaluation [IHME]).

Note: Deviation changes marked in red (last column) indicate a relative worsening of the position in a given dimension; they do not imply a loss of efficiency. Changes in efficiency need to take account of both outcome and expenditure deviation changes. If both are red, the loss of efficiency is unambiguous; if both are blue, the gain is unambiguous, if one is red and one is blue, relative magnitudes of change need to be appreciated to conclude on changes in efficiency.

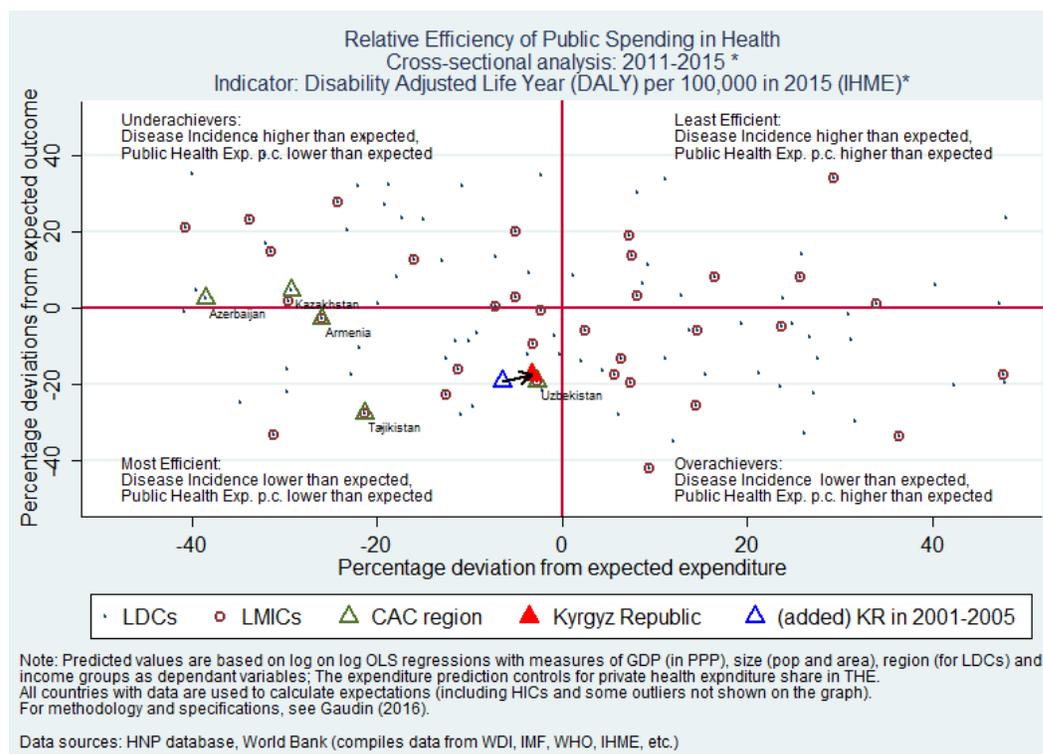
The efficiency map for 2011–2015 (Figure 0.1) clearly shows that the country still places in the group of relatively efficient countries but has lost some ground since 2005.⁵ Graphical results are best to highlight the two-dimensional nature of efficiency. Figure 1.12 presents results using per capita expenditure as input and the disease burden measured as DALY as output.⁶ The outcome is measured at the end of the period (2005 and 2015) while expenditures are averaged over 2001–2005 for the first period and 2010–2014 for the second period. Central Asian countries all spend significantly less than expected (the regression controls for larger regional effects based on World Bank regions) and, although changes for countries other than the Kyrgyz Republic are not shown on the map, all reduced their expenditure further below expected levels, except Uzbekistan, but did not improve or slightly worsened their position relative to outcomes.⁷

⁵ The map does not show HICs and countries with absolute deviations greater than 50 percent, although all countries were used in the estimation.

⁶ The DALY rate is chosen for presentation, as it is the indicator that captures the largest spectrum of health outcomes. Looking at maps using other outcome measures does not show significant differences except for Azerbaijan that stands out as having significantly improved its maternal mortality ratio (MMR) from 21 percent above predicted to 2.5 times lower than predicted while GHE went from 30 to 40 percent below predicted.

⁷ Turkmenistan, that was within 50 percent of predicted expenditure in 2001–2005, reduced expenditure to 75 percent lower than expected in 2011–2014 and therefore is not shown on the map.

Figure 0.1. Relative Efficiency Analysis Results, 2011–2015, and 10-year change for the Kyrgyz Republic



Source: Authors, using STATA 10 and data sources indicated in the figure.

Note: LDC = Least developed country.

The efficiency analysis reveals that the Kyrgyz Republic compares well to other countries in the ECA region and although there is some room to improve expenditure efficiency (10–35 percent savings), gains from additional spending are likely limited. Table 0.2 presents the results that deviate from the expected for the ECA region, using 2011–2015 data. Only two countries, Tajikistan and Turkey, were unambiguously more efficient than the Kyrgyz Republic in managing disease incidence and maternal mortality rates but did not perform as well to reduce child mortality. In fact, the Kyrgyz Republic was one of the only four countries in ECA that placed in the most efficient group in all dimensions considered, the other three being Armenia, FYR Macedonia, and Montenegro. Importantly, although spending more than expected may be a good thing if the country values health more highly than others and can indeed achieve better outcomes, none of the ‘overachievers’ in the ECA region, namely Bosnia and Moldova, achieved better relative outcomes in terms of overall disease incidence. If we consider the performance of Turkey, Tajikistan, Macedonia, and Albania, all countries in the most efficient group that spent less than the Kyrgyz Republic, the country could save 10–35 percent while achieving similar or better outcomes.⁸

⁸ The estimate is obtained by applying the same percentage deviation as the efficient countries to health expenditure in the Kyrgyz Republic. Unfortunately, all these countries had some tradeoffs in one of the outcome dimensions, but the country with the least tradeoff, Turkey, is also the one that yields the highest savings (35 percent).

Table 0.2. Efficiency Results, Regional Comparisons

Country	2015 GDP per capita, US\$	2011–2015 GHE/GDP	% Deviations from expected			
			GHE per capita	DALY	CMR	MMR
Kyrgyz Republic	1,109	3.9	-3.2	-17.5	-30.8	-44.4
Albania	3,943	2.8	-22.8	-17.6	5.3	249.1
Armenia	3,521	1.9	-26.0	-2.7	-28.7	-55.9
Azerbaijan	5,396	1.2	-38.5	2.4	215.2	-269.7
Belarus	5,941	3.8	-21.3	44.6	-61.8	-169.2
Bosnia and Herzegovina	4,207	6.9	27.5	-13.1	-62.5	-40.6
Bulgaria	7,017	4.1	8.2	30.1	-3.2	-189.1
Kazakhstan	10,428	2.3	-29.2	4.7	-7.6	26.6
Macedonia, FYR	4,854	4.3	-10.0	-8.9	-46.4	-342.5
Moldova	1,828	5.3	68.1	-5.9	-38.7	-74.8
Montenegro	6,465	4.0	-0.8	-7.2	-54.4	-158.1
Romania	8,934	4.4	-23.1	20.6	3.8	-335.1
Russian Federation	9,521	3.7	11.2	33.8	-43.8	73.5
Serbia	5,244	6.1	40.3	5.9	-50.2	326.6
Tajikistan	927	1.9	-21.3	-27.5	35.2	-77.6
Turkey	10,910	4.2	-34.8	-24.8	34.1	-229.9
Turkmenistan	6,690	1.3	-70.4	-7.2	180.7	62.9
Ukraine	2,135	3.9	29.3	34.0	-60.0	-69.8
Uzbekistan	2,112	3.1	-2.7	-19.2	42.0	-66.2

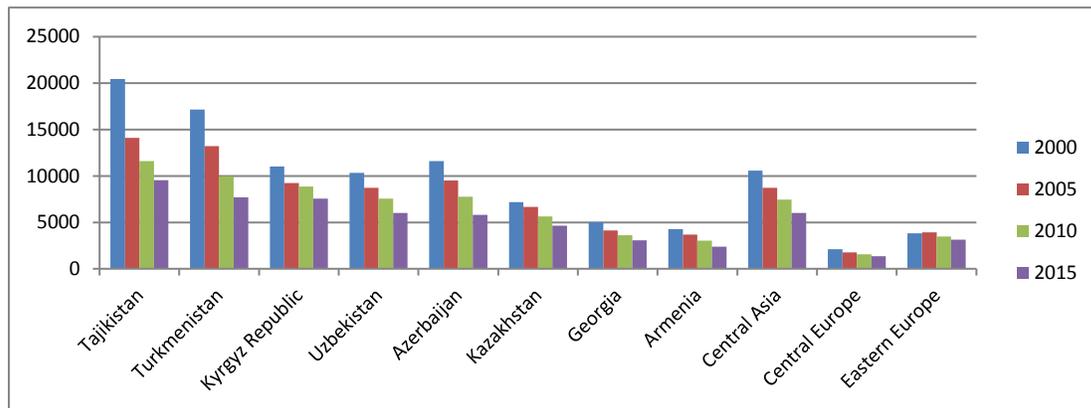
Source: Authors, using STATA 10 and World Bank HNP database (with data from WDI, IMF, WHO, IHME).

Note: GHE includes all public health expenditure (GHED, WHO). Georgia was missing some data used in the estimation and is therefore not included. Countries highlighted in yellow are in the most efficient group in at least 2 of the 3 outcome dimensions, including general DALY rate. In green are overachievers in at least 2 dimensions, including DALY rate. CMR = Child Mortality Rate.

1.2. Health outcomes and expenditure

While some challenges remain in communicable diseases and maternal and child health (MCH), the financial burden of noncommunicable diseases (NCDs) is expected to increase. Significant reduction in the incidence of communicable diseases has been achieved but some challenges remain, especially in HIV/AIDS and MCH. The incidence of communicable diseases and maternal, neonatal, and nutritional disorders combined, as shown in Figure 1.1, is lower than in Tajikistan and Turkmenistan but still 25 percent above the regional average and decreasing at a slower rate than the rest of countries in the region since 2005 (-18 percent in the Kyrgyz Republic versus -31 percent on average in Central Asia). Incidence of tuberculosis (TB) has decreased 41 percent since 2000 and 15 percent in the last 5 years but is still one of the highest in the region. More notable are developments in HIV/AIDS and MCH. Incidence of HIV/AIDS had leveled off in 2010 relative to 2005 but the last figure for 2015 indicates a 15 percent increase. As for neonatal and maternal disorders, mostly because of sluggish progress compared to Tajikistan and Turkmenistan, in 2015, the Kyrgyz Republic had the highest incidence in both neonatal and maternal disorders in the region.

Figure 0.2. Trends in Communicable Diseases and Maternal, Neonatal, and Nutritional Disorders, Kyrgyz Republic versus Regional Averages, 1990–2015 (DALYs per 100,000)



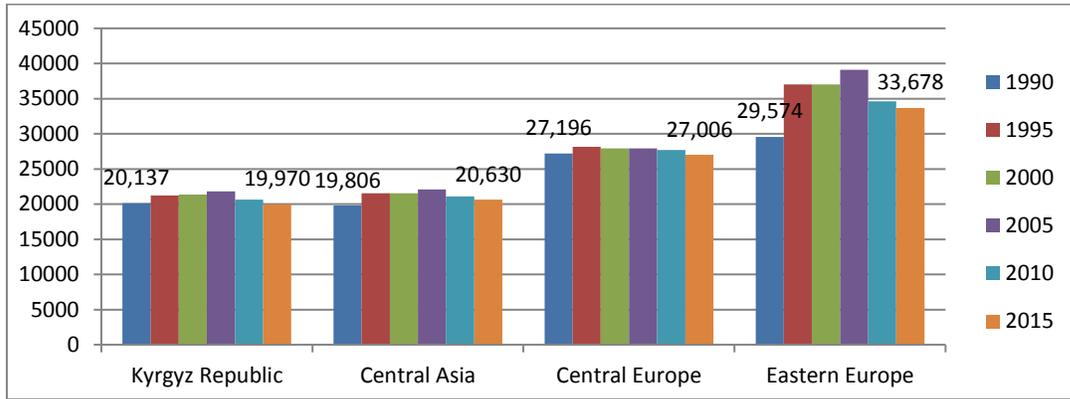
Source: GBD (2015). <https://vizhub.healthdata.org/gbd-compare/>.

Note: DALY = Disability-adjusted life year.

Overall, the incidence of NCDs and its major driver, cardiovascular diseases (CVDs), is on par with the regional average, but the higher rates in Central Asia and even higher rates in Eastern Europe indicate the need to reduce risk factors and overall burden to health care systems. The incidence of NCDs, measured by DALYs, is of similar magnitude and followed the same pattern as in the rest of Central Asia and significantly is lower than in Central and Eastern Europe (Figure 1.2). It increased 8 percent between 1990 and 2005 but subsequently decreased by the same percentage. Similarly, relatively constant since 1990, the incidence of CVDs was close to the Central Asian average (7 percent lower) and less than half the levels observed in Eastern Europe. Since 2005, DALYs decreased more than death rates in Eastern and Central Europe, indicating that deaths occur later in life; in 2015, there were 309 deaths per 100,000 population from CVDs compared to 350 in Central Asia (including Caucasus), 571 in Central Europe, and 825 in Eastern Europe.

Notable among NCDs is the incidence of cirrhosis and chronic liver disease, with DALYs one-fifth of CVDs. After increasing by 20–25 percent every 5 years from 1990 to 2005, incidence of cirrhosis and chronic liver diseases stabilized in 2010 and slightly decreased in 2015. Nevertheless, the Kyrgyz Republic still has the highest prevalence of cirrhosis and chronic liver disease in the region, 45 percent above the average of other countries and also well above the average of Eastern and Central Europe (2015 data).

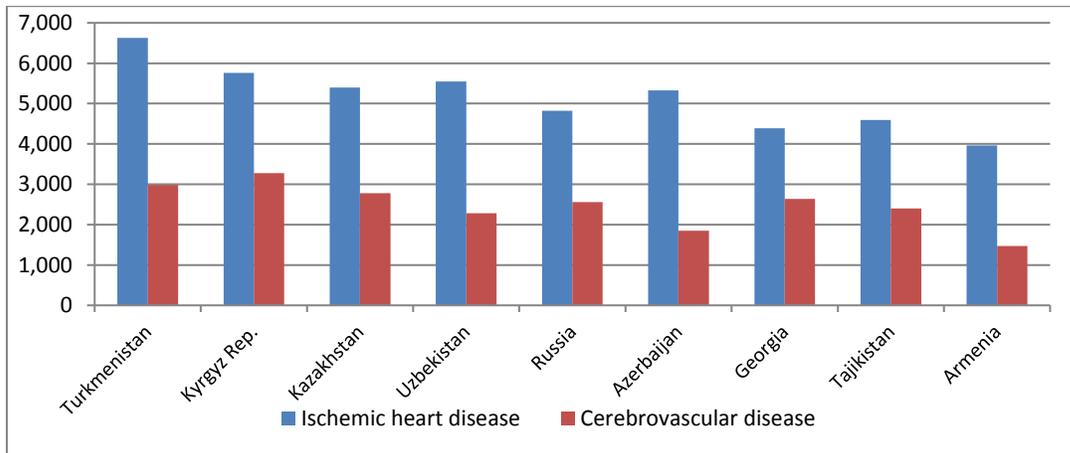
Figure 0.3. Trends in NCDs, Kyrgyz Republic versus Regional Averages, 1990–2015 (DALYs per 100,000)



Source: GBD (2015). <https://vizhub.healthdata.org/gbd-compare/>.

The Kyrgyz Republic has above average incidence of cerebrovascular and ischemic heart diseases. Within Central Asia, the Kyrgyz Republic has the highest incidence of cerebrovascular diseases and the second highest of ischemic heart disease (Figure 1.3). In relative magnitudes, the incidence of ischemic heart disease is 28 percent above average in the region, that of cerebrovascular disease 21 percent higher. Thus, CVDs are responsible for about half the deaths and 20.5 percent of DALYs in 2015. Ischemic heart and cerebrovascular diseases in particular are still the top two causes of premature deaths.

Figure 0.4. Years of Life Lost (YLLs) per 100,000 from Top Two Causes, Regional Comparison, 2015 (Age-Standardized)



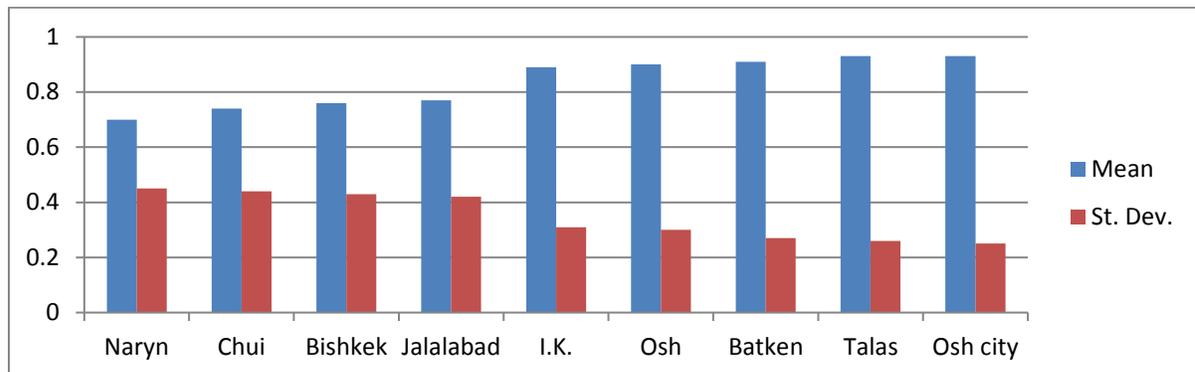
Source: GBD (2015). <https://vizhub.healthdata.org/gbd-compare/>.

Note: Countries are sorted by total YLLs lost from top 2 causes per 100,000.

The prevalence and premature deaths from NCDs could have been prevented if risk factors were reduced and by effective preventive actions. For instance, regular checking of blood pressure (BP) at the primary level is key to reduce the risk of acute myocardial infarction (AMI). Evidence based on the KHS 2015 indicates that among individuals who had sought primary care (excluding dentist visits), 63 to 90 percent of adults had their BP checked, with the percentage duly increasing with age. In the age range with highest prevalence (50–70), about 85 percent of people had their BP checked when seeking primary care; the percentage dropped to 75 in the

40–50 age group and to 63 percent among 30–40-year-olds. Nevertheless, there are significant differences by regions (Figure 1.4), with an average of 70 percent of people over 40 having their BP checked in Naryn Oblast and highest standard deviations in regions where BP screening is lower.⁹

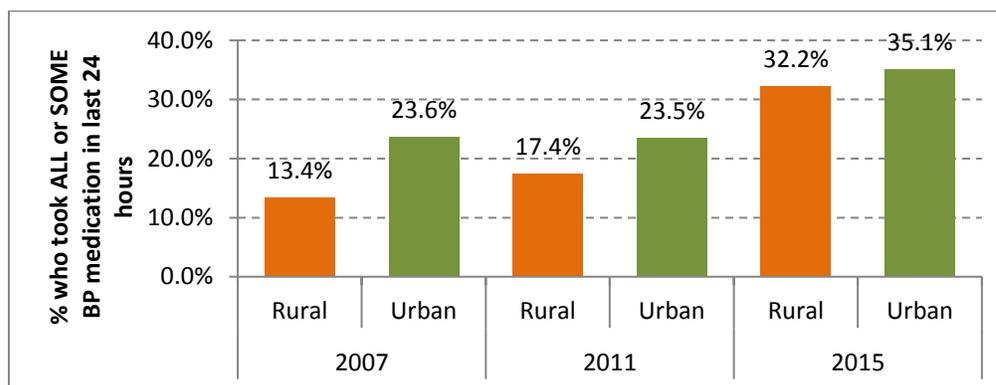
Figure 0.5. Prevalence of BP Monitoring in Primary Health Care (PHC) Visits by Oblast, 2015



Source: Kyrgyz Integrated Household Budget Survey (KIHS) 2015 and Global Burden of Disease Study (GBS) 2015.
Note: Dentist visits are excluded.

While diagnosis of hypertensive cases is good (3 percent of people who responded as not having hypertension had diastolic BP measured over 150, 7 percent over 140, and 17 percent over 130) and treatment is prescribed in 88 percent of diagnosed cases, there are still 67 percent of diagnosed hypertensive (either by a medical professional or self-diagnosed) persons not taking BP medication overall and the figure is higher in rural areas (Figure 1.5). Notably, 24 percent of people who had BP medicine prescribed did not take it.

Figure 0.6. Percentage of Screened Hypertensive Persons on BP Medication



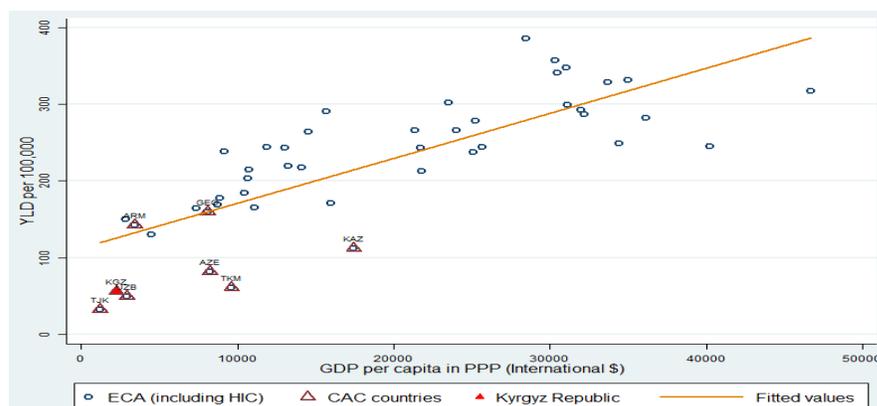
Source: World Health Organization (WHO) and KIHS, 2015, analyzed by the WHO

Despite generally declining disease burden with countries' income growth, treatment costs for NCDs are expected to rise as people live longer with their diseases. According to our own multicountry analysis, incidence of NCDs in terms of DALYs tends to moderately decrease with income level but years of life with disability (YLDs) are strongly positively correlated with income. For neoplasms, the relationship between DALYs and income may be slightly positive or null, but the relationship between YLDs and income is very strong.¹⁰

⁹ Unweighted number of cases was above 100 in all oblasts except in Talas (87 cases) and Osh City (53 cases).

¹⁰ Averages of 2005, 2010, 2015 are used; p-values in parentheses:

Figure 0.7. Years of Life Lived with Neoplasm (Cancer) and GDP per Capita



Source: Authors, using GBS (2015) and Health, Nutrition, and Population (HNP) database (World Bank).
 Note: CAC = Central Asia and Caucasus; ECA = Europe and Central Asia; HIC = High-income country.

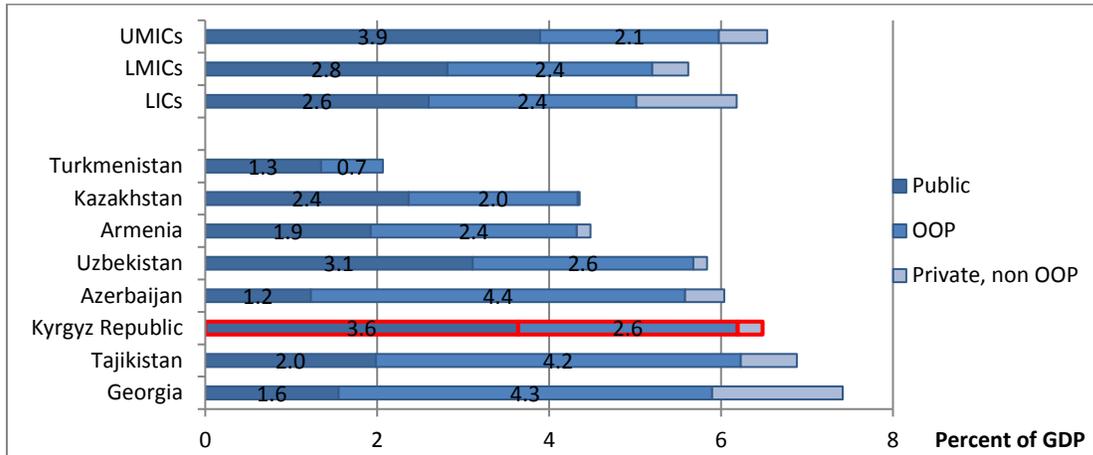
Figure 0.7 illustrates the relationship between YLDs caused by cancer and countries’ per capita GDP. As indicated, the Kyrgyz Republic is still in the lower segment of the distribution. As the country’s life expectancy increases and its population ages, YLDs due to NCDs will also increase even when the economic prospects improve.

Public spending on health in the Kyrgyz Republic is relatively high but in per capita terms is still low and it is declining. Total health expenditure (THE) in the Kyrgyz Republic is higher than the low- and middle-income country (LMIC) average and among the highest in the region, mostly due to higher relative public health expenditure, but public spending in per capita term is still low compared to the WHO benchmarks. In 2014, THE (public + private) was 6.5 percent of GDP in the Kyrgyz Republic compared to 5.6 percent in LMICs, and the difference was fully due to public health expenditure (Figure 1.7). In the region, Georgia and Tajikistan spent more on health in proportion to the GDP but most of it was out-of-pocket (OOP) expenditure. In per capita terms, public expenditure on health is about US\$46 per capita (Figure 1.8), lower than the LMIC average, which is close to US\$70 per capita, and lower than minimum recommended levels.¹¹

Per capita gross domestic product (GDP) purchasing power parity (PPP) with	NCD, all	Neoplasm
DALYs	-0.31 (0.03)	0.21 (0.16)
YLDs	0.50 (0.00)	0.79 (0.00)

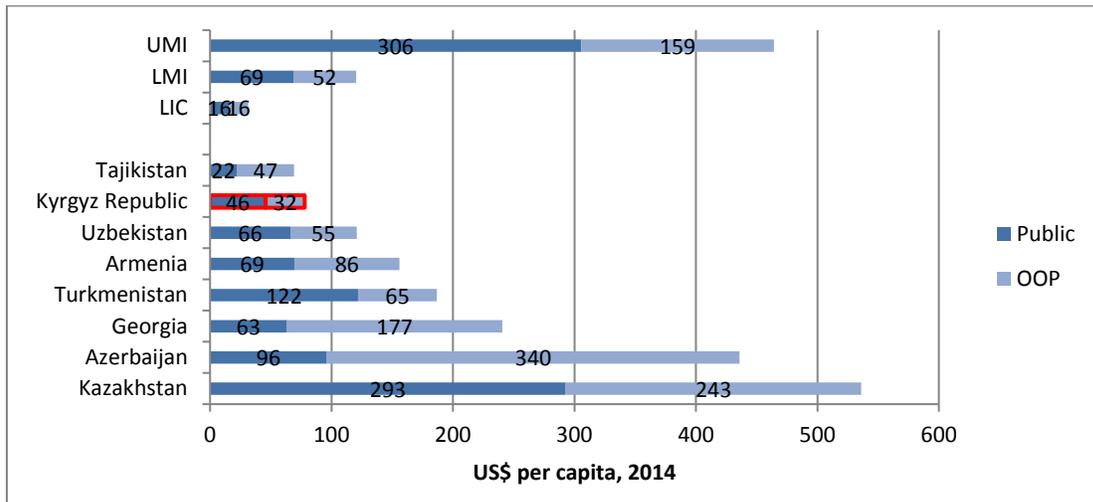
¹¹ The Chatham report recommends US\$86 per capita, corresponding to the 2009 recommended baseline of US\$54 per capita plus additional spending necessary to achieve Millennium Development Goals in 49 LICs estimated by the High-Level Taskforce on Innovative International Financing for Health Systems (Group 1 report) and updated to account for changes in inflation and exchange rate (Chatham House 2014). Because of some technical issues (the method for updating to current values needs some scrutiny) and because there are necessarily significant differences by regions and across countries, the benchmark should be used carefully and should not replace costing exercises based on national data.

Figure 0.8. THE and Its Composition , 2014 (percentage of GDP)



Source: WHO Global Health Expenditure Database (GHED).
 Note: LIC = Low-income country; UMIC = Upper-middle-income country.

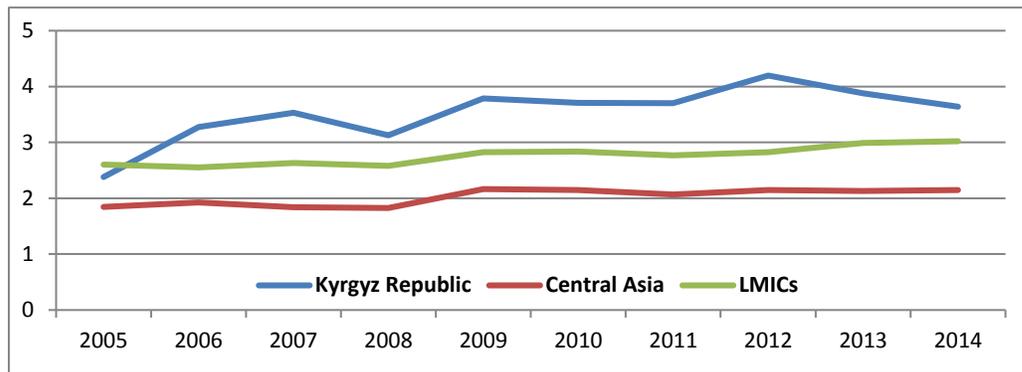
Figure 0.9. Public and OOP Expenditure Comparisons, Average 2011–2014 (US\$ per capita)



Source: WHO (GHED).

Public health expenditure as a proportion of GDP remains significantly higher than Central Asian and LMIC averages but has decreased since 2012. Public health expenditure increased 76 percent between 2005 and 2012 in the Kyrgyz Republic, compared to 16 percent on average in Central Asia and 9 percent in LMICs. Between 2012 and 2014, however, this expenditure decreased 6 percent while the averages for the region and LMICs remained relatively constant (Figure 1.9). Despite the decrease, public health expenditure in percentage of GDP was still 70 percent higher than the Central Asian average and 20 percent higher than LMICs in 2014.

Figure 0.10. Trend in Government Health Expenditure to GDP Compared to Regional and Income Average, 2005–2014



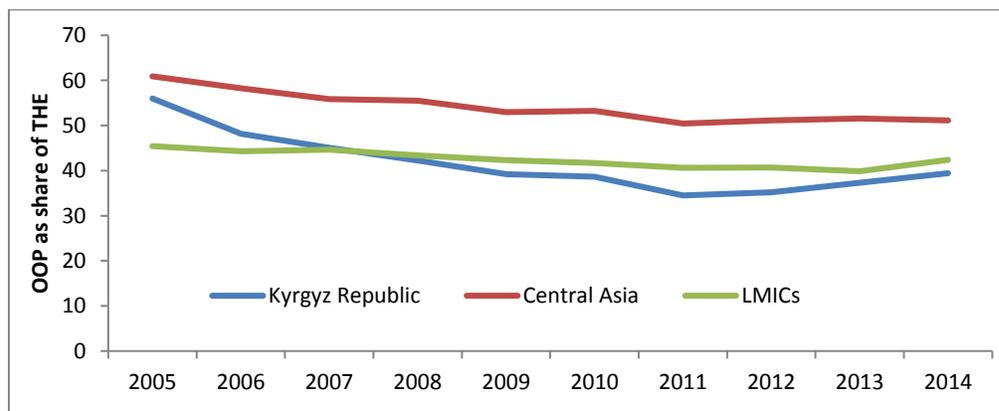
Source: WHO (GHED).

Note: Government health expenditure (GHE) in the GHED includes all nonprivate, non-nongovernmental organization (NGO) expenditure, including external funding and Mandatory Health Insurance (MHI).

Although OOP payments were still lower than the regional and LMIC average in 2014, they significantly increased in share of THE and in percentage of the household budget after 2011.

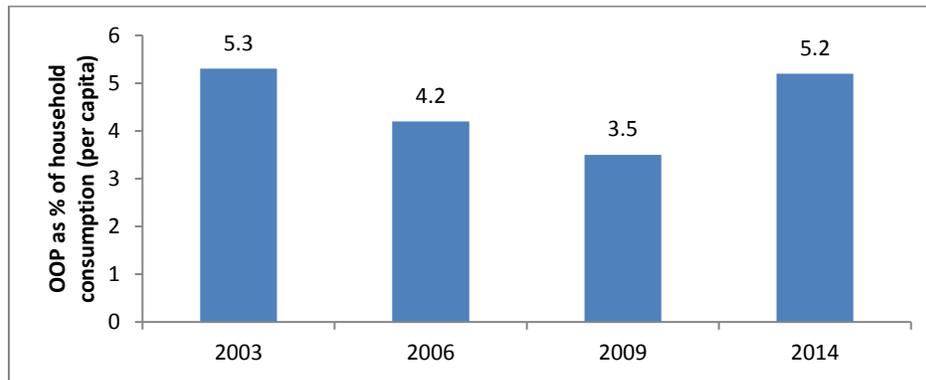
The financial burden of health care directly borne by households significantly decreased between 2005 and 2011, from 56 to 35 percent, but increased again after 2011 to reach about 40 percent in 2014 (Figure 0.11). It remains, nevertheless, below the average of Central Asia and LMICs. In percentage of the household budget (including households who did not seek health care), OOP payments significantly decreased between 2003 and 2009, from 5.3 to 3.5, but the figure for 2014 shows a considerable increase back to 2003 levels (Figure 0.12). Expenditures on outpatient medicines (including unprescribed) constitute over 60 percent of total OOP expenditure and are responsible for most of the increase in OOP expenditure between 2009 and 2014 (Akkazieva, Jakab, and Temirov 2016). Finally, a recent WHO study based on surveys of discharged patients reported that the share of hospital costs paid through informal OOP payments rose from 26 to 35 percent between 2006 and 2013, more than compensating for the drop in the share of co-payments (Jakab, Akkazieva, and Kutzin 2016a). Most notably, payments to personnel doubled and average informal payments for drugs increased about 50 percent.

Figure 0.11. Trend in OOP Health Spending Compared to Regional and Income Average, 2005–2014



Source: WHO (GHED).

Figure 0.12. OOP Expenditure as a Share of Household Budgets, 2003–2014



Source: KHS 2015, graph adapted from Akkazieva et al., Figure 21 (WHO Regional Office for Europe, Barcelona Office for Health System Strengthening).

2. Fiscal Space from Macroeconomic Projections, External Funding, and Potential Reprioritization

This chapter evaluates how much financing the health sector could obtain under prevalent macroeconomic projections, expectations of external funding, and options to reprioritize health within the government budget. As opposed to other strategies proposed later in the report, these options do not require legislation changes or new regulatory requirements. Implementing them, however, may require high-level discussions regarding health budget reprioritization issues or strategies to put health at the front of the agenda.

As mentioned earlier, although public health expenditure in the Kyrgyz Republic as a proportion of GDP remains relatively higher than the regional average, in per capita term is still low relative to WHO benchmarks. Public health expenditure in percent of GDP was still 70 percent higher than the regional average in Central Asia and 20 percent higher than LMICs in 2014. In per capita terms, however, public expenditure on health is about US\$46 per capita, lower than the LMIC average that is close to US\$70 per capita and lower than minimum recommended levels. Thus, before looking into new options to generate additional resources for the health sector, it is necessary to assess the possibility to explore the potential for generating more fiscal space for health in 2017–2021 from a reprioritization of the health sector. The analysis conducted a set of projections using three different scenarios to explore this strategy.

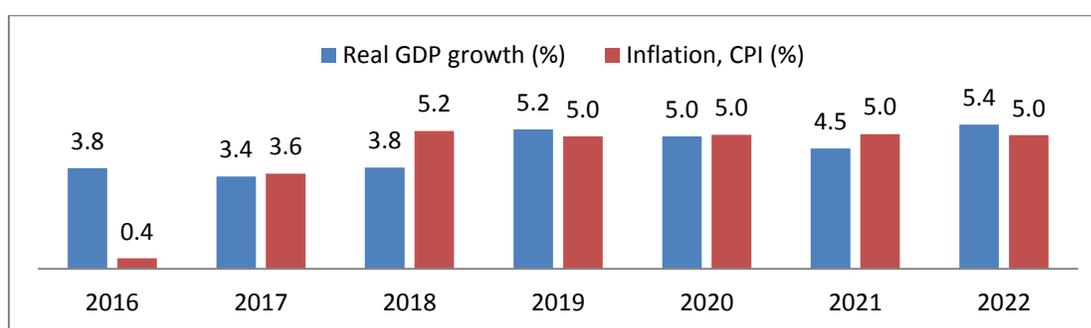
2.1. Macroeconomic conditions

Macroeconomic conditions are expected to generate limited fiscal space. Economic growth projections for the Kyrgyz Republic were revised upward in the second quarter of 2017, with real GDP expected to increase 3.5 percent in 2017 and up to around 5 percent in 2019–2022 (2 to 4 percent in real per capita terms). Projected growth for 2017 was evaluated at 3.5 percent and expected to continue over the medium term to reach 5.4 percent in 2022 (Figure 2.1). Assuming population growth stays at current levels (+1.5 percent), this translates into 2 percent real per capita growth in 2017 up to 3.9 percent in 2022 for a total real per capita growth of about 20 percent over the period, although projections beyond 2019 are mostly based on linear

extrapolations.¹² Importantly, these projections cannot be dissociated from the accompanying forecasts on budget deficits and current account balances. While the current account balance is projected to remain stable in percentage of GDP over the period, budget deficits are assumed to decrease rapidly (Figure 2.2).

The main driver of growth in the Kyrgyz Republic is a gradual recovery of internal and external demand (IMF Press release, April 18 2017).¹³ Projected economic growth in China and economy recovery in Russia is expected to affect the Kyrgyz Republic positively. Upward revisions of projected growth in China and higher commodity prices (IMF 2017) are expected to bring more capital investment into the Kyrgyz Republic and boost bilateral trade, whereas economic growth in Russia, projected to be about 1.5 percent over 2017-2022, should have positive effects principally through higher remittances.

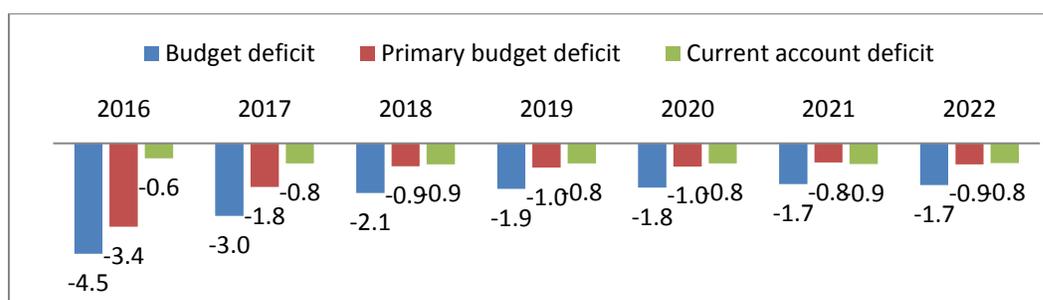
Figure 2.1. Projected Real GDP Growth and Inflation (consumer prices) 2017–2022



Source: IMF (World Economic Outlook, WEO).

Note: The real GDP growth is calculated using projections of the GDP deflator, which is 1–2 percentage points lower than the projected inflation in consumer prices.

Figure 2.2. Budget and Current Account Balance Projections, 2017–2022



Source: IMF (WEO).

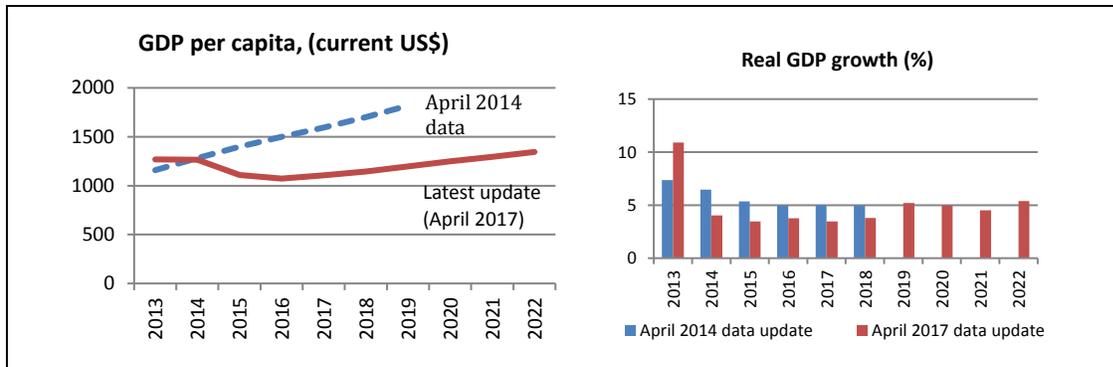
Macroeconomic conditions are expected to generate limited fiscal space. Excluding significant changes in domestic conditions (including acceleration of investment), economic projections are more likely to be revised down than up. Projected economic growth rates in the Kyrgyz Republic compare favorably to other countries in the Eurasian Economic Union (EAEU), are about average for CAC countries and are consistent with current combinations of Total Factor Productivity growth and Investment to GDP ratios in Central Asian Oil importers. According to the IMF,

¹² The IMF 3-year growth forecasts take account of the WEO's expected impact on commodity prices, export demand, remittance flows, exchange rates, and financial conditions (IMF 2017).

¹³ The IMF projection for 2017 is 0.5 percentage points higher than those published by Asian Development Bank (ADO 2017).

downsize risks dominate due to “potential inward shift in policies toward protectionism, and possible faster-than expected U.S. monetary policy normalization, which could trigger a more rapid tightening of global financial conditions and further appreciation of the U.S. dollar.

Figure 2.3. Ex Post Comparisons of GDP Projections, April 2017 vs 2014 Data Updates



Source: Authors, IMF, WEO data, updates as indicated.

Moreover, if we look at projections made in 2014 and compare to the latest update, it is clear that projections on GDP growth were optimistic and had to be revised downward (Figure 2.3), indicating that the country did not over-perform relative to predictions.¹⁴ Growth projections assume continuing efforts to address financial sector weaknesses and failure to do so would reduce growth prospects and increase systemic risk, which would result in added fiscal pressure (ADO 2017).¹⁵

On the other hand, positive effects of integration of the Kyrgyz Republic into the EAEU may be underestimated in growth projections, which would make the country less sensitive than others to adverse global shocks. The Kyrgyz Republic being the smallest country in the economic union with lowest level of GDP per capita, it is expected to benefit from integration to a greater extent than other countries in the union. The Kyrgyz economy has started to benefit from a larger market for Kyrgyz products, particularly agricultural products. The Kyrgyz Republic is still the country with least FDI from the EAEU and could expect more coming from Russia. In 2015, the Kyrgyz Republic benefited from 4 percent of all FDI from Russia to the EAEU countries, relative to 17 percent in population share in the EAEU, excluding Russia. Finally, continued beneficial conditions for workers combined with growth recovery in Russia are also likely to cause increased revenues from remittances. For example, there seems to be evidence of an increase in migrant workers from the Kyrgyz Republic to Russia after the EAEU accession. In 2015, the number of migrant workers from the Kyrgyz Republic increased 1.6 percent (Vinokurov 2017, 65). Thus, it is important to monitor this indicator and evaluate if this trend will continue.

¹⁴ Although the IMF may have taken this past underperformance into account in the new projections.

¹⁵ On the other hand, increasing the pace of reform could have positive effects on growth. The country has been going through a Systematic Regulatory Review process since 2015. Systematic implementation of the ‘guillotine approach’ to regulation beyond is expected to have a positive impact on growth by reducing business costs and spurring foreign direct investment (FDI). Savings generated by implementation of the same approach in Croatia, Serbia, Bosnia, Kenya, Vietnam, and Republic of Korea have generated yearly savings to businesses of 1.0 to 4.5 percent of GDP. In Korea, FDI increase was estimated at US\$36.5 billion over 5 years (<http://regulatoryreform.com/regulatory-guillotine/>. Percentage of GDP calculated by authors using the IMF WEO database, 2009 GDP in U.S. dollar).

GDP growth will normally be accompanied by a proportional increase in THE and GHE. The elasticity of THE to income was estimated using a cross-country model with a sample of 185 countries to be about 1 (health expenditure increase at the same rate as GDP on average). Government expenditure on health were found to increase slightly faster than THE, with an elasticity 0.06 to 0.13 points higher depending on the method (Table 2.1). Implications related to reprioritization of health in government expenditure will be examined later in the section.

Table 2.1. Expected Change in Government Funding For Health with Increases in GDP

Estimated Elasticities	Method 1 ^b	Method 2 ^b
% change in THE per % change in GDP	0.88	1.02
% change in GHE ^a per % change in GDP	0.94	1.15
% change in share of GHE in THE per % change in GDP	0.06	0.13

Source: Authors, using World Bank HNP database (Health Expenditure from WHO, GHED).

Note: a. GHE: Public sector health expenditure.

b. Method 1: Generalized Least Squares Regression, Random effects - 185 countries over 20 years, includes a common time trend; Method 2: Ordinary Least Square, 183 countries, values averages over 2010–2014.

2.2. Debt sustainability

Debt sustainability indicators for the Kyrgyz Republic in 2015 indicate that the country is in a fragile position with limited capacity to finance budget deficit. Present value of debt to GDP reached beyond the heavily indebted poor countries (HIPC) sustainability limit of 40 percent, taking account of the Kyrgyz Republic’s relative position in terms of institutional strength. The HIPC has established different debt sustainability thresholds depending on the value of the IDA Resource Allocation Index (IRAI). The value of the IRAI for the Kyrgyz Republic has remained around 3.6 on a scale of 1 to 6, placing it in the average performer range. The present value of debt to GDP needs to remain under 40 percent. With a present value of debt calculated as US\$2,743 million in 2005 (International Debt Statistics, IDS), the country is just above the threshold. Other debt sustainability indicators place the Kyrgyz Republic more favorably (Table 2.2).

Table 2.2. Debt Sustainability Will Limit Borrowing Capacity, Kyrgyz Republic, 2015 (%)

	Kyrgyz Republic 2015	Sustainability Threshold ^(a)
Present value (PV) of debt/GDP	41.1	40
PV of debt/Budget revenue	115.0	250
PV of debt/Exports	105.0	150
Debt service/Exports	15.7	20
Debt service/Budget revenue	17.3	30

Source: Authors, using World Bank IDS database.

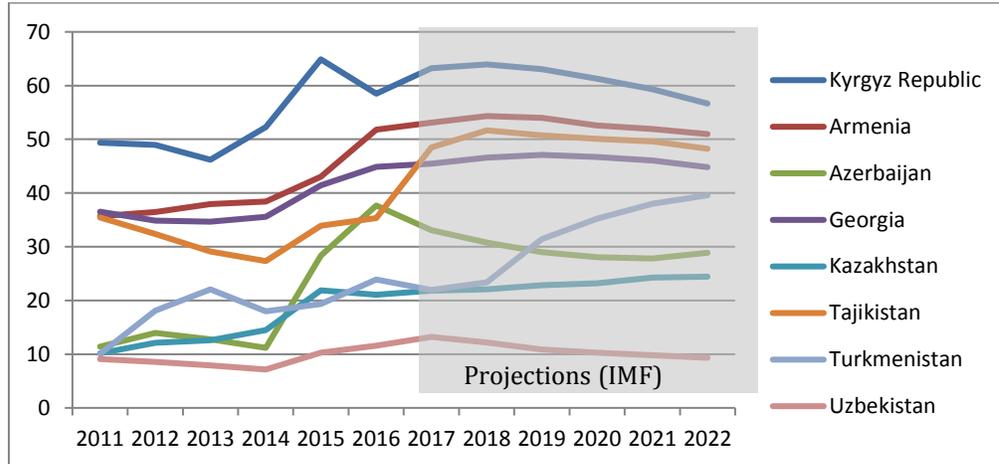
Note: PV = Present value.

a. Threshold value for average institutional strength (IRAI between 3.25 and 3.75). In 2015, the Kyrgyz Republic had an IRAI of 3.642. The threshold values and IRAI ranges are from HIPC (2009).

Regional comparisons of debt and fiscal deficits in relation to GDP also reveal a fragile debt situation. The debt-to-GDP ratio has remained the highest among all CAC and EAEU countries, reaching close to 65 percent in 2015 and, despite a reduction in 2016, is expected to increase again above 60 percent of GDP in 2017 (Figure 2.4). The Kyrgyz Republic also had one of the highest fiscal deficits in the region in 2016, at 4.5 percent of GDP (Figure 2.5). The EAEU treaty

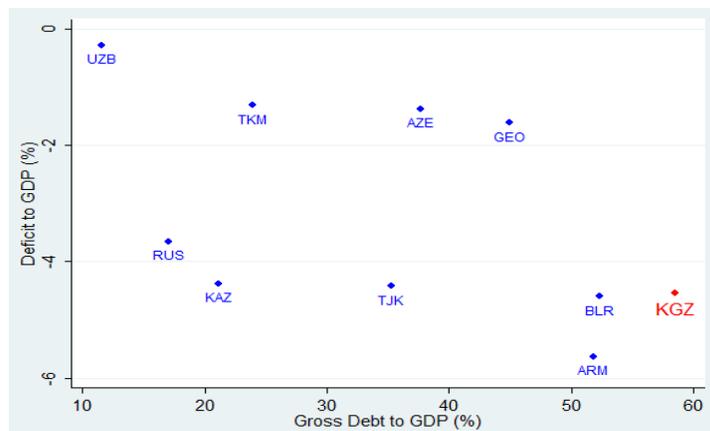
sets criteria for determining the sustainability of economic development of its member states, including a budget deficit less than 3 percent of GDP and a debt-to-GDP ratio below 50 percent (Vinokurov 2017). Both of these benchmarks were exceeded by the Kyrgyz Republic in 2016. The IMF projections limit the budget deficit to 3 percent in 2017, then down to 2 percent in 2018 and 1.8 percent beyond. Despite these reductions in budget deficits, the debt-to-GDP ratio is not expected to go below the 60 percent mark until 2021.

Figure 2.4. Debt-to-GDP Ratios in Central Asia and Caucasus



Source: Authors, using IMF, WEO data.

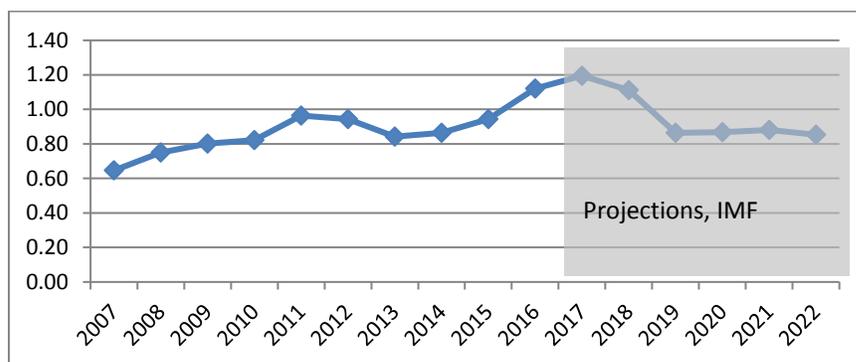
Figure 2.5. Budget Deficits and Debt-to-GDP Ratios in Caucasus, Central Asia, and the EAEU, 2016



Source: Authors, using IMF, WEO data.

The size of the debt and its composition makes the Kyrgyz Republic particularly vulnerable to unfavorable exchange rate fluctuations. As seen before, world economic development with the United States following protectionist policies would increase the value of the U.S. dollar; with 77 percent of its debt denominated in U.S. dollar in 2015 (IDS), the Kyrgyz Republic is particularly at risk. The main reason for the increase in the national debt between 2014 and 2017 was not new debt but exchange rate effects on old debt (IMF 2017). The more positive world outlook that has allowed the upward revision of growth projections also implies higher interest rates, which “could exacerbate debt vulnerabilities and, in some cases, tighten liquidity” (IMF 2017), a statement that applies strongly to the Kyrgyz Republic.

Figure 2.6. Interest Payments on the Debt as Share of GDP, 2007–2016 and Projected 2017–2022



Source: IMF, WEO database.

Interest payments on the debt have been increasing since 2013, squeezing some fiscal space for the primary budget, but projections on economic growth and future government revenue and expenditure by the IMF include a reduction in the weight of interest payments if the government keeps revenue and expenditure targets. Comparing the overall budget deficit to the primary deficit, one can infer the weight of interest payment as a percentage of GDP (Figure 2.6). From 2007 to 2017, interest payments on the debt have doubled in percentage of GDP (0.65 to 1.12); this has contributed to higher overall budget deficits, although the primary deficit is still the main driver.

All the above indicate that the current debt situation in the Kyrgyz Republic severely limits the country’s potential to borrow and that any new borrowing will be subject to increased scrutiny and conditionality. Implementation of policies that strengthen the institutions and efforts to improve the efficiency of the public sector will likely be preconditions to further borrowing.

2.3. Development assistance

The Kyrgyz Republic has managed to secure external financing over time, but as the GDP of the country continues to grow, the country is likely to receive less financing coming from foreign partners.¹⁶ In percentage of GDP, the Kyrgyz Republic received on average 8.5 percent of GDP in official development assistance (ODA) in 2010–2015, well above Tajikistan (5.3 percent), Georgia (4 percent), and Armenia (3 percent). ODA remained stable over 2010–2014 and climbed to 11.5 percent of GDP in the Kyrgyz Republic (Figure 2.7). In per capita terms, the Kyrgyz Republic caught up with Armenia and even Georgia in 2015 with US\$129 per capita. The Kyrgyz Republic also increased its share of ODA relative to the total going to IDA recipients during the period (from 0.6 to 1.1 percent).

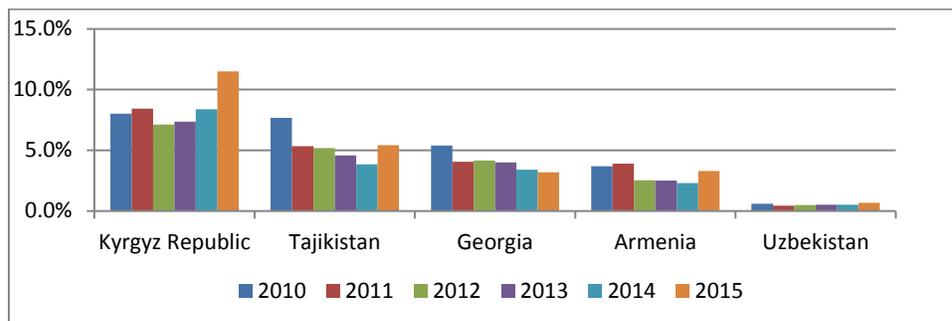
The same is true for Country Programmable Aid (CPA). The Kyrgyz Republic has consistently received more than other countries in the region in percent of GDP since 2010 but 2016 preliminary figures and projections indicate a downward trend with CPA dropping to 7 percent of GDP in 2019.¹⁷ Transfers from external partners dropped from 12 percent of budgetary funds

¹⁶ Trends in disbursements and commitments of foreign aid to the country are presented in Annex 2, section A2.2.

¹⁷ CPA measures the portion of ODA over which countries have a significant degree of control in terms of use of funds according to programmatic needs (OECD 2017). The CPA series from OECD statistics has the advantage of providing

in 2010 to under 8 percent in 2016. Nevertheless, commitments for aid managed by government entities were relatively strong in absolute terms in 2014–2015. The fact that the country has managed to secure more financing than other countries in the last few years indicates that strong policies on the part of the government, including efficiency enhancing measures, may encourage continued funding beyond projections in the transition phase.

Figure 2.7. ODA, Regional Comparison, 2010–2015 (share of GDP)

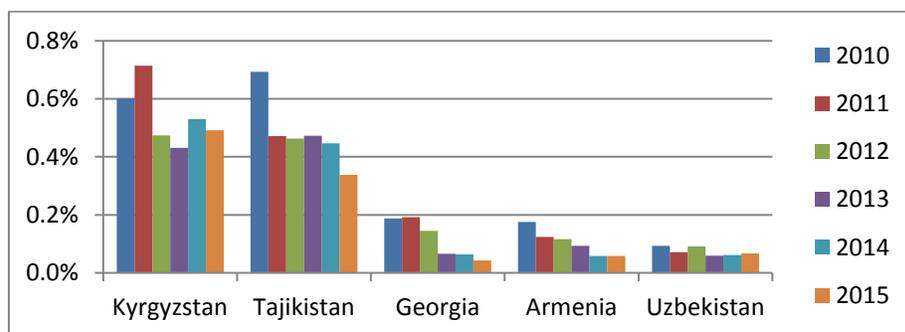


Source: Organisation for Economic Co-operation and Development (OECD) Statistics (CPA), IMF (GDP).

Note: Countries ordered using average 2010–2015 level. Other countries in Central Asia receive less than Uzbekistan (not on graph).

The Kyrgyz Republic has also been receiving the most ODA for health of all countries in the region in percent of GDP and in per capita terms and has managed to avoid the downward trend experienced by most other countries. The Kyrgyz Republic places first among CAC countries as a recipient of ODA for health in percent of GDP (Figure 2.8) and in per capita terms (Figure 2.9), and the difference increased over time. On average over the period the Kyrgyz Republic received 0.5 percent of GDP and US\$6 per capita in ODA for health, above Tajikistan, which received 0.3 percent of its GDP and US\$4 per capita. The amount of ODA to health went down markedly in Georgia and Armenia since 2010, while their GDP per capita increased toward the UMICs’ range.

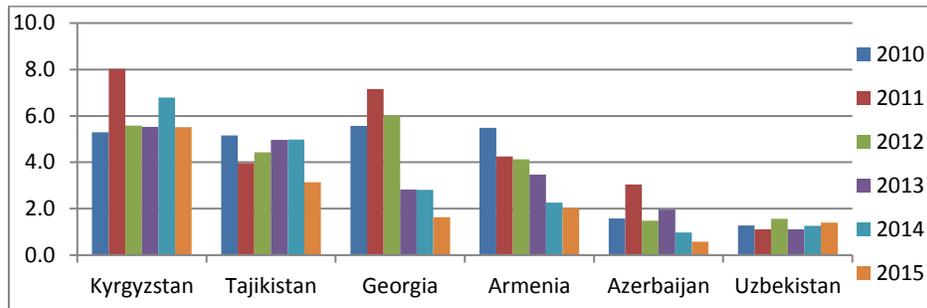
Figure 2.8. Health ODA, Regional Comparison (share of GDP)



Source: OECD Statistics (CPA), IMF (GDP).

Note: Countries ordered using average 2010–2015 level. Other countries in Central Asia receive less than Uzbekistan (removed).

Figure 2.9. Health ODA, Regional Comparison (US\$ per capita)

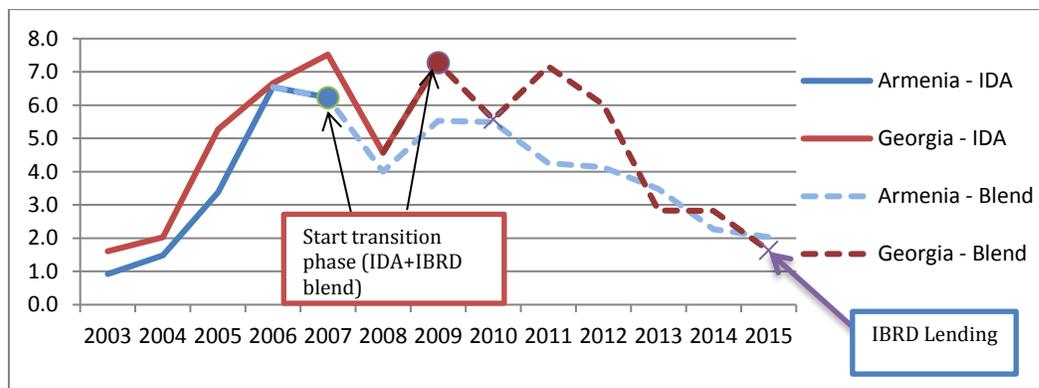


Source: OECD Statistics, WDI (population).

Note: Countries ordered using average 2010–2015 level. Other countries in Central Asia received less than US\$1 per capita.

The experience of Georgia and Armenia may be used to anticipate future changes in external support for health as the Kyrgyz Republic’s income grows. The region includes two countries that used to receive significant amount of foreign aid for the health sector, entered IDA transitional status in 2007 (Armenia) and 2009 (Georgia), and graduated to IBRD status in 2015. Overall ODA funding peaked around the time of reaching transitional status and slowly returned to their per capita level before the peak, so the effect of graduation on overall access to total ODA was small in per capita terms. The drop in funding was more significant for the health sector (Figure 2.10). During the transition period, health funding per capita was divided by 3 in Armenia and by 4.5 in Georgia. Although the Kyrgyz Republic is not expected to reach the transitional status within the time frame considered in this study (unless economic growth exceeds projections or greatly accelerates after 2022), this highlights the importance of starting efficiency enhancing activities early on; most likely, external support will prioritize efficiency enhancing activities.

Figure 2.10. Per Capita ODA for Health before and during Transition to IBRD Lending status, Armenia and Georgia (US\$ per capita, constant)



Source: OECD Statistics, WDI.

More generally, external support for health decreases significantly as a share of THE when income increases. Table 2.3 shows that, as countries move up the income groupings, the share of external funding in THE decreases; at the same time, governments pick up a larger share of THE. The average share of external funding in THE in LMICs is 13 percent; it goes down to less than 7 percent in the transition phase. We estimated that, on average, external funding per

capita decreases by a factor of 0.65 times the rate of GDP growth.¹⁸ Given the predicted total increase of GDP per capita of 25 percent by 2022 in the Kyrgyz Republic, this would translate to a drop in external funding as share of THE by 16 percent, although one should expect fluctuations across years. External funding as a share of THE was estimated to be about 8.6 percent in 2014 (WHO GHED data), so this would bring the average share down to about 7 percent by 2022.

Table 2.3. Share of Public and External Funds in THE by Lending and Income Groups, 2014

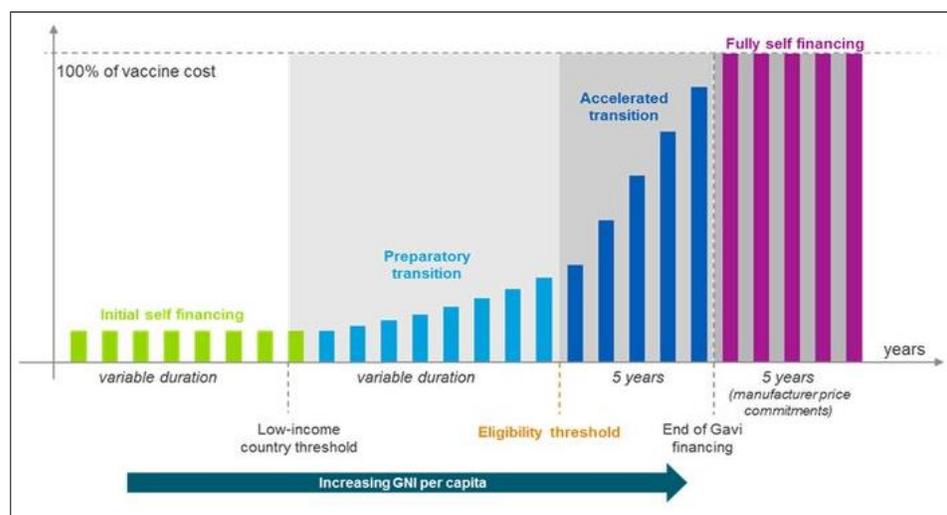
Group	GHE/THE	EXT/THE
IDA recipients	48.2	25.5
Transition (blend)	55.5	6.85
IBRD Lending	58.4	2.64
Low Income	42.1	33.2
Lower Middle Income	53.2	13.3
Upper Middle Income	59.9	2.67

Source: Authors, using HNP database (includes WHO GHED data).

Note: EXT = External funding.

GAVI and Global Fund are two of the larger financiers on the health sector. Although the Kyrgyz Republic has already entered the preparatory transition phase for GAVI financing, the time span until the country reaches full self-financing is expected to last another 12 years under current growth projections, so financing is not expected to drop drastically. GAVI provides a clear transition path as country income increases toward the eligibility threshold. Figure 2.11 shows the different phases toward self-financing.

Figure 2.11. Transition Path to Self-financing of Immunization (GAVI)



Source: Reproduced from GAVI website: www.gavi.org/.

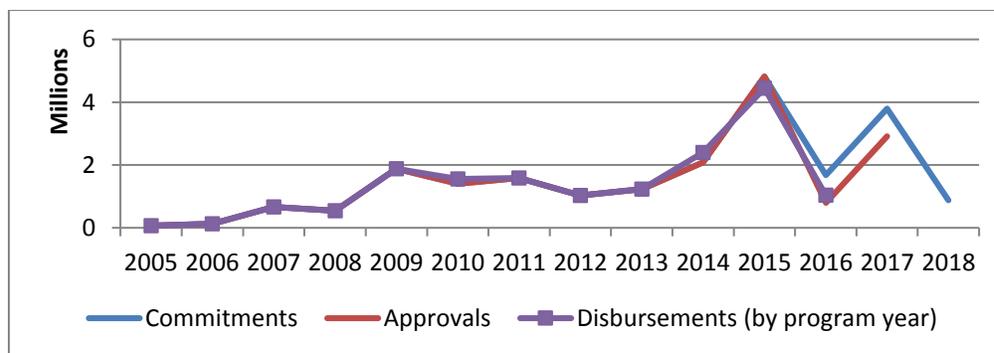
Currently, the Kyrgyz Republic is in the preparatory transition phase with an average gross national income (GNI) per capita over the last 3 years of approximately US\$1,200. The

¹⁸ Generalized Least Squares Regression with Random effects, 150 countries (excludes HICs), average of 18 years per country, includes a common time trend.

duration of the phase varies as it depends on the pace of GNI per capita growth. A country enters the accelerated transition phase if its average income per capita over the last 3 years exceeds the threshold, currently at US\$1,780 per capita (GNI Atlas method). The accelerated transition phase allows another 5 years before the country becomes fully self-financed. Using the real GDP growth rates projected to 2022, as above, extrapolating beyond 2022 using the 2022 real growth of 5.4 percent and assuming constant population growth, the Kyrgyz Republic would not reach the eligibility threshold until 2030.

Till this point, GAVI financing has not dropped, although the cycles of funding have changed since 2015 and approved amounts for disbursements were lower than commitments in 2016 and 2017. Funding from GAVI decreased slowly between 2009 and 2014 but did not show big changes from year to year (Figure 2.12). Since then, financing moved up and down each year with a two-year average close to 2014. Until 2016, approved amount always coincided with disbursements by program year. In 2016 and 2017, approved amounts were significantly lower than commitments (45 percent in 2016 and 77 percent in 2017), indicating that the Kyrgyz Republic will need to improve efficiency in absorbing donor financing (for example, improve capability and transparency) to assure smooth spending of GAVI and Global Fund as the country embarks on an early transition phase to self-financing.

Figure 2.12. GAVI Financing 2005–2018 (current US\$)

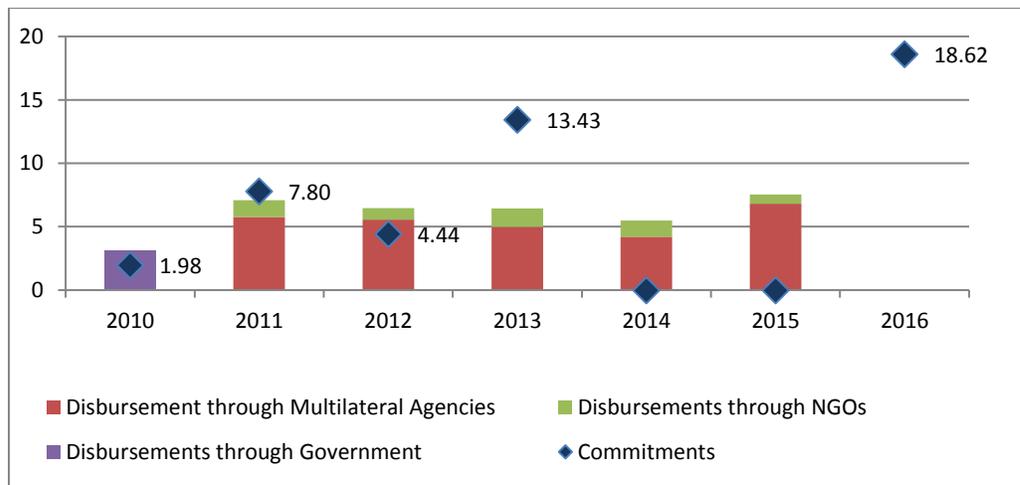


Source: Data from GAVI website: www.gavi.org/.

The Kyrgyz Republic is also in the preparatory transition-planning phase for funding by the Global Fund although the transition phase is also expected to last beyond the planning period unless growth accelerates significantly above projections. Countries become ineligible for Global Fund funding if they are in the upper-middle-income group and have a disease burden less than high. Transition planning, however, is supposed to start well ahead of ineligibility when the country reaches low-middle-income status. Transition planning started in the Kyrgyz Republic in 2016 as a component of a three-year grant received from the Global Fund for TB and HIV. A total of US\$220,000 from the grant is to be used to build capacity at the MoH to self-manage the TB and HIV programs and ensure a smooth transition (Global Fund Observer, 2017). This indicates that Global Fund financing is likely to continue in the medium term, but domestic funding will progressively replace external funding for TB and HIV programs. As will be detailed in Chapter 5, a road map was developed with domestic funding to come mostly from efficiency enhancing measures. Considering that Global Fund funding is channeled outside of the government budget, any substitution of these funds with domestic funding through the MoH implies a net increase in the health budget. The issue may therefore be used to argue for reprioritization of domestic funds.

Nevertheless, the Kyrgyz Republic should be able to count on Global Fund funding for the planning period while it is moving along the transition road map. Financing through the Global Fund has not reduced either and the committed 3-year grant amount in 2016 was significantly higher than the previous grant, indicating an increase in funding over the next three years if the funds are disbursed as planned. An important aspect of enhancing efficiency is how the funding is disbursed. As Figure 2.13 indicates, Global Fund funding is disbursed primarily through multilateral agencies and NGOs, and it is the issue of fungibility and appropriate capacity to manage funds in the government.

Figure 2.13. Funding from the Global Fund to Fight TB, HIV, and Malaria, 2010–2015



Source: OECE statistics and Global Fund.

Other financiers supporting the Kyrgyz social sector, such as Russia and Turkey, may not have specific transition plans as for GAVI and the Global Fund, but one can expect all donors to prioritize programs that will assist the Kyrgyz Republic in the transition to self-financing of health programs, including efficiency enhancing measures. The capacity-building component of the Global Fund grant and the RBF program supported by the World Bank are examples of external funding to accompany the Kyrgyz Republic in the transition to increased expenditure efficiency and self-financing for health. Many of the efficiency enhancing measures that will be addressed in Chapters 4 and 5 will create additional costs in the transition period to accompany the reorganization, build capacity, generate data, and so on. Well-designed proposals for efficiency-enhancing activities promising significant savings will be most likely to attract additional development aid for health. Keeping track of realized savings will be important to motivate continued funding.

2.4. Reprioritization of health in public expenditure

Another way to increase fiscal space for the health sector is to devote a greater share of public funding to the sector. While there is indeed some room for the health sector to receive a greater share of budgetary funds, the space is limited, as will be seen below. Importantly, claims to increase the share of funding to the health sector need to be considered in relation to basic needs in other sectors; expected socioeconomic return to additional funding in health relative to other sectors; and, importantly, the degree of expenditure efficiency in health. Actions undertaken to improve efficiency can be used to strengthen the case for reprioritization.

Properly targeted health spending is identified as generating very high socioeconomic returns to society and could be used as an argument to increase funding to health but only if it is accompanied by efficiency measures able to generate internal savings in the sector. Properly targeted health spending is identified as generating very high socioeconomic returns to society and typically higher than returns to spending on education or unconditional social transfers. With returns as high as US\$120 per dollar spent to provide universal access to contraception and US\$47 per dollar spent on TB reduction or treating high BP, the health sector presents many opportunities to promote development at low cost.¹⁹ In contrast, public returns to education spending, although still notable, were lower, with the two interventions rated highest being preschool and primary school access. The evidence could be used as an argument to increase funding to health, although, given the results of the efficiency analysis presented in Chapter 1, it would need to be accompanied by serious planning regarding measures to improve allocative and technical efficiency (Chapter 5).

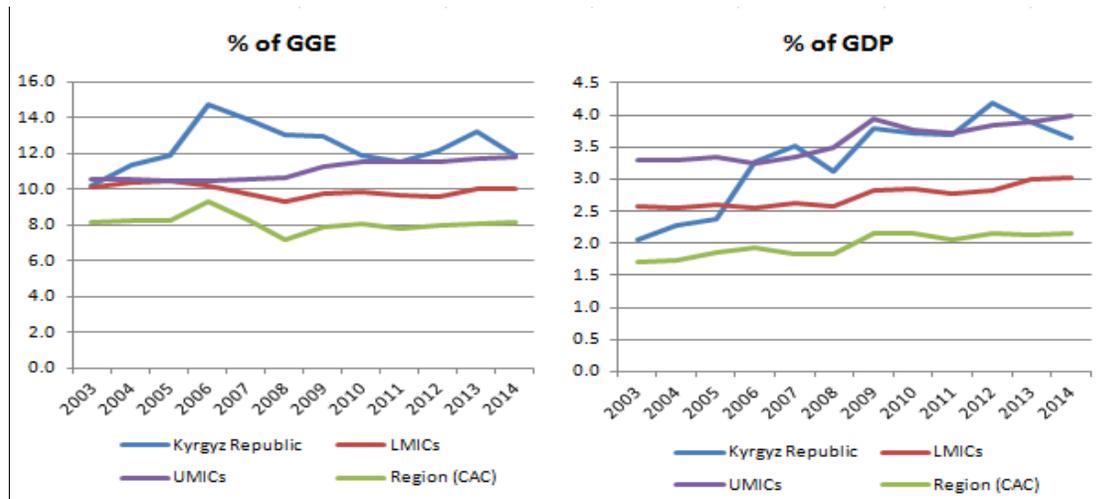
Public health expenditures in the Kyrgyz Republic are already higher than average compared to LMICs and the region. The GHED (WHO) includes data on public spending on health, including both domestic and external funding. Figure 2.14 presents public health expenditures as a ratio to general government expenditure (GGE) and to GDP.²⁰ Both indicators show the Kyrgyz Republic well above the regional average since 2006. On average, between 2011 and 2014, the country spent 12 percent of GGE on health, compared to 10 percent on average in LMICs and 8 percent in CAC countries. In percentage of GDP, Kyrgyz Republic spent about twice as much as the regional average and 1 percentage point more than the LMIC average, on par with the UMIC average of 4 percent. More recent government expenditure and GDP data give an expenditure-to-GDP ratio of around 3.5 percent in 2016 and a ratio of health in GGE of 11.4 percent (10.6 percent using the total of State Budget expenditure from the National Statistical Committee [NSC]).²¹

¹⁹ www.copenhagenconsensus.com (details in Chapter 5).

²⁰ The ratio of public health expenditure (GHE) to general government expenditure (GGE) is normally a good proxy to measure the commitment to health as a public service. It can, however be skewed if some countries do not include external funding as part of GGE. Note that the GHE indicator from the WHO GHED includes all non-private funding and is therefore comparable across countries whether external funding is included on budget or not.

²¹ GHE was calculated including expenditures financed by the MHI and health expenditure of the investment budget, based on figures obtained to calculate Health Sector and Social Protection Project (SWAP) targets. The ratio for 2014 thus calculated was 12.1, close to the figure in the GHED (11.9). One cannot do the calculation using NSC figures because capital expenditure is not identified by sector. Total expenditure in the SWAP target calculation file was smaller than the NSC report in 2016 by 8 percent.

Figure 2.14. Public Health Expenditure Trends vs Income Group and Regional Benchmarks, 2003–2014



Source: GHED (WHO).

There are, however, valid arguments for increasing the share of public funding to health. Beyond averages, there are wide variations across LMICs and the Kyrgyz Republic remains above all countries in the regional group. For example, Moldova, also in the LMIC income group, spent on average 13.3 percent of GGE and 5.5 percent of its GDP on health in 2010–2014. On average, as income grows, GHE tends to increase slightly faster than GDP, implying some reprioritization of health in the budget (assuming that the expenditure-to-GDP ratio does not increase). The elasticity of GHE to GDP calculated above indicates that GHE may increase up to 15 percent faster than GDP growth.

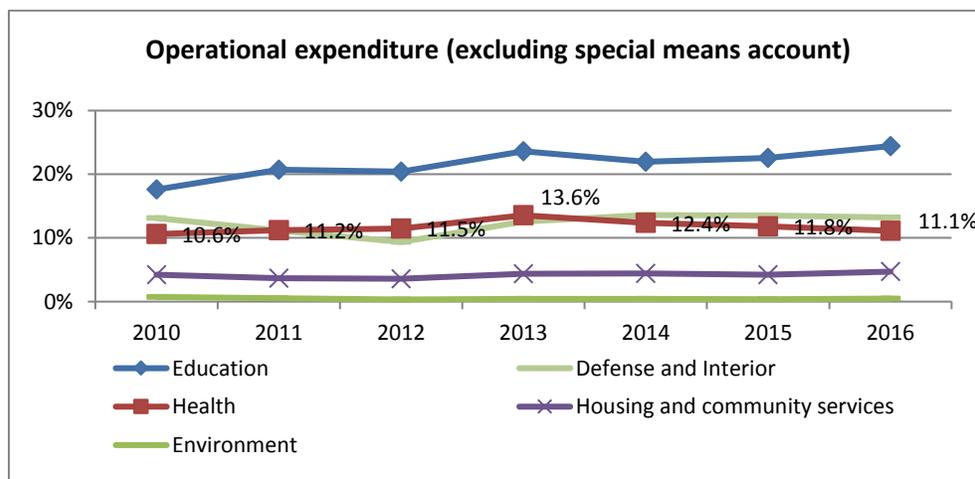
Since 2010, external financing under the SWAP (1 and 2) has been conditional on a spending rule that health would receive at least 13 percent of general budget expenditures, excluding SWAP and limited exceptional expenditure. Under the first SWAP agreement, the proportion of health expenditure in the government budget, excluding investment from external sources, was set to progressively grow to 13 percent by 2010. In 2013, target #1 of SWAP stipulated that “the proportion of consolidated government health expenditures to total consolidated government expenditures should be no less than 13 percent.” The target was to be calculated excluding the external budget support for health under the SWAP and unforeseen expenditures related to a declaration of state of emergency and natural disasters but including Social Fund transfers to the MHIF of receipts under MHI. It was not clear whether external funding under the investment budget for non-health purposes should be included. In effect, only domestically financed investment was used to calculate whether the target was indeed met.

Integrating program codes in the accounting software and assigning a program to all expenditure would help track expenditure trends over time for better decision making. As currently produced, the NSC reports do not allow to track the investment budget (either by source of fund nor by program). Moreover, following expenditures by programs is not possible due to apparent changes in budget lines and responsibilities. A well-designed program budget with appropriate program and subprogram codes will greatly facilitate tracking expenditures by programs to identify priority settings in a more transparent manner without needing to adjust

for administrative changes.²² An analysis of government expenditures from both the State and Republican budgets, as reported by the NSC, reveals important transfers between the investment budget (acquisition of nonfinancial assets) and the economy and between social protection and general public services. Nevertheless, some sectors, including health, have remained stable over time; we focus on these sectors, looking at the share of budgetary means in the operational budget.

Based on past trends in the use of budgetary funds of the operational budget,²³ it may be feasible to rebalance allocations of budgetary funds to health and education so they both get the shares obtained in 2013; that would add about KGS 2.5 billion to the health budget, a 16 percent increase in the health budget, without reducing funding to education.²⁴ The share of budgetary funds to health remained fairly stable in the last 10 years, capturing between 11 and 14 percent of budgetary funds in the operational budget (Figure 2.15). In the meantime, the share devoted to education increased from 18 percent in 2010 to 24 percent in 2016.²⁵ We observe that both sectors received a higher share of the state budget in 2013 than they did in 2016 so the 13.6 percent share of budgetary funds in the operational budget that the health sector received in 2013 (2.5 percentage points more than in 2016) could be used as a feasible benchmark for future prioritization. In terms of fiscal space, this represents a 16 percent increase in public resources for health.²⁶

Figure 2.15. Trends in Government Expenditure by Sector: Operational Budget, 2007–2016



Source: Authors, using NSC figures.

²² Accounting of expenditures using additional program budget markers in 1C (that is, adding a program code with identifiers for program, subprogram, and activity for each line of expenditure) would be necessary to make the expenditure data readily usable for analysis in the future. This is something to keep in mind when designing the program budget; it helps ensure continuity of financing over time according to programmatic needs. It is important to keep in mind that the program, subprograms, and activities are not attached to a specific administration and that subprogram codes may be shared across administration units. The Boost format for expenditure reporting can easily incorporate program categories.

²³ The use of ‘operational budget’ here responds to how the NSC files were translated. Normally, recurrent and operational are used interchangeably, yet investment budget sometimes includes some recurrent funds if funded externally. Thus, the use of operational and not recurrent.

²⁴ We use the operational budget only since the investment budget includes most external funding; we exclude special means account because their use is predetermined by their source.

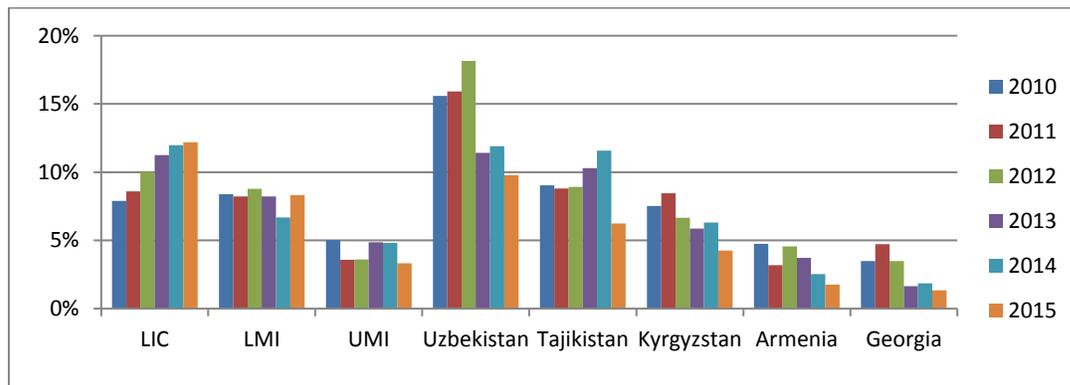
²⁵ The increase, however, still leaves education with a lower share of funds than it enjoyed before 2007.

²⁶ Including special means and the investment budgets, this translates to 12.3 percent of the government budget, compared to the 10.6 percent obtained in 2016.

Potential to increase the share of external funding (ODA) going to health is limited and would decrease with income growth. Funding from external partners is included in the definition of public funding for health so, in addition to increasing the share of budgetary funds going to health, reprioritization may include any potential to increase the share of ODA to the health sector. Considering that the share of ODA to health in LDCs decreases with income and that the Kyrgyz Republic’s income per capita is in the bottom 5 percent of the LMIC range (2016), one would expect the country to attract a greater share of its ODA toward health than the LMIC average. In fact, the share of ODA to health from all donors was about the LMIC average in 2010–2011 at 8 percent but subsequently decreased progressively to reach 4.3 percent in 2015, about half of the LMIC average that year. If the Kyrgyz Republic’s share of health in ODA had been the same as the LMIC average over 2010–2015 (8.1 percent versus 6.5 in the Kyrgyz Republic), the health sector would have received about US\$45 million for health in 2016, close to 10 million (KGS 713 million, using the average 2016 exchange rate).²⁷

This scenario, however, is unlikely. The decreasing share of health in ODA receipts in the Kyrgyz Republic is due to an increase in total ODA rather than a decrease in ODA to health (as seen above). Moreover, all middle-income countries in the region have experienced a declining share of ODA to health (Figure 2.16). In the country group, Tajikistan is the only country where the share of health increased up to 2014 and remained close to the average of its income group. Uzbekistan spends more of its foreign aid on health than the rest of the region and stayed at or above the LMIC average until 2014 but followed the same declining trend as other countries in the region (although Uzbekistan gets much less ODA overall, as seen above). In fact, because health ODA is relatively high in the Kyrgyz Republic in percent of GDP and per capita terms, it is expected to increase slower than the health budget. It is therefore not realistic to expect additional fiscal space from the reprioritization of ODA toward health in the Kyrgyz Republic.²⁸

Figure 2.16. Share of Health in ODA, CAC Countries and Averages by Income Groups (2010–2015)



Source: Data from OECD International Development Statistics, April 2017 update.

Note: The data include net disbursements from all donors (bilateral, Development Assistance Committee (DAC) and non DAC) from the DAC2a dataset and, the health ODA data is from the Credit Reporting System database.

²⁷ The amount would, however, not increase with the total budget over time (as is the case with reprioritization of domestic funds), since total ODA is not expected to increase with growth.

²⁸ We use 2010–2015 averages to smooth year-to-year fluctuations.

2.5. Summary: Budget simulations

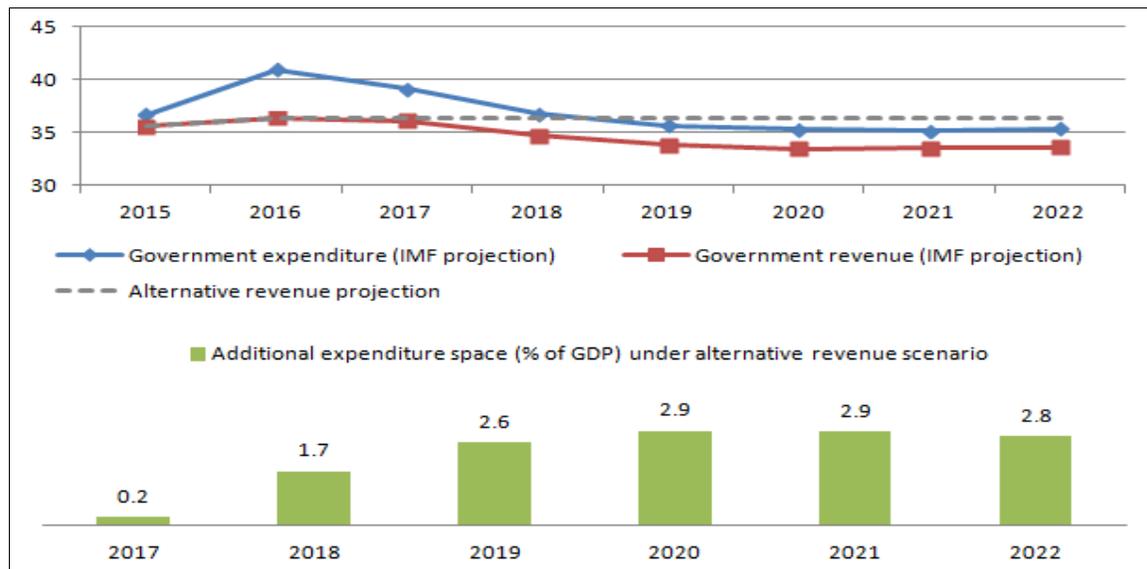
The analysis presented in the previous sections gives the following conclusions:

- IMF projections are neither pessimistic nor optimistic. Growth rates could be higher than currently projected if the country can successfully garner momentum from EAEU membership and continue to improve its business environment. On the other hand, higher world interest rates are very likely and would hamper growth.
- Debt-to-GDP ratios cannot be increased without putting the country on an unsustainable path, so government deficits need to be kept at most at the low projected figures.
- It is unlikely that the Kyrgyz Republic will receive more development assistance overall and to health given current levels and projected growth rates.
- A successful case for reprioritization of health could reasonably claim up to 13.6 percent of budgetary funds for health, 2.5 percentage points more than in 2016. This is equivalent to an increase of 1.7 percentage points in the share of health in the general budget.

Based on the above, one can simulate how much fiscal space the health sector could expect from current and projected macroeconomic situation (status quo scenario). A second simulation is presented to account for potential gains from reprioritizing the budget toward health (on top of the 'status quo'); such gains depend on the ability of the health sector to lobby for a larger share of the budget. The following chapters will examine other channels to obtain fiscal space that may require specific fiscal and legal reforms.

At most, government expenditures to GDP could be 1–3 percentage points higher than predicted while keeping budget deficits at projected levels, assuming that the government can keep its revenue-generating capacity (including external transfers) at 2016 levels. The government increased expenditure about 5 percent of GDP more than was anticipated in 2014, but the increase was nearly compensated by higher revenues. In 2016, government revenues peaked at 36.4 percent of GDP. The IMF's revenue and expenditure to GDP projections anticipate a reduction in both expenditure and revenue to GDP ratio relative to 2016. If the government can keep its revenue-generating capacity at its 2016 levels without hampering growth, one could anticipate an increase in expenditure of 1.7 percent of GDP in 2018 and 2.5–3.0 percent of GDP in 2019–2022 (Figure 2.17).

Figure 2.17. Maximum Expenditure Space under Alternative Revenue to GDP Scenario 2017–2022 (% of GDP)



Source: Authors, using IMF, WEO.

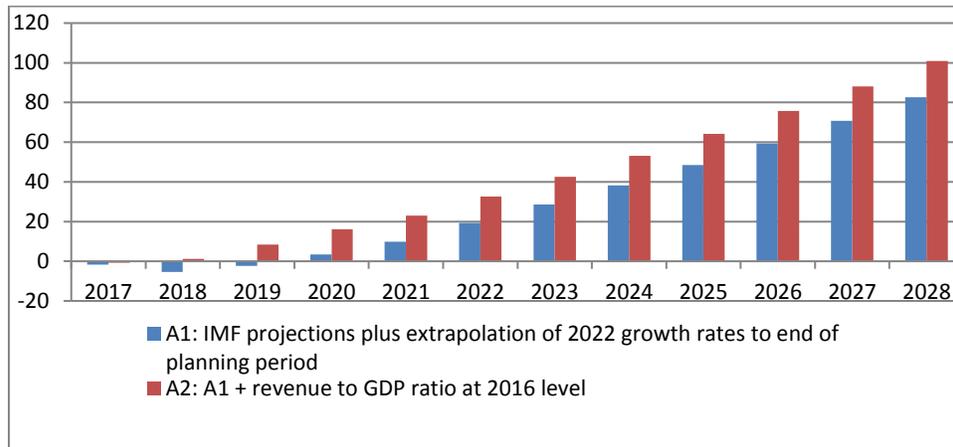
Note: Under the alternative scenario, additional expenditures are calculated to keep budget deficits as in the IMF projections.

We consider a base scenario (A1) that corresponds fully to IMF projections to 2022 and extrapolate linearly to 2028. Scenario A2 also calculates fiscal space from economic growth but assumes, more optimistically, that revenue collection remains at its 2016 level in percent of GDP without affecting projected growth rates. Note that these ‘scenarios’ are not options for the government but maximum fiscal space to be obtained under the stated conditions.

Overall, negative or little fiscal space is to be expected until 2020 but the situation will improve if growth continues as planned. Using the projected growth rates in the IMF World Economic Outlook as an average scenario (neither optimistic nor pessimistic) and taking account of the projected and alternative revenue scenarios above, total government expenditure can be projected to the 2022 horizon in constant value domestic currency; projections beyond 2022 are linear extrapolations assuming that the 2022 growth rate is sustained every year to 2028 (Figure 2.18).²⁹ The IMF projections (A1) reduce expenditures in constant terms in 2017 until 2019 followed by a small increase of about KGS 3.5 billion in 2020 up to KGS 19 billion in 2022 (13 percent more compared to the 2016 expenditure). The alternative scenario with sustained government revenues (A2) allows to return expenditure to the 2016 level in 2018, providing about KGS 8.5 billion of fiscal space in 2019, KGS 16 billion in 2020 and up to KGS 33 billion in 2022 (22 percent increase in expenditure relative to 2016). Assuming that growth continues at the same pace beyond the medium term, expenditures could increase by 55 percent relative to the 2016 level in the base scenario and 67 percent if government revenues can be sustained in percent of GDP.

²⁹ Expenditure and revenue levels are estimated using the NSC figure as a base for 2016.

Figure 2.18. Total Fiscal Space from Growth Projections in Constant KGS (billions, base = 2016)



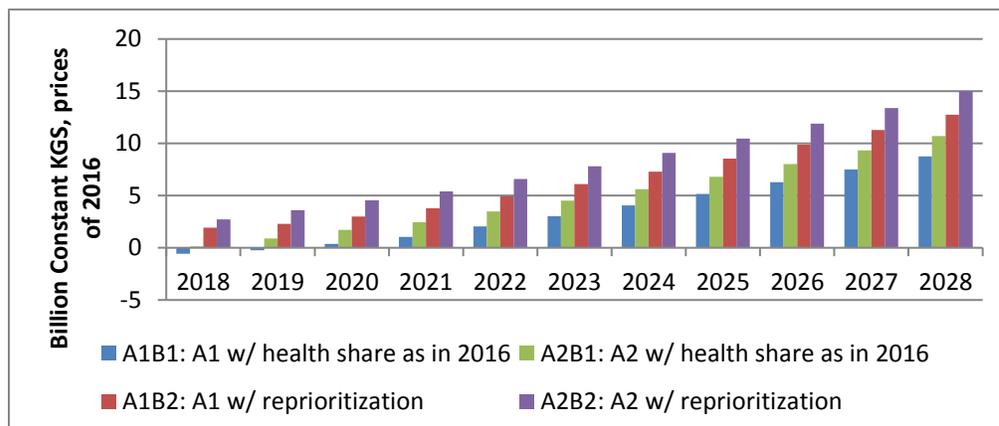
Source: Authors, using IMF, WEO database, and NSC data.

Note: The revenue and expenditure ratios of the IMF give higher numbers than the NSC data on revenue and expenditure of the State budget although the result in terms of deficit-to-GDP ratio is the same. We use the NSC data as a base and apply the same percentage difference for forward projections.

Health expenditure

Predicted growth would bring very limited fiscal space to health in the short run unless public financing can further prioritize the health sector; in the medium run, however, growth as projected could generate up to 28 percent increase in the health budget and an additional 20 percent with successful and continued reprioritization. For the health budget, we also consider two scenarios: B1 keeps the 2016 share of health to total expenditures (10.6 percent using State Budget Expenditure totals from the NSC) and B2 assumes successful reprioritization of health, raising the share of expenditure in the total budget by to 12.3 percent (13.6 percent of budgetary funds). The scenarios are combined with the total expenditure scenarios above and presented in Figure 2.19. GDP growth, as projected by the IMF, will only start bringing positive fiscal space to health in 2020 (less than KGS 0.5 billion). With reasonable amount of reprioritization, however, positive fiscal space may be obtained right away (budget increase of KGS 1.9–2.7 billions in 2018) and grow to a budget increase worth KGS 6–8 billion in 2023.

Figure 2.19. Total Fiscal Space for Health from Growth Projections and Potential Reprioritization (Difference from 2016 Actual GHE)



Source: Authors' simulations.

Note: 2016 GGH used as base for calculation = KGS 16,068 million Real GDP growth of 3.45 percent was assumed for 2017. The A1 scenario is fully based on IMF projections of growth and ratio of government revenue and expenditure to GDP. A2 assumes that the capacity of generating revenue stays as in 2016 in percent of GDP while budget deficits remain as in IMF projections.

Table 2.4. Fiscal Space from Macroeconomic Conditions and Reprioritization, 2019–2022 with Extrapolation to 2028 (in percentage of 2016 health expenditure)

Category	2019	2020	2021	2022	2023 ^a	...	2028 ^a
Potential from macroeconomic conditions							
Base scenario (A1)	-1.5	+2.2	+6.5	+12.8	+18.9		+54.6
Sustained revenues (A2)	+5.6	+10.7	+15.2	+21.6	+28.1		+66.6
(Additional) potential from reprioritization							
Under A1	+15.8	+16.4	+17.0	+18.0	+19.0		+24.7
Under A2	+16.9	+17.7	+18.4	+19.5	+20.5		+26.7
Sector-specific External Funding	0	0	0	0	0		0
Total	+22	+28	+34	+41	+49		+93

Source: Authors.

Note: a. Data to 2022 are based on IMF projections; beyond 2022 the projections rely on linear extrapolation in the absence of other information. Results for 2023 and 2028 are reported here to correspond to medium and long-run horizons set for the report but cannot be used to support policy.

Table 2.4 depicts fiscal space on health from macroeconomic conditions and reprioritization. Conducive macroeconomic conditions could yield, at most, and increase health spending relative to 2016 level, of 5.6 percent in 2019 and up to 28 percent in 2023. Reprioritization of budgetary funds may yield up to an additional 17 percent in 2019 and 21 percent in 2023, whereas no additional funding for health is expected, on average, from sector-specific external funding. In the long run, 2028 extrapolations suggest that, if growth can be sustained, it can become the major source of funding for health and, combined with sustained reprioritization, could potentially double health expenditure by 2029.

3. Potential to Raise Health Sector Domestic Revenues

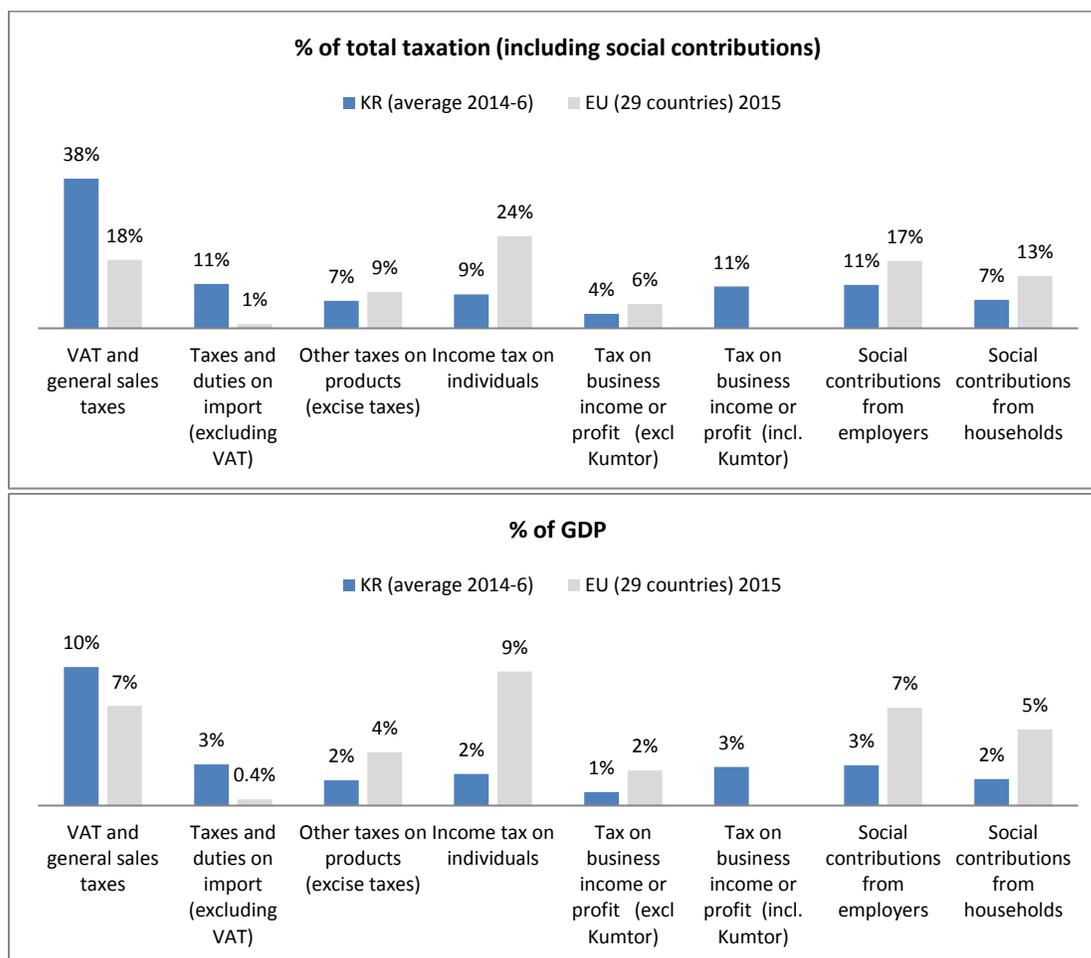
This chapter examines how much fiscal space could potentially be obtained for the health sector through an increase in social contributions, health insurance coverage, and earmarked taxes.

Options to reduce the state responsibility for financing health care are also examined here, since they reduce resource needs but do not relate to efficiency.

The government revenue-to-GDP ratio and tax burden is already relatively high, so room to increase taxes is limited. There are, however, opportunities to increase social contributions, individual income tax, and excise taxes if it can be shown that their increase will have a positive impact on social welfare. At 35.5 percent of GDP in 2015 (using IMF data), the Kyrgyz Republic has one of the highest revenue-to-GDP ratios in the region and has experienced the highest 5-year increase after Tajikistan. Its tax-to-GDP ratio is also relatively high, at 17 percent in 2015. The case to raise new revenues can be made if evidence can be shown that the proposed new tax/social contribution will promote growth and welfare, which would be the case if it leads to significant improvements in the health of the population or a reduction in perceived financial risks.

There is potential to generate more revenues for health in the form of social contributions, conditional on the government's ability to provide more and higher-quality public services. Three types of revenues are lower in the Kyrgyz Republic than the average of European Union (EU) countries, both in share of total taxation and in percent of GDP: direct social contributions, income tax, and excise taxes (Figure 3.1). In percent of GDP, income taxes were one-third of the average EU country and total social contribution was less than half in 2014–2016. When excluding social contributions, the tax burden was close to the EU average (21 percent of GDP in the Kyrgyz Republic versus 23 percent in EU countries) but when social contributions are included, the Kyrgyz Republic's total burden of taxation is significantly lower (26 percent in Kyrgyz Republic versus 35 percent on average in the EU); this indicates that there is potential to generate more revenues for health in the form of social contributions. Implementing such reforms are certainly highly conditional on the government's ability to provide more and higher-quality public services. As for excise taxes, they represent 2 percent of GDP, half of the average level in EU countries, although this is counterbalanced by much higher import duties. New or higher excise taxes may be considered if they can correct significant negative externalities associated with the consumptions of certain goods and possibly replace import duties that may negatively affect growth.

Figure 3.1. Weight of Select Tax Categories, Kyrgyz Republic vs EU Average, 2015



Source: Authors, using data from Government of the Kyrgyz Republic data (NSC, Social Fund) and Eurostat, Tables T5–7.

3.1. Health insurance rates, co-payments, and exemption policies

This section briefly describes Social Health Insurance (SHI) in the Kyrgyz Republic and discusses opportunities to increase fiscal space for health by (a) increasing mandatory social insurance rates, (b) changing incentives to voluntarily purchase SHI, (c) changing rules of co-payments and exemptions, and/or (d) changing the scope of social insurance coverage.

Everyone in the country is entitled to basic outpatient health care (consultations, immunizations, and some basic prescribed laboratory tests) under the State Guaranteed Benefit Program (SGBP) as long as they register with a primary health care provider (Decree #350, 2011.) Funds to pay for the SGBP come from the Republican budget following regular budgetary procedures, so any increases in funds for the SGBP depends on general fiscal space from economic growth, external funding, or reprioritization. If patients are referred to a specialist, however, different co-payments are expected depending on whether the individual is exempt, insured, or uninsured. Exempt individuals receive outpatient specialized services free of charge (subject to referral), insured individuals pay a co-payment, and uninsured individuals or people coming without referral pay the full price according to the official price list (Giuffrida,

Jakab, and Dale 2013, Annex 2). Drug costs are also lower for exempt and insured individuals who, in addition to the Essential Drug Package under the SGBP, get a 50 percent reduction off the baseline price of medicines included in the Additional Drug Package (ADP).

Exempt individuals do not pay for social health insurance; the government covers the costs of their co-payment exemptions using budgetary funds. Insured individuals pay health insurance premiums either indirectly—through social contributions paid by their employer for people employed in the formal sector—or directly—for farmers/landowners based on the amount of land taxes and for self-employed or people in the informal sector who have the option to voluntarily subscribe to the SHI at a cost of KGS 500 a year (as of April 2017). About 23 percent of the population is uninsured nationally and up to 40 percent of the population in Bishkek (MHIF figures from 2012, cited in World Bank, PER 2014). Private insurance is small and is not expected to develop in the country in the medium term.

a. Increasing mandatory contributions to the MHIF

A common strategy to increase domestic funds for health is increasing the country's mandatory social contribution for health. Currently, the employer contribution to health insurance is 2 percent on salaries, and total social contributions summed up to 17.5 percent. Table 3.1 gives some examples of SHI rates in other countries with mixed SHI regimes. The Kyrgyz Republic has the lowest contribution rate for SHI on salaries of the formally employed and the only country in the comparison group of middle-income countries that does not have some tax sharing between employers and employees. This social contribution rate, nevertheless, is considered high in the Kyrgyz Republic in consideration to the government's willingness to improve the business environment and service quality. Discussions with representatives of the Social Fund and the MHIF also revealed a common position that increasing rates of contributions in the formal sector based on salaries or land taxes is not feasible or even desirable in the time frame considered.³⁰ Another issue raised in the interviews is based on an imbalanced picture emerging from the comparison of average contributions and average benefits per individual in the different categories of exempt or insured individuals.³¹ For instance, in 2016, salaried workers contributed (through their employer) close to 5 times the amount spent on them—employers' contributions made up 82 percent of the pooled funds of the MHIF (including funds from the budget) while formally employed individuals benefited 19 percent. Such a situation, however, is fully expected; all social insurance systems work through pooling and cross-subsidization between less vulnerable to more vulnerable groups.

³⁰ Discussions with stakeholder from the MHIF also indicated strong interest in analyzing the possibility of increasing social insurance rates but further discussions revealed that the rate increase suggested had to do with payments from the Republican budget calculated per exempt person to cover expenditures of the MHIF in the exempt categories. Since these come from budgetary funds, fiscal space to increase these "rates" can only be found through channels discussed in chapter 2 (economic growth, external funding, and/or reprioritization of health in the budget). There are some efficiency issues related to the way these funds are merged with SGBP funding and not included as part of health; they are discussed in Chapter 4.

³¹ "Benefits" here are measured as MHIF expenditure on their behalf based on case data shared by MHIF

Table 3.1. SHI Contribution Rates, International Comparison

Country	Income group	Program	Contribution level (% of wage or minimum wage)
Estonia	HIC	SHI program	Employee and self-employed: 13%
Colombia	UMIC	Contributive Regime	Employee and self-employed: 12.5%. For employees, split between employer (8%) and employee (4%). Cap at 20 times the legal minimum wage.
China	UMIC	Urban Employee Basic Medical Insurance	Urban employee: 8% (employer 6%, employee 2%)
Dominican Republic	UMIC	Contributory Regime	Formal employment 10% of salary (7% from employer, 3% from employee). Cap at 10 times the legal minimum wage.
Vietnam	LMIC	SHI program	Former sector worker, civil servant: 4.5% (3% employer, 1.5% employee); meritorious, poor: 4.5% min wage, paid by the state
Philippines	LMIC	PhilHealth	Former sector worker, civil servant: 3% (1.5% employer, 1.5% employee)
Kyrgyz Republic	LMIC	MHI	Formal sector worker and civil servant: 2% (paid by employer); farmers 5% of land tax; pensioners, registered unemployed 1.5% of minimum wage paid by the State (budgetary funds)

Source: Bitran 2014 (for China, Columbia, Dominican Republic); Joint Learning Network 2016 (others).

The analysis finds that a feasible increase that could provide additional fiscal space for the MHIF concerns the contribution rates charged on formal sector employment, either an increase in the 2 percent rate or a small payroll tax to be paid by the employee. Together, receipts from contributions from the self-employed organized agricultural sector and farmers together constituted less than 4 percent of total contributions in 2015 (Table 3.2) and about 3 percent of total pooled funds of the MHIF. Thus, increasing the rate on either category would make very little difference to total receipts, be difficult to implement, and potentially encourage underreporting of revenues. As a result, targeting formal (public and private) employees has more potential to generate more resources.

Table 3.2. Percentage Contributions to SHI by Insured Categories, 2015

Category	Percent of SHI contributions 2015
Private sector employment	56.5
Public sector employment	39.6
Organized agricultural sector	0.2
Farmers/peasant farms	1.3
Self-employed (outside of agriculture)	2.3
Other (preferential rate)	0.1

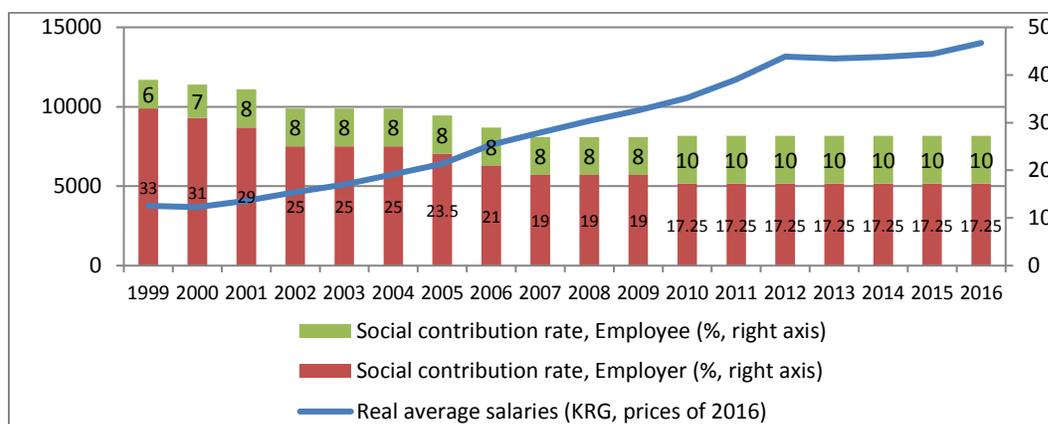
Source: Social Fund, executed budget.

When considering implementing such an increase, it is important to note that changes in social contribution rates are not expected to have an impact on informality. The share of informal workers in total employment in the Kyrgyz Republic was estimated to be around 70

percent in 2011, 55 percent in urban areas, and up to 77 percent in rural areas.³² This is a significant share and, although the proportion of uninsured people is much lower (about 30 percent), it still constitutes a problem in terms of attaining universal coverage. In terms of fiscal space, increasing contribution rates on formal sector workers may encourage employers to not declare their employees (or employees to ask their employer to not declare them), thereby increasing informal employment and decreasing insurance coverage. This situation is not likely to be an issue in the Kyrgyz Republic for the following reasons: first, informal employment contribution to nonagricultural GDP, estimated just under 20 percent in 2012, is much lower than its estimated share of employment (NSC data, quoted in ADB 2014); second, the weight of informal employment in the economy does not appear to be sensitive to changes in social contributions rates. Between 1999 and 2006, social contributions from formally employed people decreased progressively 10 percentage points (from 39 to 29 percent of salaries); during the same period, informal employment’s estimated share of GDP went up about 6 percentage points (from about 13 to 19 percent of nonagricultural GDP in 2006, stable after 2006).

Small increases in social contribution rates are not expected to have a significant effect on salaries. When social contribution rates stopped decreasing altogether in 2007 (2010 for employers contributions), real salaries continued to increase at the same rate as before until 2012 (Figure 3.2). The leveling of real salaries after 2012 cannot be attributed to social contribution rates since the last change was in 2010. Although contrasting the two series is not sufficient evidence to show independence, it is clear that other factors are much more important than social contribution rates in determining average salaries.

Figure 3.2. Real Monthly Salary Average in Kyrgyz Republic and Social Contribution Rates, 1999–2016 (Constant KGS, prices of 2016)



Source: NSC (average monthly wage), IMF (Inflation rate).

Note: The 2016 figure is calculated excluding the December average, which was not available at the time of this report.

The evidence above suggests that there is indeed some room to increase social contribution rates from the formal sector whether from employers, employees, or both. Such rate increases, however, would be difficult to argue politically unless they are accompanied with improvements in efficiency as will be addressed in Chapters 4 and 5. Better quality of health

³² The informal economy, as defined by the NSC of the Kyrgyz Republic, includes illegal activities, legal activities deliberately concealed from the authorities (to avoid taxes), and legal activities conducted by unincorporated enterprises in the household sector, which tend to be unregistered or very small (ADB 2014).

care in public facilities, in particular, would be expected. In addition, the measure may need to be accompanied with some changes in current rules that may be considered ‘unfair’ given the higher level of contribution from salaries. For example, one could guarantee employees who lose their jobs continued coverage for one year after termination of their contract, regardless of official unemployment registration, and possibly subject to having contributed to the SHI for certain period before losing gainful employment. Another option is to harmonize co-payment rules for exempt and insured individuals so that people who contribute financially receive at least the same coverage than those who do not. The cost of such measures would need to be estimated in relation to the gains from increasing social insurance contribution rates.

Implementing an employee’s contribution to social insurance—for example, a 1 percent payroll tax to be added to the 10 percent individual contribution for pensions—is likely more feasible and could bring more resources into the sector than an equivalent percentage point increase in the employer’s share of the contribution. A 1 percentage point increase in employer’s contribution to be added to the current 2 percent rate would (a) reverse the downward trend in employee’s contribution that was considered desirable to improve the private business environment and (b) increase the government wage bill. It is important to not increase the government wage bill for two reasons. First, under Article IV consultations, the IMF recommends reducing the government wage bill. Increasing social contributions from employers would in fact increase the wage bill since social changes are included as personnel expenses. Second, aside from its effect on the wage bill, an increase in personnel expenditures for the government would reduce budgetary funds available for the health sector and more so for non-salary expenditures, so the net increase in fiscal space would be significantly reduced. These undesirable effects would not occur—and the full amount of the contribution would constitute an increase in fiscal space for the MHIF—if the 1 percent rate increase is imposed as a payroll tax on employees.³³ The fact that employees already pay a 10 percent social contribution ensures that the tax would not be costly to implement. Such increase, nevertheless, is likely to be politically difficult to implement and would require careful planning and consultation.

Given the 2016 distribution of insurance premiums receipts from the Social Fund, a 1 percent contribution from employees of the formal sector would generate close to KGS 1 billion of additional funds for the MHIF, a 48 percent increase in non-budgetary MHIF funds and a 6 percent increase in total public funds for health. In 2016, the MHIF received KGS 1,675 million from the 2 percent MHI contribution based on salaries. An additional 1 percent contribution would thus bring up to KGS 838 million given the 2016 salary and employment levels. Given the 2016 distribution of contributions for MHI by population groups, a 1 percent payroll tax on all salaries (public and private formal sector) would thus increase the total amount of funds that the MHI receives from social contributions by 48 percent. Taking Social Fund estimates of total contributions for 2017 and assuming similar shares, additional receipts from the payroll tax would amount to KGS 999 million or a 6.2 percent increase in public funds for health compared to the 2016 expenditure. As indicated above, such rate increase is not expected to affect employment and salary levels, but employment and salary levels will affect the amount of resources available for the health sector after the rate increase. Using GDP per capita growth projections with the assumptions described in Chapter 2, the measure would generate an additional 6.6 percent to the health budget in 2019 (KGS 1.06 billion), 7.6 percent in 2023 (KGS 1.21 billion), and 9.2 percent in 2029 (KGS 1.48 billion).

³³ Assuming, realistically, that gross wages in the public sector are not fully flexible.

Expanding voluntary insurance may be considered another possibility to increase domestic health revenues, but it does not appear to be an option that could bring significant fiscal space to the system, although changes can help achieve Universal Health Coverage (UHC). In the Kyrgyz Republic, voluntary participation in SHI constitutes a negligible portion of MHIF revenues. According to the law one can sign up for the SHI at the cost of KGS 500 for one year coverage (as of April 2017) at any time and get immediate coverage, so people signing up voluntarily for SHI are in fact people who already know that they will have to disburse more than KGS 500 because of a condition they currently have. This cannot be considered insurance or prepayment but subsidization of medical costs and its purpose is more likely to reduce the incidence of catastrophic expenditure on uninsured individuals. Changing this rule to include a legal delay between payment and effective coverage would transform the subsidy into an actual prepayment mechanism. Individuals will consider buying the insurance to insure themselves against the risk of future health costs. This would be an important step to introduce the notion of voluntary insurance in the Kyrgyz Republic. With improvement in service packages and/or quality of public health services, this may become an attractive option in the future. In addition, the option effectively reduces the advantage of being insured through the regular MHI system.

b. Changes in the scope of the benefit package

Increasing the scope of a benefit package combined with better communication and enrollment outreach can potentially influence enrollment in the SHI scheme. This has been shown for example in Turkey with the Green Card scheme being extended to outpatient care in 2004 and outpatient drugs in 2005 while enrollment in the scheme went from 4 percent to 11 percent of the population (Mathauer et al. 2016). The attractiveness of the package would also make formal employment more attractive.

Adopting different benefit packages for different population groups may be advisable while fiscal space is constrained. Bitran (2014) recommends differentiating benefit packages across population groups. First, he argues that similar benefit packages across groups provide perverse incentives to misrepresent income or encourage informality. Second, offering the same benefit package to all is either too expensive for a country subject to important fiscal constraints if the package is generous for all or very unattractive to the non-poor if the package is too modest. China, the Dominican Republic, and Mexico have designed their social insurance system so that different population groups receive different levels of benefits. In the Kyrgyz Republic, the benefit package is in fact smaller for nonexempt insured people than for the exempt population (for outpatient specialized services) and is the same for regularly insured individuals as for those who voluntarily purchase their right to SHI when they face sufficiently high expenditures.

c. Extending coverage beyond employment periods

Changes in rules for social contribution and length of coverage may encourage firms and individuals to enter the formal sector. As seen earlier, employees in the formal sector lose their coverage if they are no longer employed. Beyond the issue of fairness raised above, changes in the rule could have a significant effect on reducing informality (providing fraud control), especially in sectors subject to seasonal employment. Small enterprises that operate during limited seasons may employ workers informally in agreement with the employee (in exchange for slightly higher pay) because contributions are large relative to the time of coverage (since coverage stops when employment terminates). In Greece, the number of days of contribution

necessary to receive coverage for one year was reduced for people employed in seasonal occupations, allowing people working short but intensive summer seasons to receive benefits all year.³⁴ Such changes, while they involve costs, since more people are covered, also encourage workers to prefer formal employment and therefore enlarge the contribution base. Given the ratio of contributions to expenditure for people in the formal sector, such a practice has the potential to generate large net benefits, although estimates cannot be provided here.

d. Co-payments and exemptions

Expenditures of the MHIF on behalf of exempt categories could be reduced while improving the distribution of benefits toward the poorest and most vulnerable categories. The current system of exemptions is targeted to (a) special socioeconomic groups regardless of income (children under 5 years, World War II veterans, pensioners 75 years or older, victims of the events of 2010 and their families, the disabled) and (b) people with certain medical and disease conditions.³⁵ There are also exemptions based on poverty but these are granted at point of care (hospital), the rule for such exemptions is not clear, and the funding needs to come from a 10 percent reserve fund from co-payment received. The difficulty of assessing eligibility and the scarcity of funds at hospital levels are disincentives to apply the ad hoc exemption. Taken together, the system of exemption is not pro-poor. Using data from KHS 2010, Jamal and Jakab (2013) found that about “45 to 50% of quintiles 1 to 4 are eligible for co-payment exemption with a slight decrease to 39% for quintile 5.” Shifting the system of co-payment exemptions so the poor are specifically targeted and fully covered ex ante (for example by granting co-payment exemptions to welfare beneficiaries) while co-payments are reinstated for some exempt categories based on ability to pay may reduce the total cost of exemption coverage while improving equity.

As long as fiscal space is severely constrained, it may be necessary to reintroduce some co-payments on exempt categories, based on ability to pay. The 2014 Health PER included two suggestions in that regard: a selective reintroduction of co-payments for children, pensioners, and pregnant women (co-payments that were removed in 2006) and self-financing of dental and balneology services. These are categories for which participation in co-payment could be reintroduced based on ability to pay and have the most potential to generate significant savings for pensioners and, to a lesser extent, children. In 2015, MHIF payments on behalf of pensioners was KGS 72.1 million or 40 percent of total co-payments covered by the MHIF; for children it amounted to KGS 30.7 million or 20 percent of the total. Given the estimates of population 75 years or above (exempt pensioners) and under 5 years (exempt children), these represented KGS 713 per exempt pensioner and KGS 74 per child under 5.

All these measures involve some costs and benefits in the short and medium term and depend on specific designs of the reforms. It is not possible here to quantify potential fiscal space from implementing the suggestions on reviewing scope of benefit packages and periods of coverage and/or changing rules on co-payments and exemptions. Nevertheless, the options may be considered and benefits are expected to be greater than costs, including benefits in terms of distributional impact.

³⁴ Applies to unemployment benefits but the logic is the same for the SHI.

³⁵ Information on exemption rules are from Giuffrida, Jakab, and Dale (2013).

3.2. Innovative taxation of income

Innovative taxation of income specifically introduced to finance health care has worked in other countries to increase domestic revenues and may be feasible in the Kyrgyz Republic.

Earmarking any portion of the existing tax revenue would not generate additional revenue or more stable revenue for health. There are, however, some examples of successful earmarked broad-based taxes when these are specifically introduced and are recognized by the public as corresponding to an urgent need or well-identified public health objectives. Two examples from France's generalized social contribution and the Zimbabwe AIDS levy are presented in Box 3.1. In France, the Generalized Social Contribution (*Contribution Sociale Généralisée*, CSG) complements revenues from mandatory social contributions. In effect, non-salaried people who receive income but do not contribute through MHI contributions were asked to contribute. The CSG is imposed on revenue from all activity at the rate of 7.5 percent of most nonfinancial income and 8.2 percent on capital income.

The option of implementing a CSG like in France may be considered in conjunction or (partial) replacement of a social contribution on employees. France is currently preparing a law that replaces social contributions on payroll with an increase in the CSG rate for all. The increase in the rate will open rights to unemployment, pension, and health benefits to all individuals regardless of their employment status. The receipts from the CSG are transferred to the health sector exactly as payments of social contributions to the Social Fund are transferred to the MHIF. The advantage of this option is that all individuals paying income taxes are subject to the contribution and that non-salary income such as financial revenues or self-employment revenues are also subject to the tax. Rates can be adjusted or exemptions granted to guarantee some progressivity and adjustments could be made for individuals with incomes subject to high variability across years.³⁶

Box 3.1. Examples of Broad-based Contributions for Health

France's Contribution Sociale Généralisée

The CSG in France was instituted in 1991 to complement revenues from mandatory social contributions in a period when the French equivalent of the MHIF could no longer cover costs. In effect, non-salaried people who receive income but do not contribute through MHI contributions were asked to contribute. There are still legal disagreements on whether the CSG is considered a tax or a social contribution, but it is likely that it will be soon declared a social contribution on the base that people who do not legally have access to social services including health care on the base of residence will not have to pay the contribution. The CSG is imposed on revenue from all activity at the rate of 7.5 percent of most nonfinancial income (replacement income such as unemployment benefits and pensions benefit from a reduced rate and student income is exempt) and 8.2 percent on capital income. About two-thirds of the contribution is deductible from income taxes. Depending on the source of income, it may be deducted at the source (for financial gains) or a posteriori based income tax returns. Currently, the government is reviewing the CGS to replace mandatory social contributions paid by employers and employees for health and unemployment benefits.

Zimbabwe AIDS Levy

The AIDS Levy in Zimbabwe, set up in 2000 as a 3 percent flat tax, is paid by individuals and companies on the basis of the amount of their income/profit taxes. The AIDS Levy, still in place, is still considered a very

³⁶ Given that in the Kyrgyz Republic, the personal income tax rate is flat, this is, however, not likely to occur in the medium run.

successful tax that has allowed Zimbabwe to move away from heavy dependence on foreign aid for HIV/AIDS prevention and treatment, with predictable and secure funding that allowed the country to make significant progress in fighting the disease. The option may be considered in the Kyrgyz Republic as the country is transitioning to self-funding for the prevention and treatment of TB and HIV/AIDS. It could be established as a temporary tax to be removed once the country reaches a given disease reduction target. For such a levy to work, the population needs to perceive these issues as immediate health threats.

In general, the revenue from income taxes is anticipated to be larger for an equivalent percentage tax on employees. In the Kyrgyz Republic, given that personal income tax receipts in 2016 were KGS 10.6 billion for a tax rate of 10 percent, the new 1 percent tax would generate just over KGS 1 billion, only 8 percent more than the 1 percent social contribution on employees and 0.5 percent more in relation to the health budget.³⁷ Table 3.3 compares fiscal space that could be obtained with a 1 percent generalized contribution based on income tax returns and a 1 percent payroll tax on employees. The difference between the two is not large quantitatively but significant in terms of political feasibility and potential secondary effects.

Table 3.3. Fiscal Space Projections: 1 Percent Payroll Tax vs 1 Percent Generalized Contribution (%)

Projected increase in resources for health (Base 2016) from additional:	2017	2019	2023	2028
1 percent payroll tax on employee (MHI)	6.2	6.6	7.6	9.2
1 percent generalized contribution on income	6.7	7.1	8.2	9.9

Source: Authors.

Note: Projections take account of real per capita income growth (IMF). The marginal increase is assumed to have no significant effect on salary levels, informality, and income tax reporting.

3.3. Excise taxes on tobacco, alcohol, and possibly sugary beverages and fatty foods

Increasing and expanding taxes on harmful consumption goods can raise additional revenues while reducing future health costs and complying with tax harmonization rules of the EAEU. The issue of driving fiscal space from excise taxes in the health sector was considered as most promising in the stakeholder’s meetings in the preparation of this report so the issue is examined in depth. Most common excise taxes on harmful goods or ‘sin taxes’ include taxes on tobacco, alcohol, sugar, and fatty foods. Such taxes are recommended not only as a way to raise government revenues but also because they have the potential to decrease future health expenditure and promote economic growth through their positive effects on health, assuming that the tax is high enough to affect consumption. The country will very likely be subject to continued pressure to raise and expand sin taxes on the part of EAEU states and some neighboring countries where excise taxes on tobacco and alcohol are on the rise. Russia is also considering expanding sin taxes to other goods with high sugar and fat content such as sugary beverages, palm oil, and potato chips.³⁸ These taxes can bring the same double dividend as taxes on cigarettes (that is, both increase revenues and decrease health expenditure) and should be considered for their own sake. The analysis in this section will examine tobacco taxes in detail; benefits from other sin taxes will be addressed briefly and roughly evaluated with regard to experiences of other countries.

³⁷ Taxes are withdrawn at the source in the Kyrgyz Republic, which would explain the result if people who do not receive salaries do not file income tax and if non-salary sources are negligible or not reported.

³⁸ See “Russian Government to Introduce Tax on Sugar and Palm Oil”. The Moscow Times, February 5, 2016.

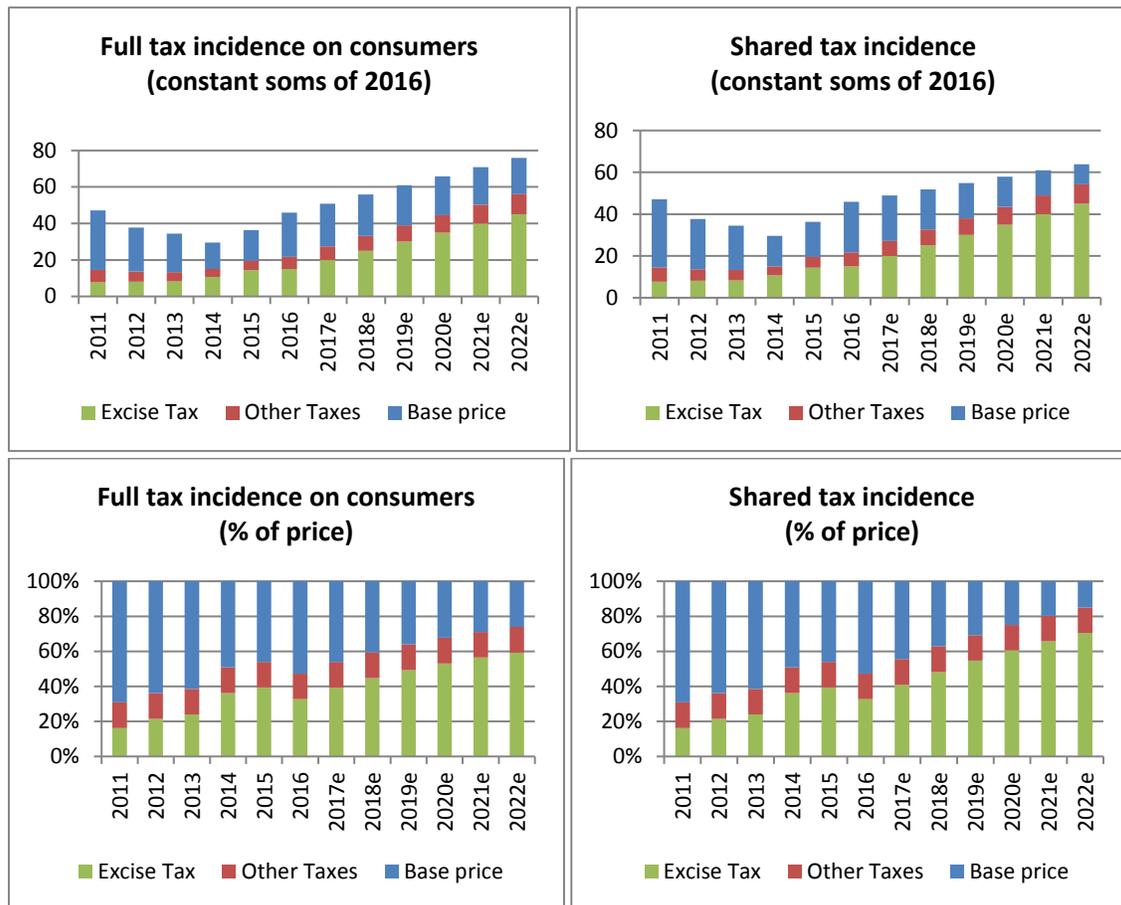
While earmarking sin taxes to specific health programs has proven effective in other countries, the option is only recommended if there are credible risks that prevention programs will be underfunded in budget decisions, or if existing programs have suffered from irregular funding. It can be argued that receipts from excise taxes on tobacco, alcohol, or other products harmful to health could be used to strengthen non-price-based tobacco and alcohol control programs or other preventive treatments against NCDs, as has been done in other countries. A 2016 study on earmarking tobacco taxes by the WHO concluded that eight of the nine countries studied “saw benefits in having a predictable, secure source of funds for long-term interventions” and “the small fraction of the general health budget earmarked for preventive programmes like tobacco control did not disrupt fiscal discipline or create undue rigidity.”

In all the countries studied, earmarking was only applied to a portion of the excise tax revenue. Earmarking, however, is not a necessary condition for the implementation of such taxes since they already generate health benefits through demand response, independently of non-price-based preventive interventions. The benefit from earmarking generally put forward in discussions is that “it can ensure a continuous, regular source of funding for programmes that is not subject to annual budgetary review” (WHO 2016). However, in terms of fiscal space and assuming that priorities are efficiently set in establishing budgets every year, the greatest benefit of earmarking comes from the fact that public support for a given tax is significantly easier to obtain if additional revenues are guaranteed to be directed to public health programs (Vardavas et al. 2012; WHO 2016).³⁹

Aside from improving public support for the tax, the extent to which earmarking is done does not affect the health budget overall, which is determined by the priority given to health in the national budget and to the priority given to specific health programs in the health budget. Whatever the health sector receives from the excise tax (or any other tax) through earmarking reduces the funds it receives from general sources, unless a higher target is set for the health budget (reprioritization). Since reprioritization of health does not depend on whether specific taxes are earmarked or not, it is important to focus on the potential to generate additional revenues for the budget overall; this may include the option of earmarking if it helps generate additional revenues, as noted above. Indeed, what matters in the end is the share of all revenues that go to health, which depends on space for reprioritization examined in Chapter 2.

³⁹ Vardavas et al. (2012) found that popular support for an increase in tobacco taxation in Greece was significantly higher when the proposed tax was to be earmarked to health care and tobacco control expenditure. The increase in support was the same across SES and income levels.

Figure 3.3. Average Price and Share of Excise Tax in Filter Cigarettes, Actual 2011–2016 and Forecast 2018–2022



Source: Authors, using the NSC and WHO (2015).

Note: Full tax incidence on consumers (left panels) implies that the price increases by the amount of the tax. It assumes that demand is perfectly inelastic to price. This is not the case (we estimated the price elasticity at 0.54 for the Kyrgyz Republic, see below) and if it were, would fully undermine the purpose of the tax since it also implies that cigarette consumption would not decrease. The shared tax incidence is based on 60 percent tax burden of the consumer. Actual tax incidence is likely in between.

Tobacco taxes can and should be raised. Recent changes to tobacco taxes and planned increases to 2022 are moving and will move the country closer to recommended best practices, but the Kyrgyz Republic could go further in increasing rates and/or indexing changes to inflation or GDP per capita growth. Recommended best practices for tobacco tax administration include a simple tax system that does not differentiate between tobacco products, with at least 70 percent excise tax share in final consumer price (WHO 2011).⁴⁰ Since 2009, the structure of tobacco taxes has become simpler in the Kyrgyz Republic. As of January 2017, all filtered and unfiltered cigarettes are subject to the same tax of KGS 1 per cigarette or KGS 20 per pack, regardless of their price. This brings the excise tax to about 40 percent of the average retail price of filtered cigarettes in 2017. The planned increase of KGS 5 per pack every year between 2018 and 2022, signed as Law No. 65, April 18, 2017, could bring the excise tax to 60 percent of the

⁴⁰ Later documents from the WHO use a slightly different benchmark at 75 percent of total price but the figure may include taxes other than excise tax such as value added tax (VAT) or import duties.

retail price assuming there is no change in the base price (so the full tax is passed on to consumers) and up to 70 percent if the tax burden is shared (Figure 3.3).⁴¹

When planning excise taxes, looking at the tax share in price independently of the relative price level may lead to suboptimal decisions; what matters is the reaction of quantity consumed to price. In the simulation presented above (Figure 3.3), it is obvious that the smaller increase in price leads to a higher share of the tax (70 percent of the price by 2022) but the lower price is in fact less desirable given that the goal is to discourage consumption. Such a situation was also noted in WHO (2015) as ‘paradoxical’. Because the final goal is a reduction in consumption, one should not measure the effectiveness of tobacco taxes using the tax share in price (relative to the often cited 70 or 75 percent benchmark) without considering its effect on the total volume of consumption. In fact the 70 or 75 percent rule needs to be accompanied with a condition of increasing real prices. This is particularly relevant for the Kyrgyz Republic where, as shown in Table 3.4, the relative price of cigarettes is still very low.

Table 3.4. Regional Comparison of Prices and Share of Excise Tax on Most Sold Brand of Cigarettes, 2014

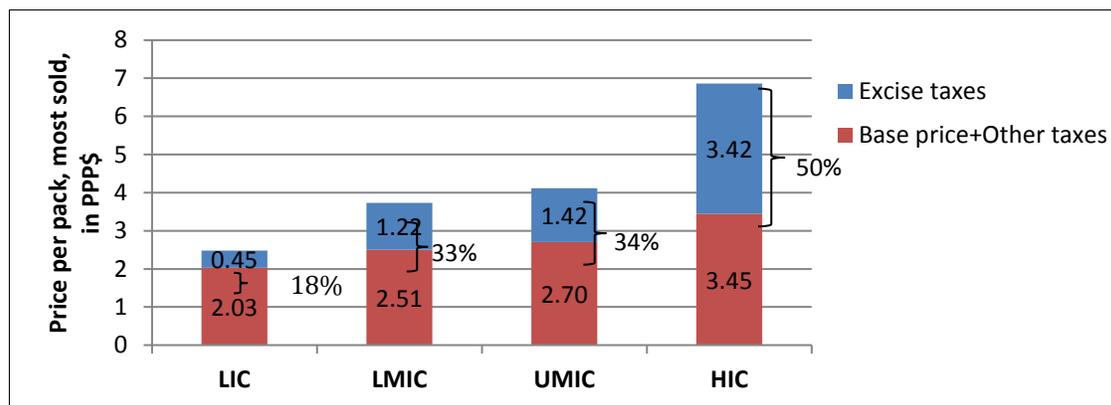
	Price in US\$	Price in PPP\$	Share of excise tax in price
Russia	1.88	2.42	39.2
China	1.62	2.33	15.1
Armenia	1.48	2.74	33.4
Belarus	1.41	2.80	51.2
Kazakhstan	1.15	1.42	39.3
Tajikistan	1.01	2.26	18.0
Uzbekistan	0.94	1.92	32.6
Kyrgyz Republic	0.68	1.42	26.7
Average EAEU and neighbors (excluding Kyrgyz Republic)	1.36	2.27	32.7

Source: Authors, using the Global Health Observatory (GHO) database (WHO) May 2017.

Considering prices of tobacco products in the Kyrgyz Republic relative to other countries in the same income group and other countries in the region in 2014, there was ample room to increase tobacco taxes beyond what was done. In 2014, using GHO data (WHO), the price on most-sold brand of cigarettes in the Kyrgyz Republic was the lowest in the region in 2014 (including all EAEU and neighboring countries) in nominal terms (Table 3.4). In PPP terms, the Kyrgyz price was also lowest on par with Kazakhstan. Finally, the share of the excise tax, at 26.7 percent of the retail price stayed below the average of the EAEU and neighboring countries. The same conclusion is reached when comparing the Kyrgyz Republic to LMICs. The PPP price of cigarettes clearly increases as income increases (Figure 3.4); in LMICs, the average US\$ PPP price of the most-sold brand of cigarettes was 2.6 times higher than in the Kyrgyz Republic and the excise tax share in the retail price averaged 33 percent (Figure 3.4).

⁴¹ We assume a minimum 60 percent tax incidence on the retail price (that is, producers bear 40 percent of the tax).

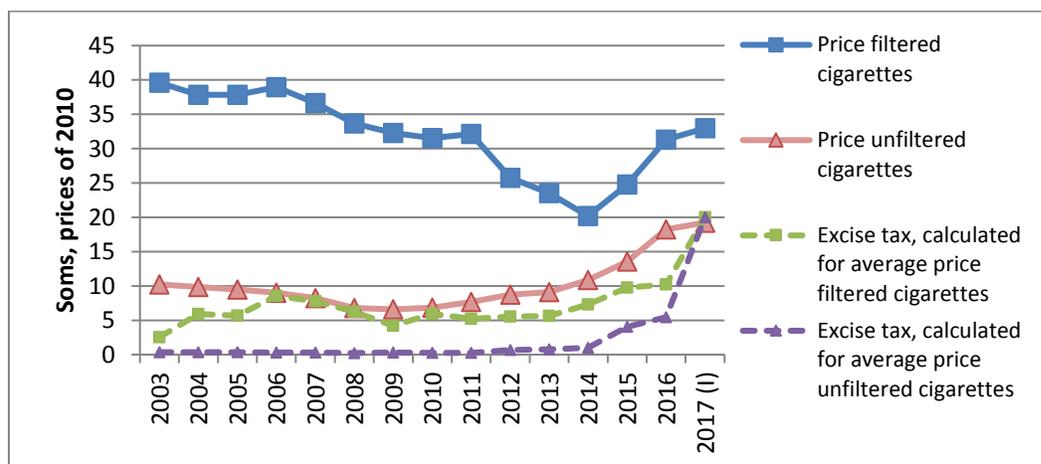
Figure 3.4. Average Retail Price (Most Sold) and Share of Excise Taxes by Country Income Level, 2014 (US\$ PPP)



Source: Authors, using the GHO database (WHO).

In the Kyrgyz Republic, while historical data show price decreases concurrent with increases in cigarette taxes, more recent data show that prices have started to increase commensurate with tax increases. Between 2003 and 2014, the relative price of cigarettes was cut in half while the excise tax increased from about 6 percent to 17 percent of the average retail price (Figure 3.5). The trend reversed in 2014 when the increase in the price of cigarettes approximately reflected the tax increase. Between 2014 and 2016, the average price of filtered cigarettes increased 66 percent while the price of unfiltered cigarettes increased by 80 percent on average.

Figure 3.5. Average Price of Cigarettes and Excise Tax per Pack 2003–2017 (in constant KGS, base = 2010)



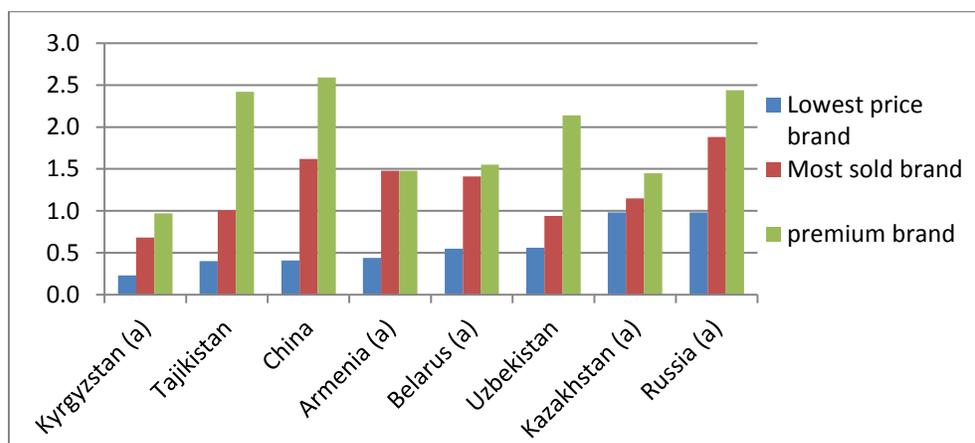
Source: Authors, using NSC data and summary tables in WHO (2015) based on the Kyrgyz Republic Legislation Database.

Note: The trend is similar using price as a share of GDP per capita, indicating that the series in real prices also represents average affordability. The average tax per pack is calculated using the current average price of filtered cigarettes and subsequently adjusted to constant prices.

There is room to increase tobacco taxes beyond plans without motivating smuggling into the country; on the other hand, smuggling out of the country is likely to decrease. The issue of smuggling is often used as a reason to not increase tobacco taxes, but price comparisons indicate that smuggling would more likely be out of the Kyrgyz Republic rather than into the

country if tax increases remain as planned. In 2014, the Kyrgyz Republic charged the lowest nominal price for all categories of cigarettes (Figure 3.6). In fact, it was estimated that at least 2 billion cigarettes were smuggled out of the country in 2014 out of the 7.1 billion sold (WHO 2015). Despite the price increase since 2014, the Kyrgyz Republic was still the country with the lowest price for premium brand cigarettes in 2016 (Table 3.5). While the difference with Kazakhstan is not large, it corresponds to an additional tax of about KGS 350 per 1,000 cigarettes, more than the effective increase of KGS 250 enacted in January 2017.

Figure 3.6. Cigarette Prices in the EAEU and Neighboring Countries, 2014 (US\$ per pack)



Source: Authors, using the WHO GHO data.

Note: (a) Current EAEU member states.

Table 3.5. Price of Marlboro Brand Cigarette Packs in the EAEU and Neighboring Countries, 2016

	Price per pack of premium brand (US\$)
Tajikistan	2.5
China (Sichuan)	1.8
Russian Federation ^(a)	1.7
Belarus ^(a)	1.5
Armenia ^(a)	1.4
Uzbekistan	1.2
Kazakhstan ^(a)	1.1
Kyrgyz Republic ^(a)	1.0

Source: Data from <http://www.cigaretteprices.net/>.

Note: (a) EAEU member states.

The trend in the neighboring and EAEU countries is also to increase excise taxes on tobacco; coordination of excise tax policy within the EAEU and with neighboring countries needs to be effective to reduce the likelihood of smuggling one way or the other and to generate health gains in all countries. The general trend to increase excise noted above is particularly relevant for tobacco taxes. Between 2015 and 2017, Kazakhstan and Russia increased tobacco taxes by about 25 percent and the Kyrgyz Republic by 33 percent (Table 3.6). EAEU membership spurred the Kyrgyz Republic to increase excise tax rates and the Kyrgyz government understands the

needs for tax harmonization,⁴² but tax rates planned to 2022 are still low relative to expectations and trends in other countries. As a member of the EAEU, the Kyrgyz Republic is expected to follow the indicative rate of excise taxes for tobacco at EUR 27 for 1,000 cigarettes (KGS 2,025), with a margin of 35 percent down to EUR 17.55 (KGS 1,316).⁴³ The rate of KGS 1,000 per 1,000 cigarettes established in January 2017 is KGS 316 lower than the minimum agreed and the indicative rate will not be reached until 2022. By that time, the gap between the Kyrgyz Republic and other countries in the EAEU is likely to have widened. A more aggressive increase coordinated with tax increases in the EAEU countries as well as non-EAEU neighbors will reduce smuggling and generate net gains for all.

Table 3.6. Actual and Announced Tobacco Taxes in the Kyrgyz Republic vs Kazakhstan and Russia

	Actual		Announced	
	2016	2017	2018	2019
Kyrgyz Republic	KGS 750	KGS 1,000	KGS 1,250	KGS 1,500
Kazakhstan	KZT 5,000	KZT 6,200	KZT 7,500	KZT 8,700
Russia	RUB 1,680	RUB 2,123	RUB 2,335	RUB 2,568
Equivalents in KGS (at average exchange rate for the given year)				
Kazakhstan	1,014	1,344	1,521	1,765
Russia	1,755	2,516	2,768	3,044

Sources: Kyrgyz Republic, Law No. 65, April 18, 2017; Kazakhstan: Law 26-VI of 30/11/2016; Russia: Law 401 FZ of 30/11/2016.

Note: Average exchange rates for 2016 are used for the 2016 values. Average January–May 2017 exchange rates are used for values in 2017 and beyond.

Considering that past increases in tobacco taxes were not followed by a reduction in the number of smokers nor the volume of smoking, new tax increases, preferably indexed to inflation, need to be periodically reviewed to make sure they effectively decrease affordability and cause a reduction in cigarette consumption. Between 2005 and 2015, the proportion of smokers in the adult population, male and female combined, remained stable at about 26 percent.⁴⁴ Consumption was not reduced either, with a volume of sales that continued increasing until 2014 and remained stable in 2015–2016 (Table 3.7). To get significant effects on sales, one needs to look at affordability of cigarettes rather than the share of tax in the price. Tobacco affordability decreased until 2014 and started to increase after 2015, but cigarettes were still more affordable in 2016 than they were in 2011 and before. The effect of the planned tax increase on affordability is severely hampered by the fact that the legislation does not provide for automatic adjustments to inflation and periodic reviews. The legislation should consider incorporating an automatic adjustment of tobacco taxes to inflation to ensure that tobacco taxes have the desired impact on affordability. Periodic reviews of volumes of sales need to be carried out to assess the effect of taxes and other tobacco programs on consumption.

⁴² Timur Sileimenov: Excise Duties Should Be Harmonized in Order to Combat Smuggling in EEU. 24.Kyrgyzstan new Agency 30 April 2016, Bishkek. Article by Tatiana Kudryavtseva. <https://24.Kyrgyzstan/archive/en/evraziasoyuz/180309-news24.html/>.

⁴³ WHO, unpublished analysis of tobacco taxation by Konstantin Krasovski, May 2017.

⁴⁴ Data from the WDI, weighted average of male and female adult smoking prevalence, 26.4 percent in 2005 versus 26.0 in both 2012 and 2015.

Table 3.7. Tobacco Tax Revenues, Tobacco Tax, and Estimated Volume of Sales, 2011–2016

	2011	2012	2013	2014	2015	2016
Revenues from excise taxes on tobacco products (KGS, billions)	583	1,106	1,290	2,864	3,500	4,800
Excise tax per 1,000 cigarettes, filtered^(a)	297	215	248	432	550	750
Excise tax per 1,000 cigarettes, unfiltered^(a)	16	40	48	68	296	400
Volume (billion cigarettes, all kinds)	6	5.8	5.8	7.1	6.4	6.38
Affordability (price in % of GDP per capita)						
Filtered cigarettes	3.8	2.9	2.5	2.1	2.6	3.3
Unfiltered cigarettes	0.9	1.0	1.0	1.1	1.4	1.9

Source: Authors' calculations using revenue and sales figures from WHO (2015) and unpublished analysis of tobacco taxation by WHO expert Konstantin Krasovski, May 2017. Average price from the NSC, GDP per capita from the WDI.

Note: (a) For complex tax rates (until 2016), the tax is calculated on the average price of filtered cigarettes.

The effect of increased tobacco taxes on the poor is not regressive in the Kyrgyz Republic if we consider health effects; in fact higher tobacco prices are expected to reduce poverty. The regressive impact of excise taxes on inelastic goods is often used as an argument against raising tobacco taxes. Using KIHS 2015, we found that smoking prevalence in the Kyrgyz Republic is similar across the first 4 quintiles (around 25–26 percent of the male population) and slightly higher in the richest quintile (30 percent). There is also strong evidence that price elasticity is greater among poorer people, although still less than 1 (Table 3.8).

Table 3.8. Estimated Income Elasticity of Demand for Tobacco, 2015

Consumption Quintile	Elasticity
Quintile 1 (poorest)	-0.74
Quintile 2	-0.65
Quintile 3	-0.65
Quintile 4	-0.46
Quintile 5 (richest)	-0.28
Total	-0.54

Source: Authors' estimations using KIHS 2015 (background paper).

Because poorer individuals will decrease their consumption significantly more than richer ones in response to the price increase, the financial effects on poorer segments of the population are anticipated to be more than compensated by the health benefits. Simulations based on KIHS data show that a tax increase that reduces demand by one-third would reduce poverty by 10,200 cases (using the national poverty line); the reduction reaches up to 12,100 cases with a 60 percent drop in demand.⁴⁵ Nevertheless, compensatory measures should still be taken for specific populations at risk; in particular, increases in tobacco taxes should be accompanied by a campaign aimed on priority to lower smoking in lower-income groups and prevent the increase in smoking in females as GDP per capita increases (Bader, Boisclair, and Ferrence 2011).

Finally, there may be concerns that increases in tobacco taxes are expected to generate less and less additional revenue and will eventually result in lower tax revenues. In the past, tax revenues from tobacco taxes have increased faster than the tax rate. Between 2011 and 2014, tax revenues increased fivefold (WHO 2015) while the tax, calculated on the average price of filtered cigarettes, increased by a factor of 2.2. This indicates that cigarette consumption

⁴⁵ World Bank Mimeo. Assumptions and results are presented in Annex 3.

actually increased, consistent with increased affordability during the period. Despite the increase in prices after 2014, consumption continued to remain stable (around 6.4 billion cigarettes per year in 2015 and 2016). Assuming no large increase in smuggling out of the country, this would indicate that the price elasticity was very low or, more probably, that the adjustment to price is slow. The upward trend in real prices and affordability since 2014 and the fact that tax revenues increased at the same rate as the tax increase between in 2015 and 2016 indicate that revenues will rise at a slower rate and eventually decrease. The simulations in the next subsection show that the concern of decreasing tax revenue, while it is relevant over the very long run, will not be an issue in the planning period considered.

Simulations results: Higher tobacco taxes will generate fiscal space via increased tax revenues and reduced health expenditure

Three feasible scenarios are considered here to examine the impact of different tobacco tax plans on tax revenues and expenditures in the short, medium, and long run. The first scenario (Plan A) corresponds to the status quo up to 2022 (tobacco excise tax increasing at announced rates) and adjusted for inflation and real GDP per capita growth after 2022. Plan B, still very conservative, adjusts the planned increases to account for inflation and real per capita GDP growth starting in 2019. Plan C is designed so that demand decreases at least by 25 percent by 2022 and 30 percent by 2028, assuming that 60 percent of the tax is reflected in the price.⁴⁶ Yearly increases in Plan C are set to ensure gradual implementation (in particular to reduce negative financial effects on the poor). Feasibility being a concern and tax harmonization in the EAEU expected to take some time, Plan C, with the highest tax in 2019, is still about KGS 100 below the announced level for 2019 in neighboring Kazakhstan. More aggressive plans are not presented in the simulations but may still be recommended so that demand decreases faster, assuming coordination can be effective in the EAEU states. The methodology used in our simulations is described in the Annex.

Results of the simulation indicate that all plans generate significant fiscal space before considering health effects, and there is still ample room to increase tobacco tax rates beyond that without reducing government revenues. Table 3.9 describes the scenarios and summarizes the simulation results regarding additional revenues (budgetary funds) together with prices, demand, and supply responses. The current tax plan is anticipated to generate KGS 5 billion in additional revenue by 2022 and, if the tax can be adjusted for inflation and real GDP/capita growth after 2022, will generate an additional KGS 1.1 billion of annual revenue by the end of the planning period. Just indexing the tax and its planned increase starting in 2019 instead (Plan B) would generate another KGS 1.5 billion of annual revenue by 2022. Yet another KGS 2 billion

⁴⁶ We calculated a 45 percent decrease in demand if the price increases by the full amount of the additional tax and average elasticity remains at -0.54 . This is, however, not possible *ceteris paribus* because a tax incidence of 100 percent on consumer requires demand to be perfectly inelastic (elasticity = 0) or supply to be perfectly elastic. Assuming zero or a very low price elasticity of demand (and therefore an increase in price equal or close to the amount of the tax) defeats the purpose of imposing a tobacco tax since no amount of tax would reduce smoking prevalence. A share higher than 60 percent is possible but implies that supply is elastic (for example, an incidence of 0.8 on the consumer implies a supply elasticity greater than 2). The elasticity of supply for cigarettes was estimated to be about 0.34 in the short run and 0.81 in the long run in Zimbabwe (Leaver 2004). Barnett, Keeler, Hu. (1995) estimated tax incidence between 0.50 and 0.75 for increases in cigarette prices in the United States, depending on whether the tax is local or national. A consumer tax incidence of 0.6 implies a supply elasticity of 0.8, compatible with the evidence cited above. In observing price trends, it is important to remember that other factors come into play in the determination of market prices and although producers tend to justify price increases based on cost, demand factors necessarily matter. Historical changes in price show that price changes do not follow tax increases.

can be gained in yearly revenues by 2022 by moving to Plan C. The simulations indicate that there is yet ample room to increase tax beyond the proposal in Plan C. Beyond testing the three scenarios, we used the model to simulate the highest tax rate that could have been chosen in 2017 without causing a decrease in tax revenue over time. A tax rate of KGS 7,400 per 1,000 cigarettes or KGS 148 per pack in 2017 (7.4 times the current rate), indexed to inflation thereafter would have ensured that revenues remain stable over time; anything below that, also indexed to inflation, guarantees increasing revenues over time.

Table 3.9. Alternative Feasible Cigarette Tax Scenarios and Their Simulated Effects on Total Tax Revenues, Demand, and Supply to 2028

Plan description	Variable	2019	2022	2028
Plan A: As currently in legislation until 2022. After 2022, the tax is adjusted for inflation and real per capita GDP growth	Additional tax revenue 2016 receipts = KGS 4,785 million	3,048	5,149	6,253
	Real % price increase from 2016	17	31	42
	% change in demand from 2016	-9	-15	-20
	Excise tax % of price Baseline 2016 = 33%	50	59	61
	Total tax % of price Baseline 2016 = 47%	64	74	76
	Net industry turnover (KGS, millions) Baseline 2016 = 7,714	5,655	4,464	4,396
Plan B: Same as Plan A but with inflation and real GDP growth adjustment starting in 2019 (incremental to the planned increase)	Additional tax revenue	3,363	6,707	7,916
	Real % price increase from 2016	19	38	51
	% change in demand from 2016	-10	-19	-24
	Excise tax % of price	51	66	67
	Total tax % of price	66	80	82
	Net industry turnover	5,427	3,401	3,386
Plan C: Starting in 2019, the tax progressively increases to reach KGS 3,350/1,000 cigarettes in 2022. The tax is inflated every year to compensate for inflation and real GDP per capita growth (starting 2019).	Additional tax revenue	3,786	8,748	10,075
	Real % price increase from 2016	21	48	63
	% change in demand from 2016	-11	-24	-30
	Excise tax % of price	53	74	75
	Total tax % of price	68	89	90
	Net industry turnover	5,117	2,010	2,082

Source: Authors' simulations.

Notes: All prices in constant KGS, base = 2016. Parameter values: Tax incidence = 0.6 (the price increases by 0.6 if the tax/pack increases by 1); elasticity of demand = 0.54 (estimated using KIHS 2015). Real GDP growth and GDP deflator projections to 2022 from IMF; growth and inflation assumed stable after 2022.

Including expected savings from averted health expenditure, increasing tobacco taxes would generate fiscal space equivalent to 7–8 percent of the 2016 health budget under the current plan and 10–14 percent under the suggested Plan C by 2023. Table 3.10 reports simulation results for the health sector, including expected savings from averted GHE. Cost savings are simulated under different scenarios and varying cost estimates (all adjusted for increase in real GDP per capita) Savings to the health budget stemming from the reduction in tobacco consumption are evaluated between KGS 0.5 billion and KGS 1 billion by 2023; this represents

3–7 percent of the health budget that can be used for other health priorities.⁴⁷ Overall, if the health sector can obtain a greater share of budgetary funds (reprioritization), it may receive up to 7.5 percent more from budgetary funds and save up to 6.5 percent in averted expenditure by 2023 for an overall gain of 11–14 percent relative to the 2016 executed budget if it opts for Plan C. With the current plan, gains are expected in the 8–10 percent range by 2023.⁴⁸ By 2028, gains go up another 1 to 3 percent. Savings from smoking reduction will continue to accrue over time, although increasing at a lower rate. Finally, considering that our estimation of averted expenditure only considered gains related to direct treatment costs, the full benefits are anticipated to be much larger, as will be seen below.

Table 3.10. Fiscal Space for Health from Tax Revenues and Averted Expenditures under Different Cigarette Tax Scenarios, 2019–2028

	Plan A			Plan B			Plan C		
	2019	2023	2028	2019	2023	2028	2019	2023	2028
Additional excise tax revenue for health									
KGS millions, 2016									
No reprioritization	335	588	688	370	761	871	416	988	1,108
Reprioritization	412	721	844	454	934	1,069	511	1,212	1,360
% of health budget									
No reprioritization	2.1	3.7	4.3	2.3	4.7	5.4	2.6	6.1	6.9
With reprioritization	2.6	4.5	5.3	2.8	5.8	6.7	3.2	7.5	8.5
Averted health expenditure (adjusted for real per capita GDP growth)									
KGS millions, 2015									
Low estimate	337	496	646	350	534	688	366	575	733
High estimate	616	907	1,183	640	977	1,259	670	1,052	1,342
% of health budget									
Low estimate	2.1	3.1	4.0	2.2	3.3	4.3	2.3	3.6	4.6
High estimate	3.8	5.6	7.4	4.0	6.1	7.8	4.2	6.5	8.4
Total effect on health budget (low-high, % of health budget)									
No reprioritization	4–6	7–9	8–12	5–6	8–11	10–13	5–7	10–13	12–15
With reprioritization	5–6	8–10	9–13	5–7	9–12	11–15	6–7	11–14	13–17

Source: Authors' simulations.

Note: Results are reported for a tax incidence of 0.6 and a price elasticity of –0.54. Additional revenue for the health sector is based on the share of Budgetary Funds to health under the status quo (11.1 percent in 2016) and reprioritization potential (to 13.6 percent of Budgetary Funds), corresponding to calculations in chapter 2.

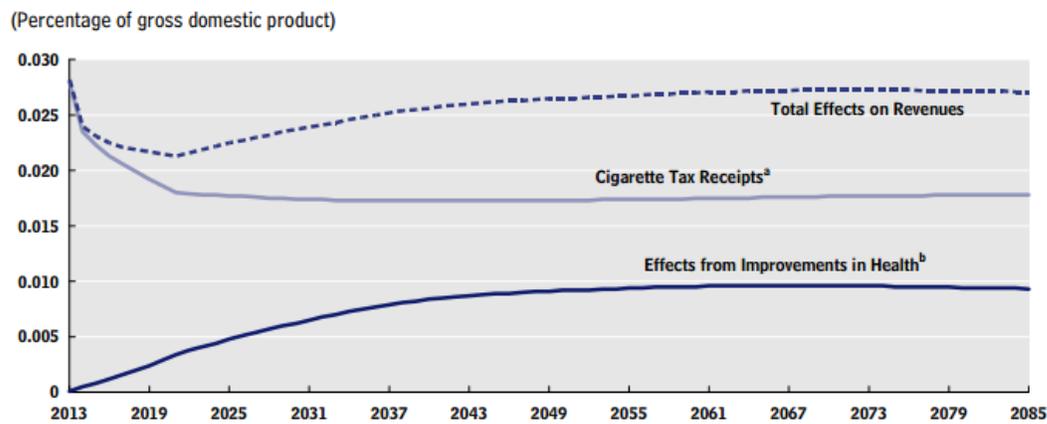
Indexing the tax to inflation and real per capita GDP growth after 2022 guarantees a continued increase of revenues while health-related budgetary benefits increase at a faster rate than the tax. Table 3.10 shows the rate of increase of the health budget due to the additional excise tax revenue and average estimates of realized savings to the health budget. All scenarios have nominal tax increases till 2022 and automatic indexing to inflation and real per capita GDP growth starting in 2023, explaining the break in the trend. When using the high estimate of averted government expenditure, the impact of the fiscal space generated for health is about equal for the tax and for averted expenditure.

⁴⁷ The simulation does not evidence large differences between the scenarios. Differences are likely underestimated given that cross-sectional data were used. Taking into account the fact that there are delays in demand responses with the long-term elasticity greater than in the short term would likely amplify differences over time.

⁴⁸ One could argue for reprioritization of the health budget (with or without earmarking) on the basis that the increase in tax revenue would not be feasible without the public support that comes from the understanding that such taxes have important effects on individual and public health.

For the long run, the experience of HICs shows that, although revenues from tobacco taxes are eventually expected to decrease and then level off as smoking prevalence reaches about 15 percent, gains on the expenditure side are expected to more than compensate the drop. A study from the Congressional Budget Office (CBO) of the U.S. government simulated the budgetary effect of a hypothetical 50 percent increase of excise taxes on cigarettes and small cigars. The study considers excise tax receipts and secondary effects due to changes in other taxes and health- and pension-related budgetary expenditures. The results are reproduced in Figure 3.7 While effects on revenues decrease over time due a decrease in cigarette consumption, the effects on the budget due to health improvements increase over time and more than compensate the reduction in excise tax receipts.⁴⁹ The study estimates that smoking behavior would level off around 15 percent prevalence after a gradual decline. Considering that the Kyrgyz Republic starts from higher smoking prevalence among adults (26 percent in 2015 compared to 19 percent for the United States at the beginning of the simulation period) and the simulations above indicated that revenues were not yet on a downward trend by 2028, one can expect a much longer period during which revenues from excise taxes level off and decrease while averted expenditures continue to increase.

Figure 3.7. Budgetary Effects of an Increase in Excise Tax on Cigarettes over Time: Example from the United States



- a. An increase in excise taxes reduces revenues from income and payroll taxes; these estimates are net of those reductions.
- b. These effects are on receipts from income and payroll taxes.

Source: CBO 2012.

Note: The excise tax per pack of cigarettes at the start of the simulation was US\$1.01. The simulation represented in the graph considers the budgetary effects of a hypothetical 50 percent increase in the excise tax (to US\$1.52) in 2013 followed by marginal changes to keep pace with inflation and inflation-adjusted income (the latter after 2021).

Increasing taxes on alcohol and other harmful products

Additionally, there is plenty of room to increase taxes on alcohol. The rationale behind taxing alcohol is similar to that of taxing tobacco, with effects on averted expenditure and increased productivity that spread much beyond the health sector. In February 2017, the Kyrgyz

⁴⁹ Results are expected to vary across countries depending on the starting level of cigarette prices, the relative importance of private and public expenditure in the treatment of disease (higher impact on revenues if more), the pension system (higher impact on resulting expenditure if more), and smoking prevalence (larger tax receipts at first and slower convergence to the steady state if more, larger impact on health expenditure and pension). Another important parameter is the demand elasticity for cigarettes. The authors of the CBO study downplay its importance in the results, arguing that if the underlying elasticity parameter is lowered, tax receipts would be higher but revenue through health effects lower and vice versa if elasticity is in fact lower.

government increased the alcohol excise tax within the base tax rate from KGS 60 to KGS 70 for vodka as well as for liqueurs and spirits (Government Resolution #109, 02/2017). This is still far below taxes applied in other countries (Table 3.11).

Table 3.11. Taxes on Vodka and Hard Liquor, Actual and Announced in the Kyrgyz Republic, Kazakhstan, and Russia

Metric		Actual		Announced
		2016	2017	2019
Kyrgyz Republic	Per liter of vodka and liquor	KGS 60	KGS 70	—
Kazakhstan	Per liter of 100% alcohol content	KZT 1,380	KZT 2,000	KZT 2,550
Russia	Per liter of 100% alcohol content	RUB 500	RUB 523	RUB 523
Equivalent in KGS				
Kyrgyz Republic	Per liter of 100% alcoholic content	150	175	
Kazakhstan		299	434	553
Russia		479	441	441

Sources: Kazakhstan: www.primeminister.kz, news 5 oct 2016; Russia, TASS Jan 1, 2017 “New Regulations on Russia’s Alcohol Market Go into Effect in 2017.”

Note: Specification on alcohol content obtained from the WHO expert Konstantin Krasovski. The Kyrgyz tax rate was adjusted based on a 40 percent average alcohol content per liter.

Revenues from taxes on alcohol are expected to decrease if the tax is kept at the current level whereas a threefold increase in the tax would generate at most 1 percent increase in revenue for the health sector. Table 3.12 presents the results of a simple calculation if the Kyrgyz Republic increases its tax on spirits to the level planned in Kazakhstan by 2019, about a threefold increase.⁵⁰ The tax is not indexed to inflation or real per capita growth so, even if volumes do not decrease, revenues in real terms will fall. A tax increase may prevent revenues from falling but our calculations indicate that even a large increase in the tax on alcohol would not generate significant revenue for health. Even if we assume no decrease in consumption, the increase in alcohol taxes would generate less than 1 percent of additional funding for health. If the price elasticity for alcohol in the Kyrgyz Republic is close to that estimated for neighboring China—which, at -0.12 is significantly lower than observed in developing countries (Tian and Liu 2011)—the effect of the tax on demand is also expected to be limited. Averted expenditure in health and other sectors may still be significant with a small reduction in consumption.

⁵⁰ The simulation uses actual tax receipts for 2015 and 2016 shared by the WHO consultant. The implied decrease in volume from 2015 to 2016 is large. Volumes were assumed constant from 2016 to provide the largest estimate fiscal space. Decreases in volume in response to tax increase would yield yet a smaller increase in fiscal space, although the difference in percentage of the health budget is small. Note that the NSC data on volumes could not be used as the data included inconsistencies.

Table 3.12. Potential Revenue Gains from a Threefold Increase in Tax on Vodka and Liquor

	Actual		Estimated			
	2015	2016	2017	2019	2023	2028
Excise tax per liter of spirit - status quo - Current KGS	60	60	70	70	70	70
Total revenues from the tax KGS millions, 2016	639	565	636	570	518	447
Excise tax per liter of spirit - alternative - Current KGS	60	60	70	220	220	220
Estimated revenue from alternative tax KGS milions, 2016	639	565	636	1,858	1,627	1,405
Potential increase in government revenues KGS millions, 2016	—	—	—	1,267	1,110	958
Potential gain for the health budget (KGS, millions constant)						
Assuming 2016 share of <i>budgetary funds</i> (11%)	—	—	—	139	122	105
Assuming reprioritization (13.5%)	—	—	—	171	150	129
Gain relative to 2016 Executed Health Budget (%)						
No reprioritization	—	—	—	+0.9	+0.8	+0.7
Assuming reprioritization	—	—	—	+1.1	+1.0	+0.8

Source: Authors' calculations.

Note: The GDP deflator is used to translate revenues into constant values using 2016 as the base year. Consumption of alcohol is assumed constant in projections and the tax is not indexed.

There is also potential to tax other products on the basis of their harmful health effects. Other countries have implemented taxes on sugary beverages and fatty food. The main rationale is to raise additional revenues at first but, as for tobacco, implementation of the tax is facilitated by the understanding that the tax will generate positive health effects in the medium to long run as higher prices are expected to lower consumption and thereby reduce diabetes and cardiovascular diseases. As seen in section 3.3, Russia is considering taxing palm oil and sugar. Palm oil may not be a good or feasible option for the Kyrgyz Republic given that all palm oil is imported and evidence on health effects is not strong.⁵¹ Taxing products with high sugar content, particularly sodas and sugary beverages, is more promising (and there are many examples of such practices in the world). The Kyrgyz Republic already charges an excise tax on energy drinks at the same rate as alcohol products; the tax could easily be extended to soda beverages. According to sales data of the Coca Cola Company,⁵² Russia consumed 71 servings of 25 cl per person in 2012. This is far below the United States (401) or Mexico (745) and likely much above consumption in the Kyrgyz Republic, so the tax is not expected to raise large revenues. However, taxing these products before they become more affordable (relative to domestic per capita income) and before the market expands with increasing per capita income would be an important step in preventing escalation of health care costs in the future.

⁵¹ Timur Sileimenov: *Excise Duties Should Be Harmonized in Order to Combat Smuggling in EEU*. 24.Kyrgyzstan new Agency 30 April 2016, Bishkek. <https://24.Kyrgyzstan/archive/en/evraziasoyuz/180309-news24.html/>.

⁵² <https://www.statista.com/statistics/271156/per-capita-consumption-of-soft-drinks-of-the-coca-cola-company-by-country/>, accessed May 17, 2017.

3.4. Private sector participation in public health provision

The interest in developing public-private partnerships for the provision of certain health services is strong in the Kyrgyz Republic. The government is currently engaged in developing public-private partnerships for health and the interest in examining potential fiscal space from such partnerships was found to be strong in preparatory stakeholder meetings. There are currently no functioning full-scale public-private partnerships in the Kyrgyz Republic, but various pilot projects are being undertaken in the health sector, including one for hemodialysis supported by the International Finance Corporation (IFC).

There are benefits and costs associated with public-private partnership projects and these need to be fully taken into account when calculating budget neutrality (Table 3.13). Gains from implementing public-private partnerships are potentially large in areas where the public sector provides a low-quality product at high cost and where system rigidities prevent internal efficiency improvements. There are, however, important risks to the government, especially when fiscal space is tight. Although a large part of the financial risk in public-private partnerships is supported by the private sector, there are some risks supported by the government and the level of risk increases in periods of economic and/or political instability. Financial risks on the government side are related to currency fluctuations, possible changes in legislation affecting the terms of the contract (the provider needs to be compensated in case the contract needs to be terminated or modified), capacity to guarantee the minimum of public patients for the duration of the contract, and staff retrenchment. It is important to have a solid institutional structure to increase the chances that (a) private partners can be found to deliver on the optimal contract and (b) once the private partner is found, that the public-private partnership delivers as intended. Indeed, it is very difficult to rebuild the public service after it has been dismantled.

Table 3.13. Costs and Benefits to Consider in Public-Private Partnership Using the Hemodialysis Study Example (IFC)

Type	Cost items	Revenue/Savings items
Direct	<ul style="list-style-type: none"> • Project implementation cost (for example, staff) • Project management, administration, and monitoring • Regular payment for dialysis services provided (including estimation penalties and bonuses effects) • Possible costs associated with the provision of access to public premises 	<ul style="list-style-type: none"> • Savings from closure of public dialysis centers • (If applicable) savings from discontinuation of existing private dialysis contracts • (If applicable) lease payments for use of public premises
Contingent/Indirect	<ul style="list-style-type: none"> • Compensation for currency fluctuation • Replacement in event of private default 	<ul style="list-style-type: none"> • Decrease of per treatment cost

Source: IFC presentation of the Transaction Structuring Report (June 21, 2016).

Note: The table does not include general PPP development costs such as staff training.

While the legal framework is in place in the Kyrgyz Republic, there are still some important challenges to consider before full-scale public-private partnership contracts can be considered.⁵³ In February 2012, the parliament approved the country's public-private

⁵³ The next three paragraphs draw on the World Bank Assessment Report (March 2017).

partnership law to facilitate the implementation of public-private partnerships. The law was prepared with support from Asian Development Bank (ADB) and considered to be in line with international practices but was amended in 2016 to simplify and reduce lengthy procedures. A second amendment is in process. Initial guidance materials were prepared and a draft public-private partnership toolkit, developed with technical assistance from ADB, is currently being revised and enhanced to master the local situation before being approved by the MOE. A standard contract for public-private partnership projects is being developed with technical assistance from IFC alongside the hemodialysis project; the draft contract needs more revisions and enhancements to reach 'standard contract' status.

While progress has been made to set up the institutions for public-private partnership at the central level,⁵⁴ the primary responsibility for individual public-private partnerships lies within the line ministries. The MoH issues the tender documents, signs the contract, and manages the contract over its lifetime. Progress to date in building the public-private partnership capacity in the MoH has been relatively limited. The ministry has not established a dedicated public-private partnership unit but has assigned the lead public-private partnership responsibility to a senior MoH official, who undertakes the lead role on public-private partnerships among other responsibilities, and receives technical assistance from one public-private partnership consultant (hired by the SWAP) and other MoH officials who also have other (non-public-private partnership) duties. Looking at international experience, this is not in line with other country public-private partnership schemes, where a dedicated public-private partnership unit in the line ministry is a standard practice. Similar to the experience of the Public-Private Partnership Central Unit at the MoE, the MoH has found it very difficult to recruit or retain qualified staff for its public-private partnership activities due to lack of funds and high turnover.

Public-private partnership projects require careful attention to contract management frameworks but the MoH is not ready to take on this task. It is common for countries in the development stage of their public-private partnership programs to pay insufficient attention to contract management framework, although experience shows that poor contract management can undo the entire well-constructed and fair contract. Failure to pay timely installments to the private sector due to poor contract management by the MoH would result in penalties that could revert all the benefits and value added from a well-designed public-private partnership contract. The main concern is that the MoH has not yet considered its contract management arrangements or identified the staff who would undertake this task for the public-private partnerships. IFC is currently advising the government throughout the tendering process taking the contract to financial closure, but the IFC role ends at this point according to its mandate and the MoH has to take over the contract management and project monitoring role from there. Ideally, a team dedicated for public-private partnership contract management or at least the team leader should be identified and involved early in the process, starting from the tendering stage, to foster understanding of the project and to give the team the opportunity to identify informational requirements for inclusion in the contract.

⁵⁴ Two public-private partnership units are in place at the MoE. The central unit, under the leadership of the director of the Investment Policy Department has the mandate to lead and coordinate the government's public-private partnership program and is responsible for public-private partnership policy directions, legislation, initial screening, and project appraisal. Another unit was established in 2014 for the promotion and technical assistance for the identification and preparation of public-private partnership initiatives. The MoF is responsible for managing fiscal risks.

Turnover and low pay in the public sector and particularly at the MoH do not guarantee the sustainability of human capital skills gained in costly capacity-building exercises. Given the novelty of public-private partnerships in the Kyrgyz Republic, there is limited domestic experience in public-private partnerships. Although significant training and capacity-building activities have been undertaken for government officials in close cooperation with development partners such as ADB, German Agency for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit*, GIZ), Japan International Cooperation Agency (JICA), and IFC, much more is needed to retain the capacity built due to the high turnover in the public sector in general and the MoH specifically.

While experiences with public-private partnership have shown significant gains in service quality with performance indicators well above those of the public sector, the fiscal neutrality of public-private partnerships is far from guaranteed and could end up dragging public sector funds to the public-private partnership projects and away from other areas of the public health sector. The experience of Lesotho (LMIC) with the Queen Mamohato Memorial Hospital is enlightening (Box 3.3) and is particularly relevant to this study. While results were excellent in terms of quality improvement in health provision, the results were not so good in terms of providing fiscal space as the cost to the government ended up much higher than anticipated despite announced fiscal neutrality of the project. One of the reasons for public-private partnership projects to fail is severely limited or unpredictable financial capacity of the State (see annex 3).⁵⁵ Therefore, it is important to create additional fiscal space for health while strengthening the institutional capacity to manage such contracts before engaging in binding public-private partnerships.

⁵⁵ Table A3.3 in the annex gives a list of conditions for a successful project. It is based on the Lesotho example, which is relevant to a large investment project, but it gives an idea of where there may be important limitations for even smaller public-private partnerships for health care in the Kyrgyz Republic and where progress needs to be made before the country can be confident that public-private partnerships will bring the gains they promise.

Box 3.3. Lessons from a Large-Scale Public-Private Partnership Project in Lesotho

The Queen Mamohato Memorial Hospital was a large-scale public-private partnership project involving the construction and management of a 425-bed hospital to substitute for the government-run 100-year-old similar size hospital that was deemed financially unsustainable as it provided decreasing service quality at increasing costs. It took seven years between project identification and the issuance of tender documents, with announcement of the preferred bidder in 2007. Documents were signed in 2008 and the hospital opened in 2009. The 18-year contract will come to completion in 2026. Based on results of an end-line survey after 17 months of operation, the project delivered satisfactorily on all performance indicators. However, the results were not so good in terms of providing fiscal space as the cost to the government ended up much higher than anticipated despite announced fiscal neutrality of the project. In 2007, at the start of the project, it was agreed that the public-private partnership cost to the government would amount to 31 percent of the budget. By 2012, the government had to set aside 41 percent of the budget and a year later the hospital was dragging 51 percent of the health budget (the budget increased 82 percent between 2007 and 2012 and another 27 percent in 2013). Reasons for costs increases included notably

- Payments for patient excess demand,
- Increased number of referrals to tertiary hospitals abroad,
- Interest fees and penalties for late payments, and
- Poor management and oversight

The original contract included the principal of cost neutrality with a contractual unitary payment that was to be adjusted according to inflation. One major reason for the higher costs (which also led to late payments and fine) was the signing of a follow-up contract allowing for additional payments for unforeseen events. These 'unforeseen events' in fact doubled the unitary cost for the government. Although this is a large public-private partnership project and the Kyrgyz Republic is mostly looking into smaller public-private partnership arrangements, the example shows how much the elements presented above regarding institutional weaknesses could endanger a public-private partnership project no matter how well designed it is originally. Some lessons from the Lesotho project are very relevant to the Kyrgyz Republic, particularly, that

- Demand forecasting is key,
- The constancy of the unitary service payments is crucial, and
- One diamond hospital does not reform a health sector.

Source: Lange (2016).

In conclusion, while public-private partnership projects may carry some promise, they also carry important risks and while they are likely to improve quality and service efficiency, they are not expected to provide additional fiscal space.

4. Potential to Decrease Financial Needs through Improved Financing Efficiency

Generating additional revenues is only useful if resources are distributed and used in an efficient manner. This section and the next look at areas where the impact of current funding could potentially be increased, decreasing then the need for additional resources. The relative efficiency analysis of Chapter 1 revealed that up to 35 percent of health expenditure could be saved through efficiency improvements over the medium to long run. Relative efficiency results, however, do not provide information on where gains could be obtained. This chapter concentrates on financing efficiency, looking at whether fiscal space could be gained via improvements in revenue collection, budget execution, and coordination.

4.1. Revenue collection

Significant actions were undertaken in 2016 to improve tax collection and the government is committed to more efforts; these efforts are necessary to achieve the fiscal space potential from growth. The IMF report of June 2016 listed revenue, expenditure, and institutional reforms that were under way and were expected to close the 2016 fiscal gap. At the time the fiscal gap was estimated at 7.1 percent and was effectively reduced to the planned 4.5 percent, indicating that some of these reforms were fruitful. Reforms of the tax administration were most prevalent in number and were expected to reduce the fiscal gap by 0.7 percent of GDP or one-fourth of total anticipated savings (IMF 2016b). The list includes several reforms to improve tax collection:

- Improve VAT administration by introducing electronic invoices and simplifying procedures for entrepreneurs.
- Strengthen administration of tax collection on a patent basis from cargo and passenger carriers by carrying joint inspection of the road patrol and State Tax Service (STS).
- Improve customs payments through harmonization procedure, closer relationships with third countries, and better information system.
- Improve the monitoring of operations and procedures and pursue unscheduled inspections to fight against violation of customs duties and illegal imports of goods and vehicles.
- Increase the number of scheduled and nonscheduled audits for tax and nontax payments and enforce application of car stickers.
- Speed up litigation cases and collection of tax arrears.

While some of these actions are one-time reforms (presumably done in 2016), others require renewed efforts every year. For 2017 and 2018, the government committed to strengthen the capacity of the STS to “(i) overcome the impact of the transition to the EEU by, among other things, increasing inspections and control at the borders; (ii) gradually add additional tax collection functions to the STS; and (iii) reduce the size of the informal sector”.⁵⁶ While gains from these measures are supposed to be taken into account in IMF government expenditure revenue projections, the success of these reforms and continued efforts in this direction will determine whether more or less is achieved than anticipated.

Little additional fiscal space is expected from improvement in tax collection of VAT and from corporate taxes, as the Kyrgyz revenue productivity ratio for these taxes is already high relative to other countries and further efforts may be too costly. The ADB’s 2016 Comparative Analysis of Tax Administration in Asia and the Pacific found tax productivity in the Kyrgyz Republic highest of all the Asian countries in the study sample for VAT and close second after Malaysia for corporate income tax.⁵⁷ High tax productivity also implies lower returns to additional efforts. Cost of revenue collection measured as the total cost of tax administration to total revenue collected was 1.78 in 2013, up from 1.15 in 2011, and only surpassed by Tajikistan at 1.98. Additional efforts are expected to generate yet smaller net gains.

⁵⁶ Quoted from the IMF June 2016 report (IMF 2016b).

⁵⁷ Revenue productivity of a tax is obtained by dividing the tax-to-GDP ratio by the standard rate of the tax. Revenue productivity depends both on tax rules (for example, if there are exemptions) and administration (in particular, collection).

VAT revenues on imported goods are expected to decrease in the short run due to changes in rules linked to EAEU membership, although the decrease may be compensated by increases in customs revenue. VAT and excise tax collection on imported goods could decline because it was previously collected from the customs service at the border and is now the responsibility of the STS where the VAT and excise taxes are now paid based on self-declaration after the goods enter the territory. Recent experience from Armenia shows a drop in VAT collection because of trade diversion and a shift of VAT accrual reporting after joining the EAEU. On the other hand, EAEU membership is also expected to increase customs revenue by 1.5 percent of GDP (IMF 2006a).

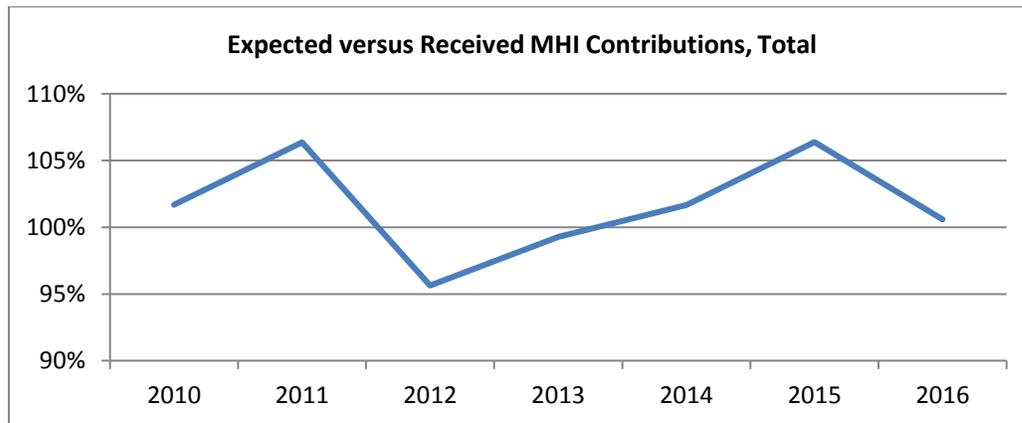
Informality has a significant impact on the total amount of revenues collected, including social contributions. Reducing informality requires a review of regulations and their incentive compatibility in sectors where informality is considered more prevalent. The share of informal sector activities in GDP was estimated to around 13 percent of GDP in 1999; it increased to 19 percent in 2006 and has remained stable since then (see Chapter 3, section 3.2). In 2008, the last year for which we have comparable data, the size of the informal economy relative to GDP was lower in the Kyrgyz Republic than neighboring countries and Caucasian states. The last national estimate we have is from 2012 at 20 percent of GDP (NSC). Part of the informal sector, as defined by the NSC includes legal activities deliberately concealed from the authorities to avoid taxes. Causes that are generally invoked to explain the size of the informal sector in the Kyrgyz Republic and some rise in informality since 2010 include lack of regulations of a fast growing activity such as the increases in border trade with China, sector-specific regulations such as the introduction of a patent system where firms pay taxes on the number of workers they employ rather than production, sociocultural factors such as the expectation that women will combine household responsibilities with part-time work, or political events that may undermine property rights (ADB 2013, 2014).

Some of these regulations or lack of regulation in fast growing activities can have sizeable impacts on informality and thus reduce the tax base. The efforts of the government in reviewing regulations for redundancy or undue administrative requirements (discussed in Chapter 2) are likely to have an important impact on reducing informality. But the review needs to go beyond administrative burdens and look at hidden incentives (secondary effects). A decrease in informality would increase revenues from taxes or, alternatively, allow some equivalent tax decreases to spur growth. The benefits to the health sector could be potentially large, not only because collection of social contributions would increase but also because financial and health risks would decrease with a larger pool and increased coverage.

Social Fund contributions appear to be sufficiently predictable on average, but this could change if the share contributed from self-employed people could be increased. Anticipated MHI contributions are included in the initial budget based on past contributions and projected growth rates. Collected contributions stayed within 4–6 percent of planned contributions during 2010–2015 (Figure 4.1). In most years except 2012, contributions collected were higher than planned. In 2016, the Social Fund received 4 percent more contributions than initially entered in the 2016 budget and 100.6 percent of plans in the revised budget. The overall predictability of MHI collection hides some differences by type of contributor. Collection from formally employed people in the private sector does not deviate significantly from budget projections but this is not the case in other categories (Figure 4.2). In 2010, the Social Fund received three

times more contributions than planned from self-employed individuals and 65 percent more the next year. Since 2013, however, receipts were lower than planned by 20–30 percent in that category. One notable trend between 2010 and 2015 is the improvement in collection from farmers with receipts significantly lower than planned in 2010–2012, then close to expectations in 2013–14, and 30 percent above plans in 2015.

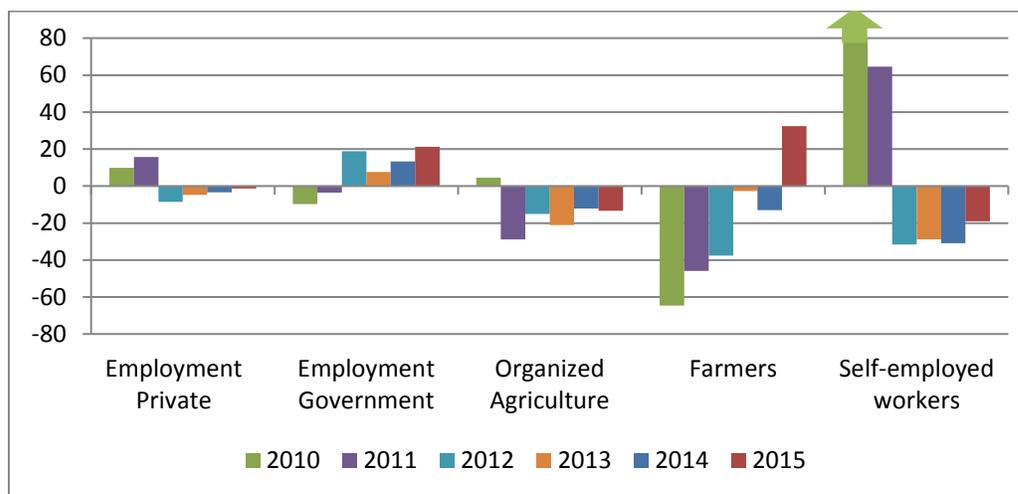
Figure 4.1. Total MHI Contributions Received in Percentage of Contributions Expected (Social Fund), 2010–2016



Source: Social Fund planned and executed budgets.

Although private sector general employment makes up 55–65 percent of total contributions and, together with those paid for government employees up to 97 percent, the share of contributions from self-employed and farmers together increased from 2.4 to 3.7 percent in 2010–2015 and there is room for more. Employment in agriculture, forestry, and fisheries has fluctuated around 2–3 percent of total employment in 2015–2016 (NSC) and the contribution of the sector to GDP in value added was 15.9 percent in 2015 (WDI). Self-employed individuals are also severely underrepresented: they constituted about 40 percent of employment in 2011–2013 (WDI), although the number includes self-employment in agriculture. As argued in Chapter 3, rules about length of coverage extending beyond employment periods could have some impact on the contribution base, in particular by increasing formal employment in sectors where seasonal variations are important.

Figure 4.2. Percentage Deviations between Received and Planned MHI Contributions, 2010–2015



Source: Social Fund.

Note: The graph is truncated at +80 to highlight variations within and across categories. For self-employed in 2010, the value is 297.

4.2. Budget execution

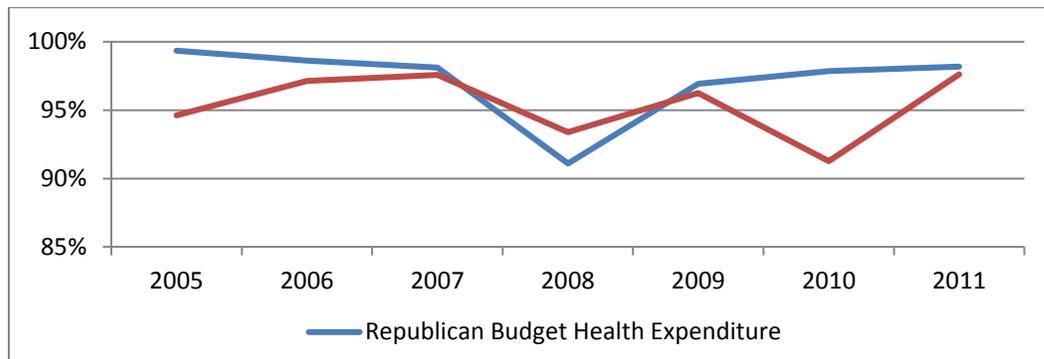
Additional funding to the sector in terms of budget allocations is only useful if allocations can be transformed into beneficial spending. Such capacity can be assessed looking at budget execution rates and, for external funding, by comparing commitments and disbursements over an extended period. Causes of misalignment and potential to improve absorption capacity will be examined in section 4.3 along with other public financial management (PFM) issues.

Execution rates have been relatively high for the health sector, indicating that money allocated is effectively spent, but some important differences between initial and revised budgets for the MoH apparatus and at the local level reveal weaknesses in planning capacity. Execution rates for health expenditure (executed expenditure compared to revised budget figures) remained above 97 percent between 2005 and 2011, except for a drop to 91 percent in 2005 (Figure 4.3). Local budget execution rates for health expenditure in the same period remained close to 100 percent (97 at their lowest in 2007). The figures we have for 2016 indicate a lower execution rate at 94 percent but higher than the Republican budget overall (Table 4.1). Large differences between approved and revised budgets by broad administrative categories reveal that there may be issues with planning and timing. When looking at execution rates by administration, differences do appear. The low execution rates for the MoH apparatus, local budget, and expenditures from co-payments and special means receipts at health facilities can all be explained by an over-adjustment in the revised budget. Compared to the initial plan, expenditures were in fact higher than initially budgeted (executed versus approved is greater than 100).⁵⁸ On the other hand, final execution for MoH facilities was relatively high at 92 percent, but the budget for MoH facilities was revised 10 percent downward. This is either symptomatic of low absorption capacity at MoH facilities or possibly due to budget transfers between MoH apparatus and MoH facilities. Considering all health facilities in 2015, it is clear

⁵⁸ The initial budget is based on projections for MHI payments, co-payments, and special means (fee for service charged by the health sector to be spent in the health sector). As more information comes in, estimates are revised. Revenues from co-payments and special means are de facto earmarked to specific types of expenditure.

that absorption is high with less than 1 percent of allocated funds left unspent in PHC facilities and specialized hospitals and less than 1.5 percent in general hospitals (Figure 4.4).

Figure 4.3. Republican Budget Execution Rates in Health versus Total, 2005–2011



Source: MoF. World Bank SWAP rule 1 calculation.

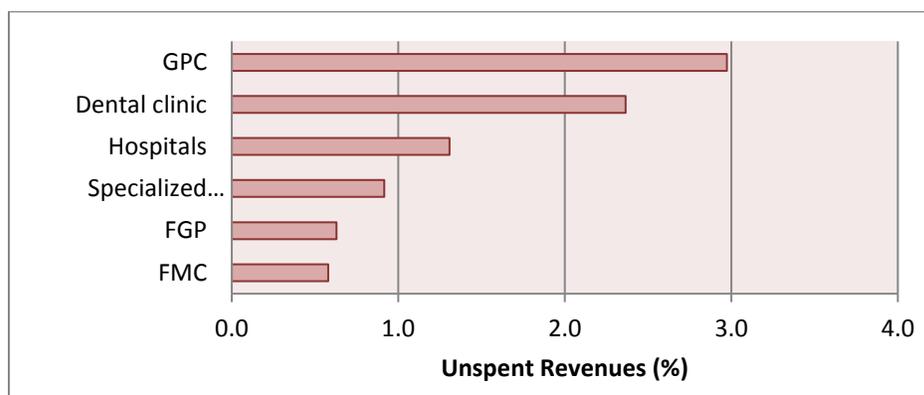
Table 4.1. Budget Execution and Planning, Health Sector, 2016

	Execution Executed/ Revised (%)	Planning Revised/ Approved (%)	Planning Executed/ Approved (%)
Republican budget	92	96	89
Republican budget for health	94	100	94
Local budget for health, including special means	86	141	121
State budget for health, excluding external funding (SWAP and Development budget)	94	106	100
MoH apparatus	84	192	162
MoH facilities	92	89	81
MHIF (Single payer)	94	109	103
Health facilities: co-payments	91	132	120
Health facilities: special means	74	141	104

Source: Government of the Kyrgyz Republic (World Bank SWAP

rule 1 calculation file for 2016 expenditure, Sagyn on SGBP/MHIF planned versus executed budget).

Figure 4.4. Unspent Revenues by Facility Type, Percentage of Allocated Funds, 2015



Source: MHIF.

Note: GPC = General Practice Center, FGP = Family group practice, FMC = Family medicine center (all PHCs).

Execution rates, however, do not tell the full story: very high execution rates could be a symptom of rationing or the result of waste at year-end while low execution rates could be the result of improved expenditure efficiency combined with little flexibility in spending rules across line item. Downward revisions of budget allocations may be due to lower macroeconomic performance. In the Kyrgyz Republic, the Republican budget was cut by 4 percent after initial approval in 2016; nevertheless, this did not affect the health sector as a whole (see revised versus approved percentages in Table 4.1). Higher execution rates could also be obtained by reducing initial budgets subsequently with the ability to revise them mid-year to accommodate needs. This practice, however, may have a negative impact on service quality and access. When too little is budgeted across all line items, budgetary units cannot spend more than planned and may resort to some rationing or postponing of expenditures. Budget revisions may compensate (as is revealed by figures in Table 4.1), but this could be detrimental to effective absorption of budgetary funds by constraining the timing of expenditure toward the second part of the year. This appears to be an issue in the Kyrgyz Republic, as will be discussed below. Finally, while it is a problem to not be able to spend allocated funds, it is also problematic to spend them wastefully.

The understanding that occasional low execution rates are not necessarily symptoms of failure to deliver on expenditure plans is necessary to discourage waste. In situations where expenditure efficiency can be improved (Chapter 5) and when little flexibility is allowed across budget lines, it is possible that allocated funds end up not being used. In this case, lower execution rates do not indicate problems associated with planning or absorption capacity by line item but may instead be symptoms of weaknesses in the ability to productively use these savings where they were generated. Changes in spending rules so that savings can be passed on across line items would allow the health sector to use these savings efficiently in areas where they are most needed. Section 4.4 will review the causes and potential solutions to increase financial efficiency through improved financial management. Issues related to retaining savings from expenditure efficiency improvements will be discussed in section 5.4.

Currently in the Kyrgyz Republic, all health care facilities providing individual services to the population have been transferred to the Republican budget. There is a systematic non-fulfillment of the health financing plan by 3–5 percent using the Republican budget. Due to excess benefits of free treatment provided by the government for the implementation of the SGBP, there is a funding deficit of more than KGS 1.5 billion.

4.3. Foreign aid absorption and predictability

Overall predictability of donor funding is within acceptable ranges but one-year projections for the Kyrgyz Republic tend to overestimate actual disbursements. Predictability in external funding is often raised as an important issue because large fluctuations between committed, approved, and actual funding generate uncertainty and undermine the planning process. In 2016, the execution rate for the development budget overall was 86 percent of the revised budget, indicating some weaknesses in absorption capacity. The difference between the revised budget and initial approved budget was much larger with more than one-third of the development budget that did not materialize. In the health sector, also in 2016, the planned construction of the perinatal center that did not materialize constituted a 90 percent reduction in the investment budget for health. Using 2010–2013 data we can compare predictability in the Kyrgyz Republic with other countries. Deviations from forward plans after three years were

higher in the Kyrgyz Republic than ECA (except in 2013) and LMICs' averages; two-year plans were close to projections in all years except 2011; and one-year plans showed a tendency to overestimate disbursements (Table 4.2). The Kyrgyz Republic received on average 12 percent less than predicted in forward plans of the previous year over 2010–2015; this is comparable to Uzbekistan but other countries in the region received amounts closer to plans or higher (Figure 4.5).

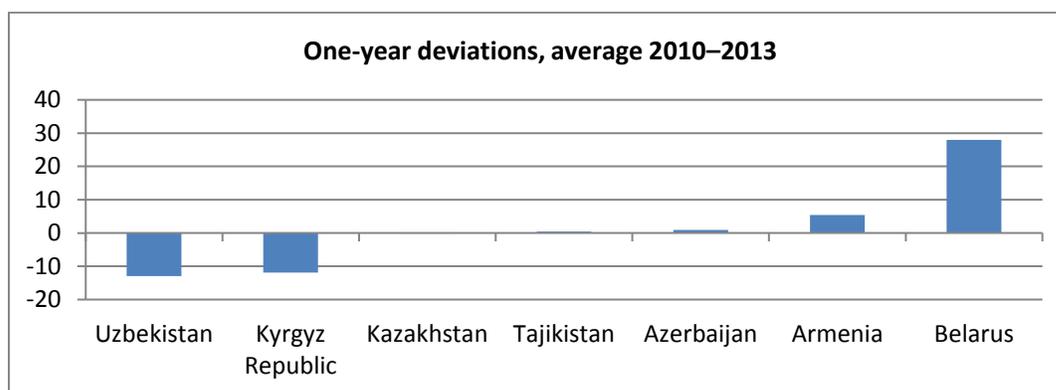
Table 4.2. Predictability of External Aid, 2010–2013

(Percentage deviations from plan)	Aid disbursement flows in year			
	2010	2011	2012	2013
One year				
Kyrgyz Republic	-18.9	-0.3	-18.6	-9.8
Average ECA	13.6	3.7	6.2	-7.6
Average LMICs	4.3	2.3	-5.9	-1.1
Two years				
Kyrgyz Republic	5.2	63.3	-0.6	5.0
Average ECA	6.3	3.8	-5.8	8.4
Average LMICs	-4.2	8.9	-5.1	0.4
Three years				
Kyrgyz Republic	15.5	97.5	40.0	-3.3
Average ECA	6.8	2.0	4.8	-11.5
Average LMICs	10.6	-5.5	-3.4	0.4

Source: Authors, using OECD database.

Note: Deviations are calculated as $1 - \text{actual disbursements in year } t / \text{disbursements in donor's forward plans in year } t - y$ ($y = 1, 2, 3$). Positive numbers indicate that more was disbursed than planned. Predictability ratios are from OECD, based on Survey of Forward Spending Plans.

Figure 4.5. Average Deviations from Donors' Aid Forward Plans, Regional Comparison



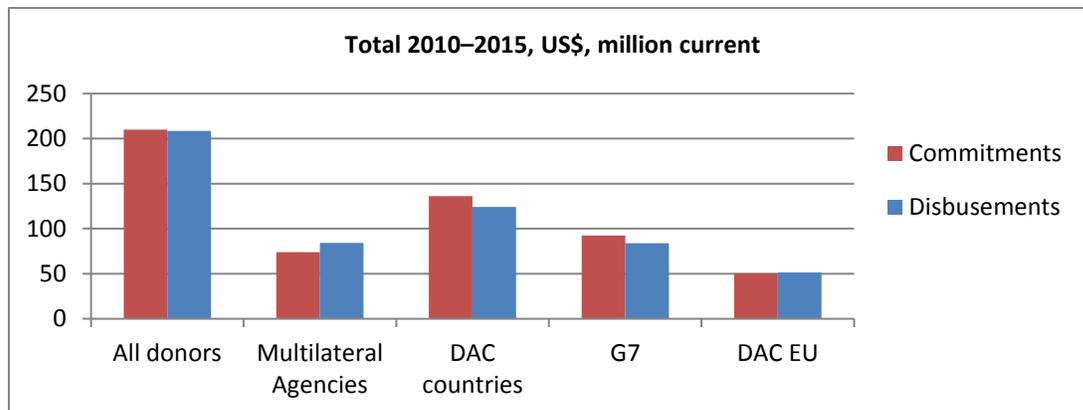
Source: Authors, using OECD data.

Note: Deviations are calculated as $1 - \text{actual disbursements in year } t / \text{disbursements in donor's forward plans in year } t - 1$ and averaged over $t = 2010, 2011, 2012, \text{ and } 2013$.

Between 2010 and 2015, disbursements were commensurate with commitments overall but there are signs of weakening in 2016–2017. Since commitments are generally made for periods covering several years, one cannot compare commitments and disbursement year by year; aggregating over longer periods smoothens out such fluctuations that are not symptomatic of absorption capacity. Over 2010–2015, the ratio of disbursements to commitments was 0.99, indicating that all or close to the totality of committed funds was in fact disbursed, and little difference could be identified by donor type (Figure 4.6). Nevertheless, the Kyrgyz Republic needs to be vigilant about keeping this advantage. Indeed, Chapter 2 indicates that the current

situation may be less favorable: comparing year-to-year commitments versus disbursed amounts gave near perfect performance until 2015, but in 2016 and 2017, approved amounts were significantly lower than commitments (45 percent in 2016 and 77 percent in 2017).

Figure 4.6. Commitments and Disbursements to the Health Sector, Total 2010–2015



Source: OECD database, Credit Reporting System.

4.4. PFM issues affecting service delivery in health

a. Financial management performance

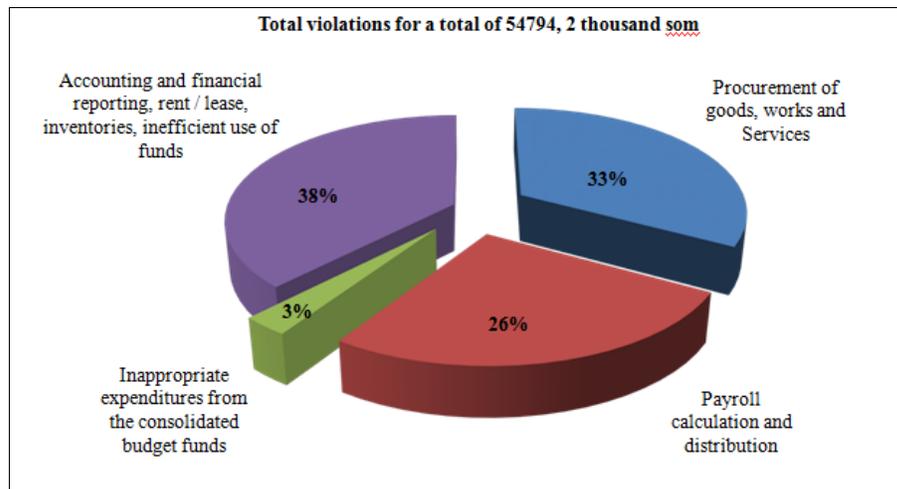
Financial management capacity is still weak with main causes identified being linked to difficulties in finding and retaining qualified personnel and consultants, weak incentives, and high turnover. An audit of the MHIF in 2015 identified *violations* in financial management worth a total of about KGS 55 million or 0.5 percent of the MHIF budget in 2015 (Figure 4.7). Close to 40 percent of these violations concerned issues of reporting and financing accounting or inefficient use of funds, another third from procurement procedures, and one-quarter from payroll calculations/distribution. Financing efficiency depends heavily on financial management capacity in budgetary units from the central level to the health facility. The latest Financial Management Implementation Support and Supervision Report (FMISR, April 2017) listed three issues currently affecting financial management performance.

- (i) “Low pay in the Health sector, which makes the work in the MoH unattractive with, extended vacancies in the top fiduciary positions.
- (ii) Short period of contracts and pay scale lower than allowed by MoF, result in failure to attract and retain accounting and IT consultants with the required knowledge and skills. The limit imposed on the consultants travel negatively affects the effectiveness and scope of their expected support to be provided to Health Facilities;
- (iii) Weaknesses in internal control system in number of individual Health Facilities.”

The first issue is being partially addressed by the MoH that is developing a plan to introduce a performance-based pay at least for the core fiduciary staff in the health sector. The third issue is currently being addressed with technical assistance funded by the Kreditanstalt für Wiederaufbau (KfW). We do not have sufficient data to evaluate losses due to poor financial management but it is clear that financial management units are essential in channeling funds

properly. Thus, money spent on improving capacity, including incentive payments, is expected to yield high returns.

Figure 4.7. Identified Violations of the System in Health Organizations, 2015 (audit of the MHIF)



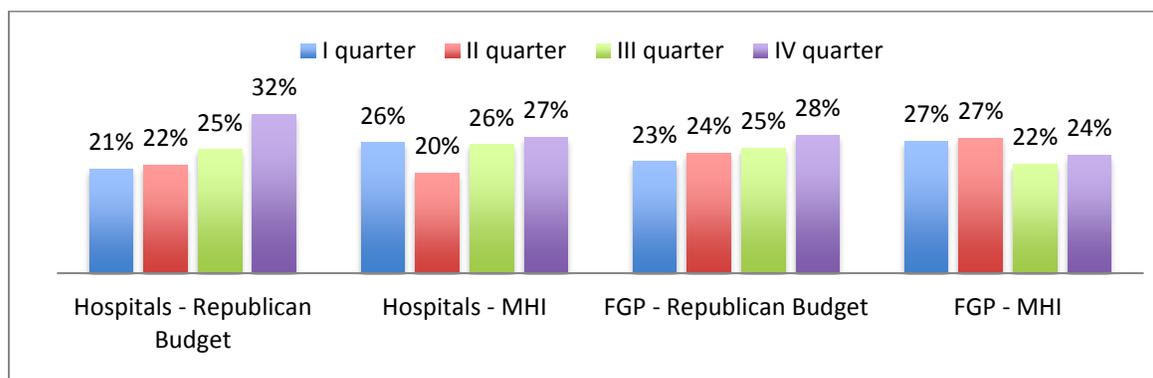
Source: Adapted from the MHIF, January 2016 presentation.

PFM improvements beyond the health sector, in particular general efficiency improvements in procurement operations, are expected to generate significant savings to the health sector. Among the actions taken from the general government to close the fiscal gap in 2016 were steps to “improve the efficiency of the payment system through savings in procurement operations” (IMF 2016). Estimated savings on this action were large at 0.4 percent of GDP. It is clear that the health sector would be one of the beneficiaries of the improvement. We do not have the data to calculate the effect expected on the health sector specifically but if the share of the health sector in procurement operations is commensurate to expenditure shares, the improvement could save the health sector KGS 237 million, corresponding to 1.5 percent of the health budget (including external financing and Social Fund resources).

b. Budget process and budget spending rules

Some features of the budget process may limit absorption capacity or generate wasteful spending, particularly relative to the timing of fund releases and historical budgeting. Although ministries, departments, and agencies submit quarterly forecast of expenditure based on approved yearly allocations, they have no assurance of the availability of funds beyond one month for expenditures other than ‘protected’ (salaries, debt interest, food, transfers to the Social Fund, medicine, social benefits, and pensions). In fact, the timing of fund releases from the Republican budget to health facilities tends to be skewed toward the end of the year, particularly for hospitals (Figure 4.8). Unpredictability, late release of funds, and historical budgeting with unspent funds at year-end returned to treasury all contribute to create spending rushes toward the end of the year. In effect, the situation is likely to generate significant inefficiencies since important needs early in the year may not be fulfilled while low priority needs get funded at year-end.

Figure 4.8. Release of Funds by Republican Budget and MHI to Health Facilities by Quarter, 2015



Source: MHIF; World Bank. 2016a.

Rigid spending rules that differ depending on the source of funds prevent budgetary units from using resources where and when most needed. The suggestion of harmonizing spending rules across financing sources was already made in the Health Public Expenditure Review Policy Note of 2014. Health facilities receive funds from the Republican budget, MHI, co-payments, and special means. Providers may only use receipts from co-payments on pharmaceutical and other medical supplies. Both the budget and MHI funds have specific line item expenditure categories that health facilities have to comply with. PHC centers receive payments based on capitation from the MHIF (from both Republican budget and MHI funds) but do not have full autonomy on how to spend these funds. As normal budgetary units, they are required to budget by line item and by source and then spend according to budget with caps by line item.

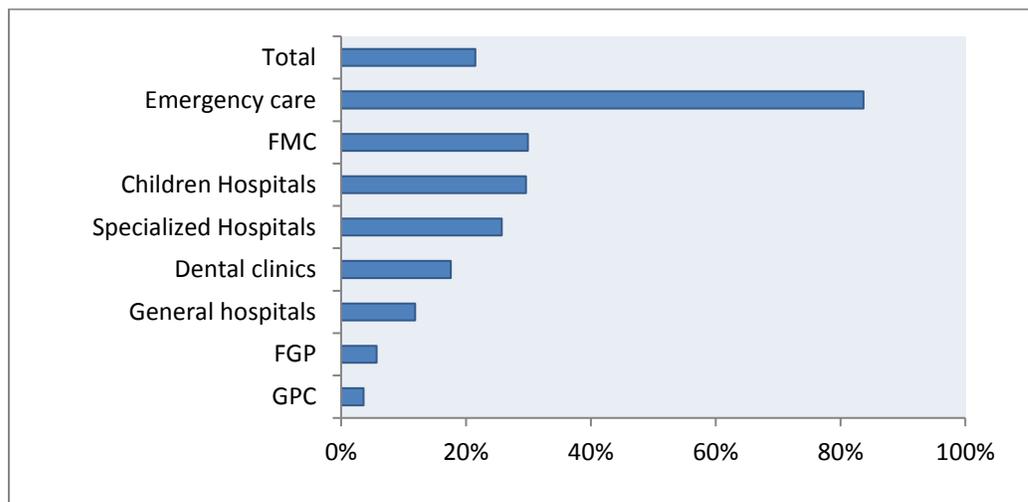
Funds from the Republican budget to cover exempt individuals are not treated as MHI funds when in fact they should be managed by the MHIF as part of the insurance pool. One major issue that appears to limit the capacity of the MHIF to efficiently execute its budget is the fact that payments from the Republican budget as part of the SGBP to finance co-payment reductions for exempt categories are subject to different rules than MHI contributions. Specifically, the MHIF pays hospitals per case and compensates hospitals for treatment provided to exempt and insured individuals to cover co-payment and exempt tariffs. However, the full amount that the government transfers to cover exempt beneficiaries is transferred to hospitals periodically and is used to pay for salaries and other fixed charges. The funds transferred as part of the SGBP to cover exempt individuals for expenditures that are not covered under the basic benefit package would need to be merged with MHI contributions for an effective use of pooled funds.

Restrictions on how to redistribute unspent salaries allocated for vacancies need to be reviewed. Low salaries in the health sector, scarcity of appropriate skills, and geographical preference all contribute to recruiting difficulties in the health sector. Unfilled vacancies are particularly large in specialized hospitals, children hospitals, FMCs and, above all, in emergency care (Figure 4.3). The budget allocates funds to facilities for vacancies but these posts often remain unfilled all year and the allocated funds may be redistributed among existing staff who may receive, as a result, up to 1.5 times their normal salary.⁵⁹ There are several issues with this rule. First, health facilities may just count on these salary bonuses and prefer to keep the bonus

⁵⁹ This does not imply that the salary proposed for the positions is limited, just that any additional amount will be returned to the budget.

than fulfill the recruitment; these vacancies would in fact be substitutes for permanent salary increases. Second, the burden may in fact be borne by a different facility where a similar post is filled, and it is not clear to what extent these funds can be transferred across facilities. Finally, within or across facilities, not all health workers are affected the same way by the lack of personnel due to the unfilled position; some may have to work harder while others may not be affected at all. Using the unspent amounts to finance an incentive bonus system would create better incentives and be fair. The cap could be kept for the facility at large (or the group of facilities for PHC) but a single individual may not be subject to the cap. Another advantage of this method is that incentive bonuses are not entitlements, as the current system tends to create.⁶⁰

Figure 4.9. Unfilled Vacancies at Health Facilities in 2015 (Percentage of Sanctioned Posts)



Source: MHIF; World Bank (2016a)

Effective performance-based budgeting (PBB) creates the opportunity to solve many of these issues and would be more appropriate to bring the efficiency gains that normally accompany output-based payment systems. To get all the advantages that come from having a single payer system with payments based on cases for hospitals, capitation for PHC, budgets also need to be based on outputs. Line-item budgeting and output-based payments do not match, and historical budgeting procedures make the problem worse. There are other advantages to well-designed PBB to facilitate efficiency of expenditure allocation; the issue will be examined more in depth in the Chapter 5.

5. Potential Savings from Improvement in Expenditure Efficiency in the Health Sector

This chapter assesses potential savings generated by improvements in expenditure efficiency, which is expected to explain a large part of the 35 percent efficiency gap evaluated in Chapter 1. As opposed to financing efficiency described in Chapter 4, policies that can influence expenditure efficiency are mostly under the control of the health sector. In particular, the health sector has control over where it will spend its budget envelope (resource allocation) and over specific rules regarding the organization of the health sector and its operations (health production). It is beyond the scope of this report to present a full diagnosis of sources of

⁶⁰ Issues related to staff incentives and service delivery are examined in Chapter 5.

inefficiencies in the Kyrgyz health system. Instead, we present a framework (Annex) that can help identify where and why inefficiencies may be present, provide evidence that can point to specific areas or inefficiency in the Kyrgyz Republic, and then focus on a few policy solutions that are most likely to generate efficiency gains. When feasible, best estimates of potential savings in these specific areas are presented, even if reforms appear not immediately feasible or were tried and failed before.⁶¹

There are two broad categories of expenditure or production inefficiencies that can be mitigated by policy action within the health sector: allocative and technical. Allocative efficiency refers to what ‘things’ are being produced, that is, where expenditures are directed in terms of the type of health service rendered. Some activities have higher returns in terms of public health outcomes, either because they provide benefits to more people or/and their costs of implementation are small relative to benefits; a summary diagnosis of allocative efficiency given past and current expenditure allocation in the Kyrgyz Republic and policy directions will be given in section 5.2. Technical efficiency refers to how things are being produced, that is, whether more of the same thing could be done with fewer resources (at lower opportunity cost). A review of the evidence pointing to areas of inefficiencies is provided in section 5.3 with a few suggested policy solutions. For a description of each efficiency type, please refer to the Annex.

5.1. Opportunities for efficiency gains from adjusting allocative priorities

National Health Account (NHA) data are currently the only public source of data to analyze actual health expenditure of the government using functional categories, but the last publicly available NHA data date back 10 years. In the absence of an effective program budget, NHA is the only source of data where one can get a sense of the functional distribution of health expenditure, and when NHA exercises are repeated regularly, track changes in resource allocations. Unfortunately, the last available NHA tables date back from 2007; the 2014 NHA is currently under way but data were not available at the time of writing this report.⁶² The data indicate that 9 percent of GHE (including MHI) was spent on preventive activities and 74 percent went to inpatient care. A classification by health provider gives a lower 50 percent to inpatient facilities (including general and specialty hospitals plus ambulance services).⁶³

The country reduced the share of expenditures going to inpatient care between 2001 and 2009, as did other countries in the region, but the ratio to total expenditure remains relatively high. Data from the GHED (WHO) is used to evaluate changes in the share of GHE going to inpatient care (Table 5.1). Although it is difficult to compare expenditure allocations across countries with accuracy due to differences in expenditure accounting and health systems, one can look at changes within countries to see that the trend between 2001 and 2009 was clearly

⁶¹ In this section, we provide the tools to help identify sources of inefficiency in the production of health care, with the understanding that potential for efficiency savings can be found in many places and that, while all reforms going in the direction of removing barriers to efficiency may be considered in order to close the efficiency gap, not all can be addressed in this report and not all can be individually quantified

⁶² The 2010 NHA has not been published yet.

⁶³ In the 2007 NHA, total expenditure with funding from central government and MHI are 30 percent higher when using the health facility tables compared to the table by health functions. We interpret this as meaning that at least 30 percent of government expenditure could not be classified by health care function. We hope that the 2014 NHA will provide totals consistent across the different matrices.

decreasing fast in Central Asia, except in Uzbekistan where inpatient care was already less than 40 percent early on.

Table 5.1. Inpatient Care in GHE, Trends in Central Asia

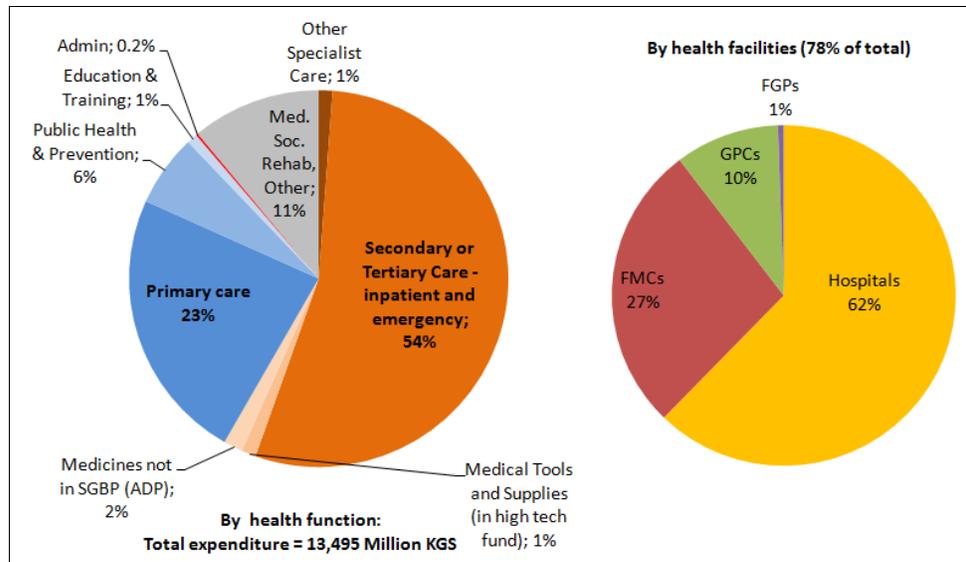
Country	Value in 2008 (% of GHE)	Change in percentage points	Reference years
Kyrgyz Republic	45.4	-30	2001 to 2009
Armenia	41.5	-21	2002 to 2009
Georgia	33.0	-42	2001 to 2009
Tajikistan	39.2	-55	2003 to 2008
Uzbekistan	38.7	0	2001 to 2008

Source: WHO (GHED).

Note: Values may not be comparable across countries due to high variance in interpretation and data quality on this variable. The point estimates give a relative idea.

The latest data from government sources show that, in 2016, only 6 percent of budgetary funds went to public and preventive health, 23 percent went to primary health care and 66 percent to secondary, specialist, and rehabilitative care. The MoH compiles reports on operational expenditure by functional uses as part of managing the SWAP. Figures reported for the latest Interim Financial Report indicate that, in 2016, 23 percent of budgetary funds (excluding special means) were directed to primary care (including dentistry) and 6 percent went to public health and prevention activities (Figure 5.2).⁶⁴

Figure 5.1. Allocation of Health Expenditure from Budgetary Funds, 2016



Source: Authors, using MoH, Financial Monitoring Report Tables H15 and H21, 4th quarter 2016, Health and Social Protection Project (SWAP) May 2017.

Note: Total expenditures included are operational expenditure of the Republican budget excluding special means and MHI contributions from the Social Fund. They represented about 85 percent of total government expenditure in 2016; the other 15 percent included Social Fund resources (11 percent), local budgets, and the investment budget.

⁶⁴ Expenditure for the TB diagnostics center (1.7 percent of expenditure) and the oncology diagnostics center (0.2 percent) were included in prevention.

Health facilities received 78 percent of total operational expenditure, with hospitals and FMCs together receiving most of it.⁶⁵ Very little is spent on medicines, although the report only identifies spending for the Additional Drug Package (ADP) of the MHIF.⁶⁶ It is not clear how the MoH and MHI governance functions were accounted for as only 0.2 percent of expenditures were recorded as going to administration and none to monitoring and evaluation or general financial administration.⁶⁷

The MHIF programmatic budget indicates that about 70 percent of funds will go to inpatient care in 2017–2019, although the category may include MCH and prevention activities in hospitals. In addition to the line item budget that is approved each year, the MoH and MHIF submit a budget organized by programs and subprograms with identification of funding source (Republican budget, MHI, or/and special means) and quantitative performance indicators.⁶⁸ The PBB in its current form can be used to evaluate intentions. Table 5.2 presents the programs and subprograms of the MHIF and their relative weight for 2007, with no change planned until 2019.⁶⁹ Three-fourths of the MHIF budget goes to the SGBP and within the SGBP, 31 percent goes to PHC and 53 percent to inpatient care.⁷⁰ If we exclude funds from special means and co-payments that are collected and in hospitals, 36 percent of SGBP funds go to PHC against 62 for inpatient care. The second most important program is the implementation of the basic MHI program, 90 percent of which goes to fund inpatient care and 10 percent for medicines. Combining across all MHIF programs, 72 percent of the MHIF budget goes to inpatient/secondary care and 23 percent to PHC (Figure 5.3). The current structure of the PBB, however, does not allow identification of expenditures going to routine MCH aside from the RBF program nor any type of preventive care dispensed in hospitals. It would be useful to identify these separately considering that they generate positive externalities.

Table 5.2. MHIF Program Budget Structure and Relative Program Weights, 2017

Program of the MHIF (single payer)	Budget share in 2017	Subprogram	Share within program
1. Implementation of the SGBP	75.4%	1.1. Guarantee to the assigned population the provision of basic medical services on a free basis at the level of PHC	30.7%
		1.2. Guarantee of access of the population of the republic to medical services at the level of inpatient care	46.7%

⁶⁵ It is possible that hospitals also provide some primary and preventive care but if they do, they most likely do it at a much higher opportunity cost than PHC facilities.

⁶⁶ Medicines and supplies are usually recorded in economic classifications, but it is common not to be able to classify medicines and supply by level of care.

⁶⁷ Expenditures paid out of health insurance receipts (Social Fund), special means, and co-payments are not included in the MoH report (as they are nondiscretionary).

⁶⁸ Program budgeting has been under development in the Kyrgyz Republic for some time with pilots in three sectors, including health. To this date, it is only used in the pilot sectors as a parallel budgetary tool, without being integrated in financial accounting system.

⁶⁹ The MHIF medium term planning framework to 2019 does not evidence any changes in priorities over time, consistent with the fact that there is no new National Health Strategic Plan and that budgets are still based on historical use.

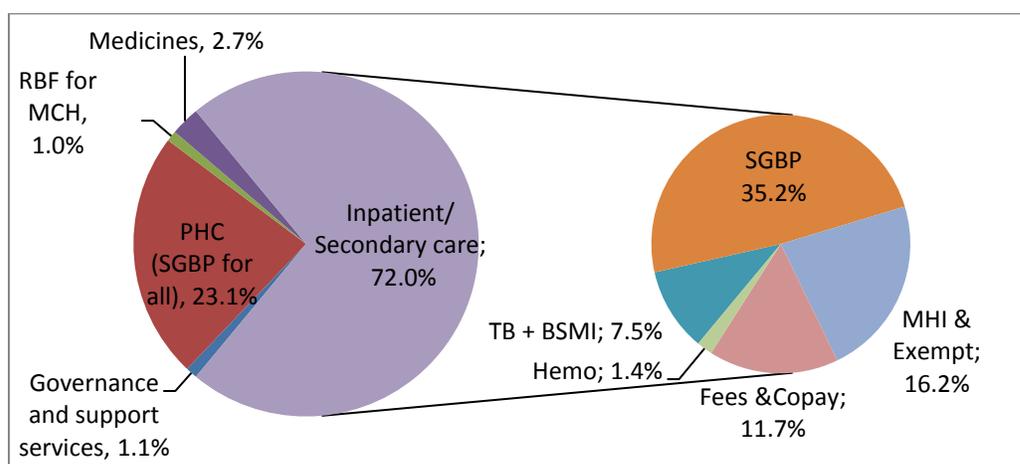
⁷⁰ The total of the MHIF (single payer) PBB, including funds from the Republican budget, Social Fund, and Special Means account is KGS 13,125 million. This is 74 percent of the total approved State budget for health of KGS 17,660 million for 2017 (SWAP rule 1 files).

Program of the MHIF (single payer)	Budget share in 2017	Subprogram	Share within program
		1.3. Guarantee of access of the population of the republic to medical services at the level of inpatient care provided by anti-TB health organizations	6.0%
		1.4. Expenditure of health care organizations operating in the single payer's system for non-medical and medical services paid for using user fees (special means) and co-payments	15.5%
		1.5. Providing access to the population of the republic, suffering from TB to the preferential provision of medicines - anti-TB drugs	0.58%
		1.6. Ensuring access for the population of the republic to preferential provision of medicines in the framework of the SGBP	0.56%
2. Implementation of the basic program of MHI	18.1%	2.1. Increase of accessibility of the insured population of the republic to medical services under the basic program of mandatory health insurance	89.6%
		2.2. Providing access of the insured population of the republic to preferential provision of medicines under the Supplementary Program of the MHI	10.4%
3. Basic State Medical Insurance (BSMI) - Pilot (quality medical and preventive care)	3.0%	3.1. Guarantee of access of the population of the republic to medical services at the level of inpatient care provided by specialized health organizations (psychiatric, oncological, hematological, cardiosurgical)	100%
4. Result-based Health Financing - Pilot	1.0%	4.1. To improve the quality of medical care provided to mothers and children by providing incentive payments to providers of medical services that reach their performance targets in their work.	100%
5. Planning, management and administration	1.1%	5.1. Governance	16.4%
		5.2. Planning, approval, financing and accounting of the implementation of the consolidated budget of the Single Player System	28.9%
		5.3. Control of quality of medical services provided by health organizations in the Single Payer System	16.6%
		5.4. Control over the targeted and rational use of the funds of the Single Payer System	4.0%
		5.5. Work on increase the awareness of the public, the media, NGOs, the civil society about the rights to receive medical services in the framework of the SGBP	3.5%

Program of the MHIF (single payer)	Budget share in 2017	Subprogram	Share within program
		5.6. Provision of support for databases of the MHIF on the treated cases, MHI, SGBP, quality assessment, contract indicators, hotline, issuance of MHI policies	7.7%
		5.7. Support services	23.0%
6. Ensuring the availability of hemodialysis services for patients with terminal stage of chronic renal failure	1.4%	6.1. Guarantee of access to preferential hemodialysis treatment to patients in urgent need with terminal stage of chronic renal failure receiving paid treatment in private medical centers and awaiting transfer to full budget hemodialysis in public health organizations, as well as to reduce the cost burden of patients receiving hemodialysis services	100%

Source: Authors, using MHIF, budget program structure, and medium-term strategy budget forecasts.

Figure 5.2. Program Based Budget of the MHIF (Single Payer), 2017



Source: Authors' calculations using MHIF.

Note: Includes 74.3 percent of the State budget for health. Shares are calculated inclusive of special means (including RBF) and co-payments. If we exclude funds from fees and co-payments, the share of inpatient/secondary care is 69 percent. Inpatient/secondary care includes MCH delivered in hospitals.

A well-designed PBB fully integrated in the government financial accounting system (1C) would greatly facilitate effective planning and monitoring in the future to improve allocative efficiency. Allocative efficiency requires the ability to systematically track expenditures by functions, with categories that broadly group activities according to their rate of return to society. To use the program budget to trace expenditure by function over time, and to ensure that the money is indeed spent on the priorities established in the PBB, program and subprogram codes would need to be entered in the 1C system in the same manner as accounting codes for economic use are currently entered.⁷¹ Budget limits can then be established according to programs rather than (or in addition to) economic categories of expenditure. In fact, experiences from other countries suggest that “implementing program

⁷¹ The data provided by MoH/MHIF for the SWAP financial report indicate that the country has the ability to allocate salaries and other expenses by programs.

budgeting without the ability to link it directly in a multidimensional classification and accounts system to expenditure can be a waste of limited reform capacity in a government” (Fölscher 2007).

In addition to advantages mentioned in Chapter 4 (for example, removing spurious incentives and planning difficulties that come with historical budgeting), the PBB, once fully integrated into the financial accounting system will allow consistent monitoring of expenditure by functions, regardless of administration changes or changes in funding sources. Before it is integrated into 1C, however, it is important that programs and subprograms be designed optimally. To evaluate allocative efficiency, activities that generate high societal returns (such as MCH and preventive activities) would need to be separated from those that generate mostly private benefits to the user.⁷² As it stands now, the PBB tends to add administrative costs to the health sector without providing much benefit. Well designed and properly used, the PBB will generate important savings. In particular, savings will come from reducing the costs and improving reliability of NHA exercises so they can be easily institutionalized.

Suggested policy solutions

Funds need to be directed to high-impact/low-cost activities and most notably prevention.

The recent evolution of NCDs, in particular CVDs in the burden of disease as shown in Chapter 1 indicate that prevention needs to be given high priority in government health spending. CVDs are the cause of death most linked to risk factors that can be attenuated with preventive measures (for example, dietary risks, high BP, smoking, alcohol abuse) (GBD 2015). Some risk factors can be addressed outside the health sector through tax policy with strong impacts on fiscal space for health by increasing revenue and/or decreasing health costs, as shown in Chapter 3 (taxes on tobacco, alcohol, and possibly sugary beverages and fatty foods). Major risk factors, however, can be addressed within the health sector and much can be accomplished at low costs at the PHC level (for example, advice from doctors, checking BP and prescribing pills against hypertension, quality control for MCH).

The health sector has taken action to improve NCD prevention but the programs that rested on domestic funding either did not start or could not be continued due to lack of funding. A recent WHO report on progress toward NCD prevention (WHO 2017) acknowledges that the country has taken many actions to implement the NCD program:

- Establishing two coordination councils, one on public health and a specific one on NCD (chaired by the Deputy Minister of Health) to strengthen the work across sectors
- Conducting a STEP-wise approach to surveillance survey to assess the prevalence of NCD risk factors

⁷² The current structure of the MHIF program budget reveals some important weaknesses. As presented in Table 5.2, it is composed of 6 programs, although 4 of the 6 programs are very small—less than 3 percent of expenditure each and less than 7 percent together. It is generally not recommended to create programs in the PBB when they make up less than 5 percent of the budget. In addition, programs need to remain stable over time regardless of changes in administrative responsibilities or source of funding; this is not the case here. A more general budget structure identifying activities according to levels/types of care or/and type of facility (with in mind what needs to be monitored rather than existing structures) would be more useful, especially in terms of monitoring outputs. Finally, to integrate into financial accounting, it is useful to have short program names and to use the same codes for identical subprograms across different programs (including programs of other ministries).

- The PEN tool (WHO) currently being piloted in several PHC facilities to perform cardio metabolic risk assessment and improve the management of CVDs and diabetes ⁷³
- Educational activities and specific actions of village health committees
- Establishing an incentive scheme for doctors, improving transport facilities in rural areas, and setting up health caravans to reduce inequalities in access to health care

But the same report highlights important challenges in securing continued funding for these programs, particularly domestic funding:

Population-based interventions for preventing risk factors especially experienced inadequate funding from internal resources, since the budget of the NCD action plan is mainly allocated to primary care interventions and diabetes drugs. Except for physical activity interventions funded by the Sport and Youth Agency, the per capita expenditure on NCD prevention activities is rather low. The actual expenditure is often inconsistent with the planned budgets for internal sources, whereas the allocation of external resources occurred largely as planned. There is an opportunity to improve NCD funding by improving the coordination and allocation of existing resources. (WHO 2017, 31)

This is consistent with PFM issues highlighted in Chapter 4, and it also highlights the need to quickly move on implementing PBB. As long as budgets are developed according to line items without linking to allocative priorities, these activities will continue suffering from lack of or unpredictable funding.

Reasons to increase funding for health prevention go beyond improving health sector outputs: expenditures on health prevention have been shown to positively affect economic growth and social welfare. Wang et al. (2016) show that allocating a certain percentage of health care expenditure to prevention will contribute to economic growth and social welfare by increasing productivity and reducing future demands for health care. For Taiwan, China, they found that the optimal proportion to be spent on preventive care was 1.2 percent of GDP for growth and 2.3 percent of GDP for social welfare, both much higher than the 0.27 percent of GDP they spent in 2014.

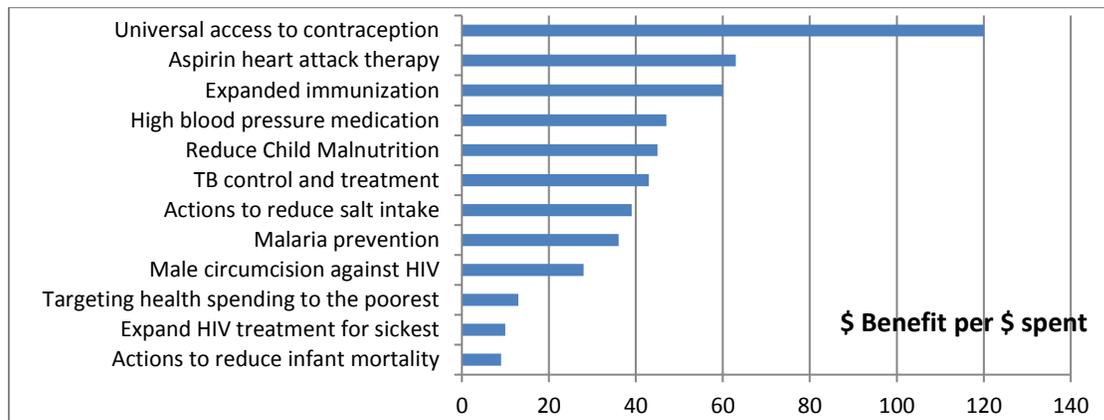
Figure 5.3 lists and ranks activities in the health sector according to benefits from dollar spent, based on global evidence from projects in developing countries. Several of these actions are very relevant to the Kyrgyz Republic and would generate high returns, including future savings in health expenditure. The MoH can review the SGBP list of essential medicines to include those with the highest impact on disease prevention, develop incentive programs to improve quality in PHC, and improve expenditure targeting. Some are already given priority (TB control and treatment, HIV treatment) but others, most of them with promise of yet greater returns, need more attention.

Among top actions expected to generate the highest benefit for dollar spent in the Kyrgyz Republic are facilitating access to contraception, giving aspirin to treat patients with risk of heart attacks, prescribing high BP medication, and greater targeting of spending on the poorest. Also, generalized quality monitoring and incentives to doctors to provide these high-impact interventions—for example, under RBF in PHC settings—would go a long way toward increasing

⁷³ Package of Essential Non-communicable Disease [interventions].

expenditure efficiency. These policy actions are in line with those suggested to improve production efficiency.

Figure 5.3. Global Evidence on Health Sector High-impact/Low-cost Activities (2015)



Source: Adapted from Copenhagen Consensus Center (www.copenhagenconsensus.com).

5.2. Opportunities for efficiency gains in the production of health care

Unlike gains in allocative efficiency that tend to improve outcomes without increasing expenditure, gains in production efficiency can immediately generate financial savings as they reduce waste. There are significant opportunities for efficiency gains in health production. Evidence from OECD countries (OECD 2017) points to common sources:

- Adverse events in hospitals increase hospital costs by 13–16 percent—28 to 72 percent of which could be avoided.
- Between 12 and 56 percent of emergency hospital admissions could be treated equally well or better at lower cost at the primary health care level.
- Fraud and error increase health care services costs by 6 percent on average.

One can find evidence of production inefficiencies by looking into individual inputs and outputs, the way they are combined, how they are utilized, their productivity and efficacy (quality). Drivers of production inefficiencies may be found across the different categories presented in section 5.1—for example, excessive length of stay in hospitals could be due to clinical, operational, or/and governance issues. Policy solutions are also crosscutting, addressing different symptoms and drivers at once. It is not possible within the realm of a fiscal space analysis to provide a full diagnosis of inefficiencies in the Kyrgyz health sector and the section does not pretend to be exhaustive.⁷⁴ We first look for evidence of inefficiencies in the production of health care (symptoms) before presenting some areas for reform with best potential to generate highest efficiency gains.

Evidence on production inefficiencies

Evidence of production inefficiencies may be found by looking at inputs in the production of health care, utilization patterns, productivity, and effectiveness/quality issues, with the understanding that the quantity and cost of input as well as utilization patterns necessarily influence productivity and effectiveness/quality and, in some cases, vice versa.

⁷⁴ The framework provided in section 5.1 will guide people involved in regulating, managing, and providing health care identify additional opportunities.

Adequacy of inputs

An evaluation of input shares (a) is presented before examining how much room there is to reduce input costs looking at each broad type of input separately (b–e).

a. Input balance

Long-run technical efficiency and sustainability depends on the combination of inputs used in the production of health. The production of health requires a combination of inputs (labor, capital, materials, and supplies), which are characterized by a high degree of interdependence. That is, medical staff need medicines, supplies, equipment, health facilities, and training to ‘produce’ good health; medicines cannot be administered properly without supervision, and so on. The degree of substitutability is small in the health sector relative to most other sectors. When too much is spent on one input (particularly wages), other inputs are crowded out. The imbalance impedes efficiency, reduces the quality of care, and threatens the sustainability of the system. Although the perfect expenditure input mix varies by country because of differing input prices, geographical conditions, and even cultural traditions, implicit normative benchmarks have emerged from a systematic review of PERs published between 2002 and 2012 (Gaudin and Yazbeck 2013). The main findings show that, more than 50–60 percent spent on labor was considered too much; less than 5 percent on capital and maintenance was considered too little; and less than 30–40 percent on materials (including pharmaceuticals) was considered inadequate. (Gaudin and Yazbek, 2013)

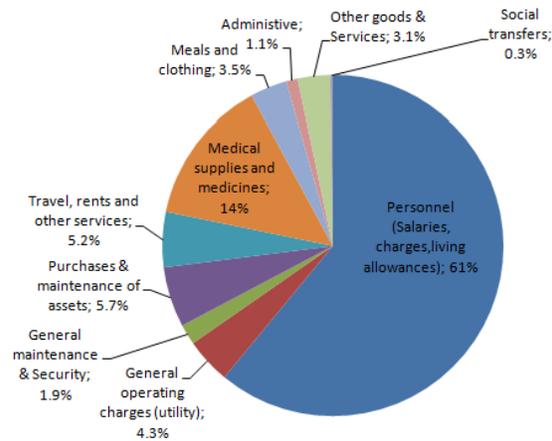
There are no large imbalances in inputs in the Kyrgyz Republic’s public health sector overall if we take account of the fact that most medicines are purchased out-of-pocket in the private sector; but increasing total personnel expenditure without more funding to complementary inputs would cause loss in production efficiency. Figure 5.4 breaks down GHE (including budgetary funds, MHI funds, special means, and co-payments that are all used in the production of health) by input types.⁷⁵ Sixty-one percent of funds were used for staff.⁷⁶ As seen above, most medicines are paid out-of-pocket and purchased outside of the government sector, explaining why only 14 percent of government funds, including funds coming from co-payments and other fees, are used to pay for medical supplies and medicines. Administrative costs are small, so no savings could be expected in that category, as is often the case in other countries.⁷⁷ Providing a larger budget, increasing the government’s responsibility in paying for pharmaceuticals without increasing total expenditure on labor would bring back input shares around expected levels.

⁷⁵ All inputs in the government sector should be considered in assessing the balance of input, including if they do not enter in the budget. We do not have data by input category (economic classification) for additional funding from donors. Such funding is usually restricted to pay for equipment and supplies, including medicines, and investment, they do not normally cover personnel costs. Off budget external funding, however, is relatively small in the Kyrgyz Republic.

⁷⁶ Staff costs include salaries, charges (social contributions), and allowances (housing allowance was the only one we could identify in the Kyrgyz Republic’s case).

⁷⁷ Administrative costs, as they can be assessed outside of PBB, largely underestimate administrative overhead costs. It would be useful, in budget reports, to separate the cost of goods and services that go into the production of health care (for example, fuel and travel of doctors working in multiple facilities) from costs linked to monitoring and capacity building and to identify overhead from variable costs.

Figure 5.4. Expenditure Allocation by Inputs in GHE, 2016

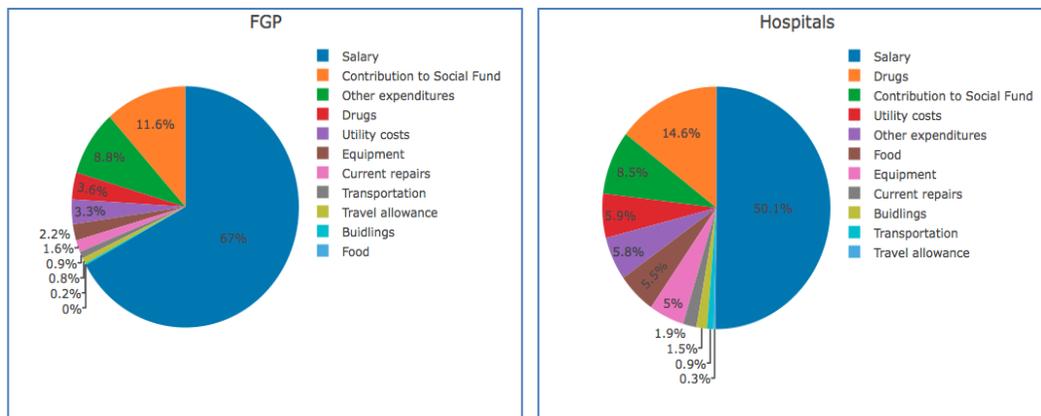


Source: MoH, Financial Monitoring Report Table C4, Health and Social Protection Project (SWAP) May 2017.

Note: Expenditure shares include funds from the general budget, MHI, special means and co-payments.

At the health facility level, the share of labor versus equipment and supplies remain reasonable but maintenance and repairs appear to be neglected. Figure 5.5 shows the breakdown of 2015 expenditures in general hospitals and in FGPs. In general hospitals, 59 percent of expenditures go to personnel and 20 percent go to equipment and supplies. As expected, FGPs rely more on labor inputs (75 percent of expenditure) and less on equipment and pharmaceuticals (14 percent). In both types of facilities, however, maintenance and repairs appear to get limited funding.

Figure 5.5. Expenditure Allocation by Inputs, Hospitals and FGPs, 2015



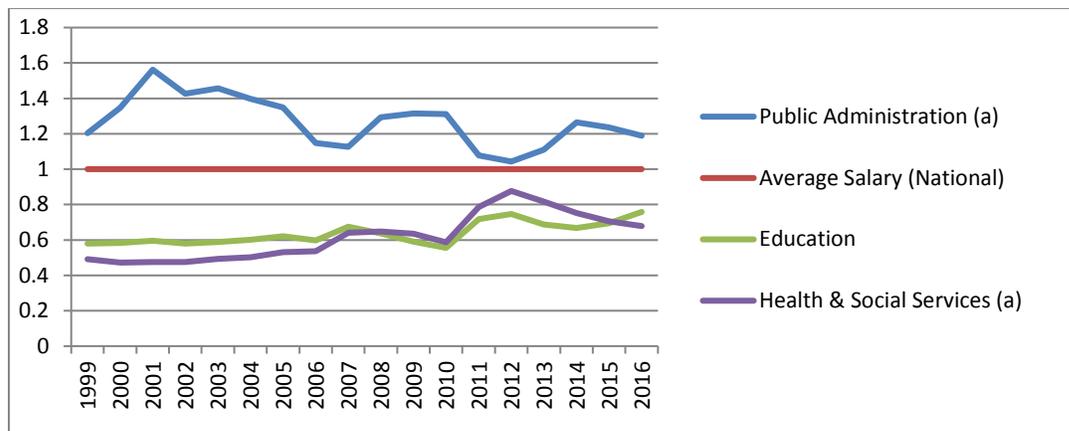
Source: Reproduced from World Bank (2016a).

b. Labor expenditure and human resources quantity issues

The share of personnel expenditure cannot be reduced by freezing salaries as these are still relatively low in the health sector, in fact gains obtained in 2011–2013 have been eroding in relative terms. Average salaries in the health sector have been low compared to salaries of other sectors in the Kyrgyz Republic (Figure 5.6). A significant raise in 2011–2012 caused average salaries in health and social work to increase to 88 percent of the average national salary, higher than education salaries, but the gains have slowly eroded since then, with average health sector salaries in 2016 only at 70 percent of the average and back below average salary levels in

education. Increases in salaries in 2011–2012 appear to have been financed at the expense of public administration salaries, which reversed in 2013 and 2014 (the increase in Education salaries in 2015–2016 appear to have been financed the same way). This is an indication that salary increases are not sustainable unless there is a permanent increase in fiscal space, a decrease in the number of government employees, or structural changes in the skill composition of the health workforce.

Figure 5.6. Evolution of Salaries in Health Relative to National Average and Government Salaries, 1990–2016

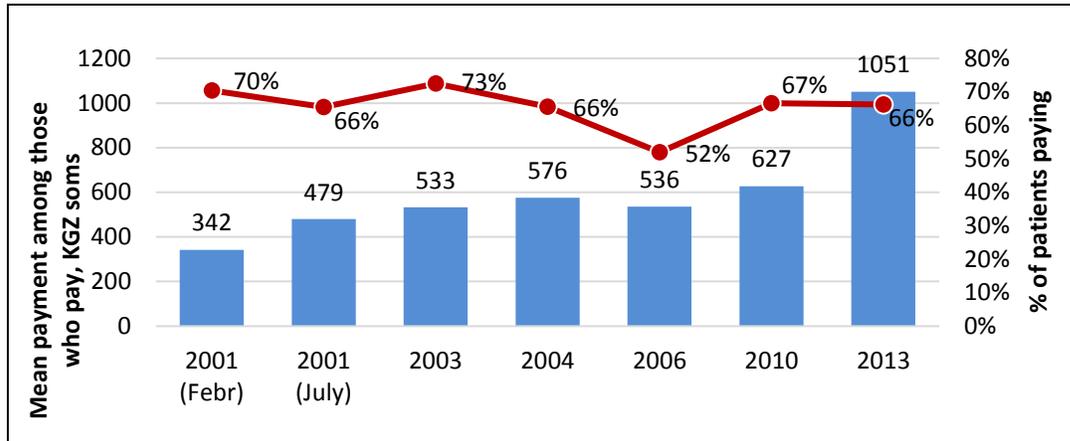


Source: Data from the NSC, Government of the Kyrgyz Republic.

Note: (a) Health care and social services became Human Health and Social Work Activities in 2014. Government Management was renamed Public Administration. However, examining changes in salaries between November 2013 and February 2014 compared to previous years did not reveal any break in the series.

In the absence of structural changes or increase in fiscal space allowing more competitive salaries, health sector workers will surely continue to rely on informal payments with consequences in terms of incentives for staff deployment to rural areas and increased burden on OOP. Jakab et al. (2016) report evidence that informal payments did not decrease after the rise in salaries in 2011 and 2012 (Figure 5.7). In addition to low average salaries, they point to unattractive working conditions for health workers (workload, multiple shifts, management, limited training, and inadequate equipment) as responsible for the rise in informal payments. With relative salaries decreasing again as shown above, informal payments are not expected to go down unless important structural changes occur.

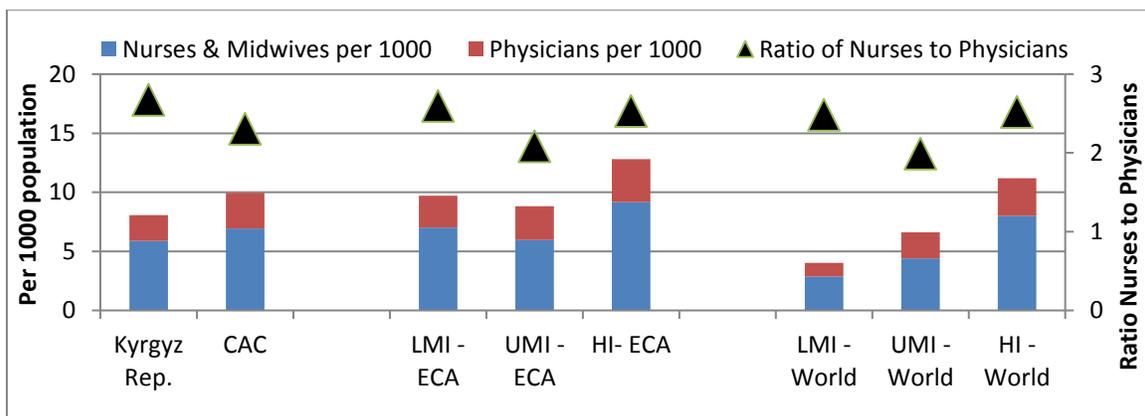
Figure 5.7. Average Informal Payments and Share of Patients Paying, 2001–2013



Source: WHO and MoH, Surveys of Discharged Patients, conducted in 2001, 2003, 2004, 2006, 2010, and 2013. Figure reproduced from ICR 2015 (see also Jakab et al. 2016).

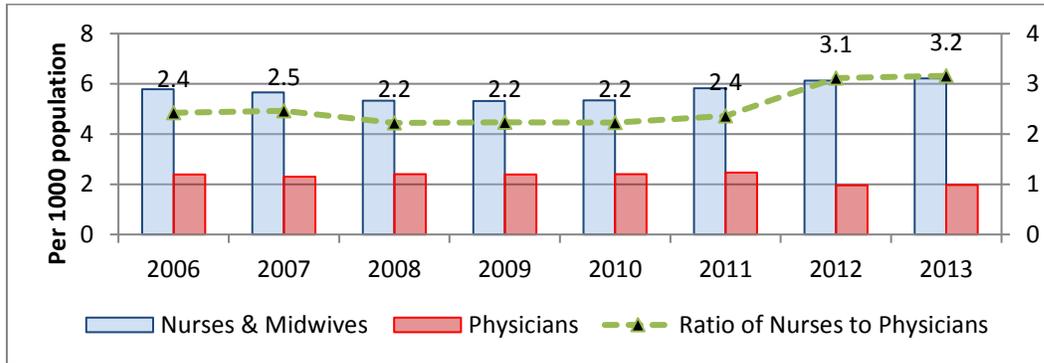
It would be difficult to reduce the share of personnel in health expenditure by reducing the number of health workers, given that staff ratios are already low relative to regional averages, but not impossible considering global averages by income groups. Based on the 2010–2013 averages, the country had 2.2 doctors and 5.9 nurses/midwives per 1,000 people, about 1 doctor and 1 nurse less per 1,000 people than the average in Central Asia and Caucasus region (Figure 5.8). Staff per 1,000 is also less in the Kyrgyz Republic than LMICs in the ECA region and close to the average of UMICs in ECA. Nevertheless, it has nearly twice as many nurses and physicians than world averages for LMICs and about 20 percent more than UMICs, indicating some room for maneuver. The number of physicians per population remained fairly stable from 2006 to 2011 but decreased 20 percent in 2012 while the number of mid-level medical staff increased 5 percent (Figure 5.9). Considering that the ratio of nurses to physicians was average for LMICs in 2010–2013 and higher than regional averages, it is not likely that it could be increased further.

Figure 5.8. Staff Ratios Compared to Regional and Income Benchmarks (Averages 2010–2013)



Source: Authors, using HNP database (World Bank).

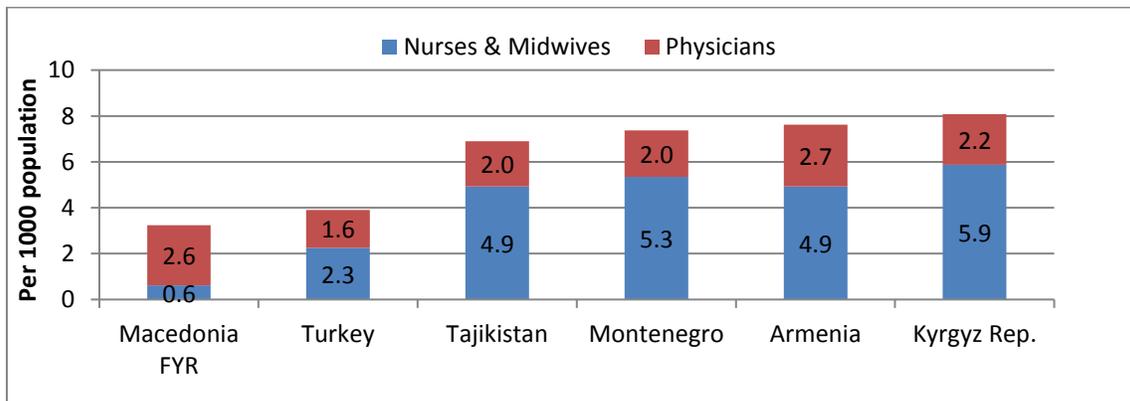
Figure 5.9. Nurses and Physicians per 1,000 Population in the Kyrgyz Republic, 2006–2013



Source: Authors, using HNP database (World Bank).

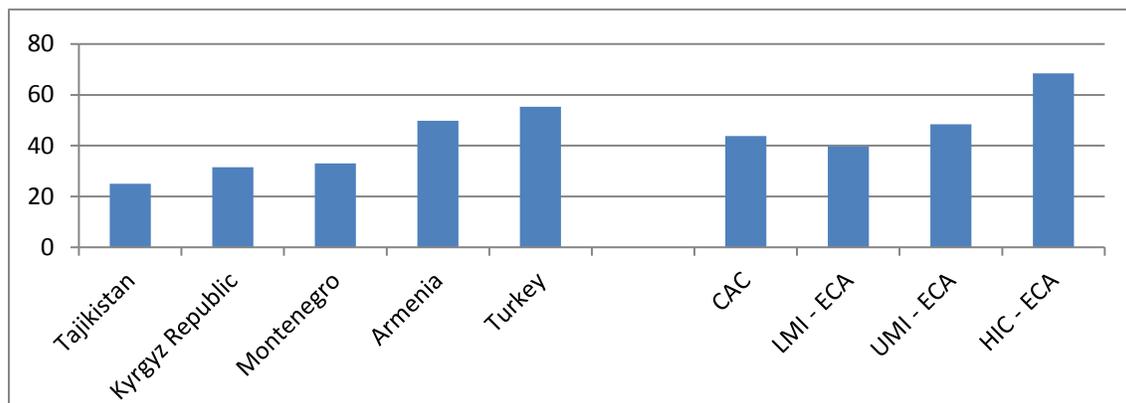
Lower staff ratios are not incompatible with higher efficiency overall, provided the number of GPs per population is not reduced. The country has more physicians and nurses/midwives combined than all countries identified in the relative efficiency analysis of Chapter 1 as performing as well or better than the Kyrgyz Republic overall on efficiency grounds (Figure 5.10). The difference is mostly due to the larger number of nurses per population but all countries except Armenia and FYR Macedonia have fewer physicians per population. At the same time, most of these countries have more GPs per population, as is the case for the region as a whole and for middle-income countries in ECA (Figure 5.11). Overall, some restructuring may be warranted, keeping the total number of medical staff per population as well as the ratio of nurses to doctors stable but increasing the ratio of GPs to specialists among doctors.

Figure 5.10. Staff Ratios Compared to Most Efficient Countries (Averages 2010–2013)



Source: Authors, using HNP database (World Bank).

Figure 5.11. Primary Care Doctors (GPs) per 100,000 in the Kyrgyz Republic Compared to Most Efficient Countries and International Benchmarks (Averages 2010–2013)

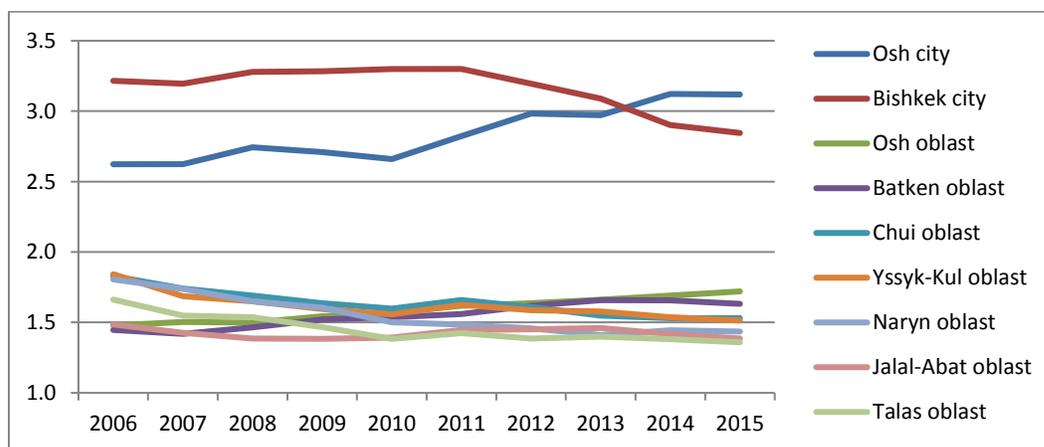


Source: Health for All (HFA) dataset, WHO, updated September 2016.

Note: Data not available for FYR Macedonia.

Average staff ratios hide important differences between the two largest cities and the rest of the country but no significant difference across oblasts. Figure 5.12 shows that doctors remain concentrated in the two large cities.⁷⁸ In 2015, there were on average 3 doctors per 1,000 people in the two largest cities compared to 1.5 in the oblasts. Very little difference is observed across oblasts with the largest 1.7 doctors per 1,000 population in Batken and the lowest 1.35 in Talas. The difference is also relatively small between Bishkek and Osh in percent of population with a trend clearly in favor of Osh City since 2010 (in 2006, Bishkek had 20 percent more doctors per population than Osh; in 2015 Osh City had 10 percent more than Bishkek). This is consistent with the evidence presented above on the need to increase the number of general practitioners (GPs) if, as is likely the case, the proportion of specialists is larger in the two large cities.

Figure 5.12. Doctors per 1,000 Resident Population in Oblasts and Main Cities, 2006–2015



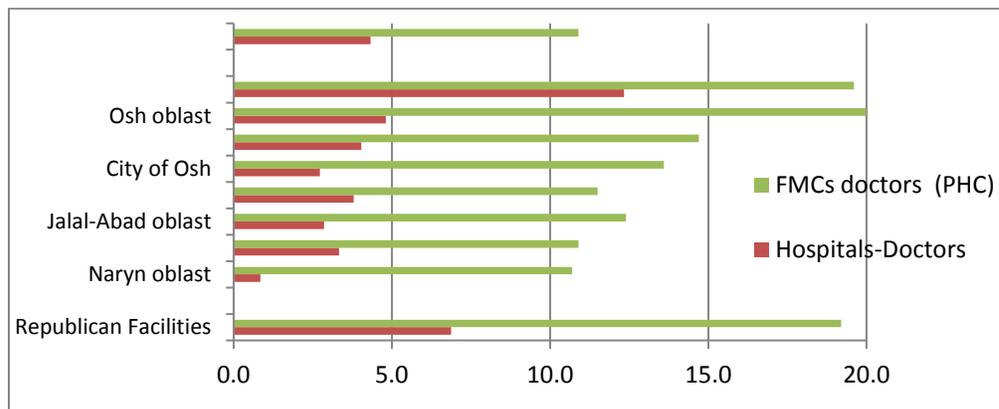
Source: NSC.

Vacancy rates are higher in PHC facilities than in hospitals, highest for doctors in PHC facilities and lowest for mid-level staff in hospitals, but there are large variations in rates within categories across oblasts. In 2015, vacancy rates in PHC/outpatient facilities (FMCs) were 11

⁷⁸ The NSC data does not distinguish between specialists and GPs.

percent for doctors and 3.4 for mid-level medical staff while they were 4.3 percent for doctors and 2.8 for mid-level medical staff in inpatient facilities. The averages, however, hide important variations across regions (Figure 5.13). Talas had the highest vacancy rate for both PHC and inpatient facilities followed by Osh Oblast. Republican preventive and treatment facilities had difficulties filling vacancies at every level, including for mid-level medical staff. Vacancy rates are typically much lower for mid-level medical personnel than for doctors everywhere except in Osh City's PHC facilities where they reach close to 19 percent. No vacancies were recorded in Bishkek, indicating that the problem is not one of availability of skilled personnel but the ability or willingness of qualified individuals to locate outside of Bishkek.

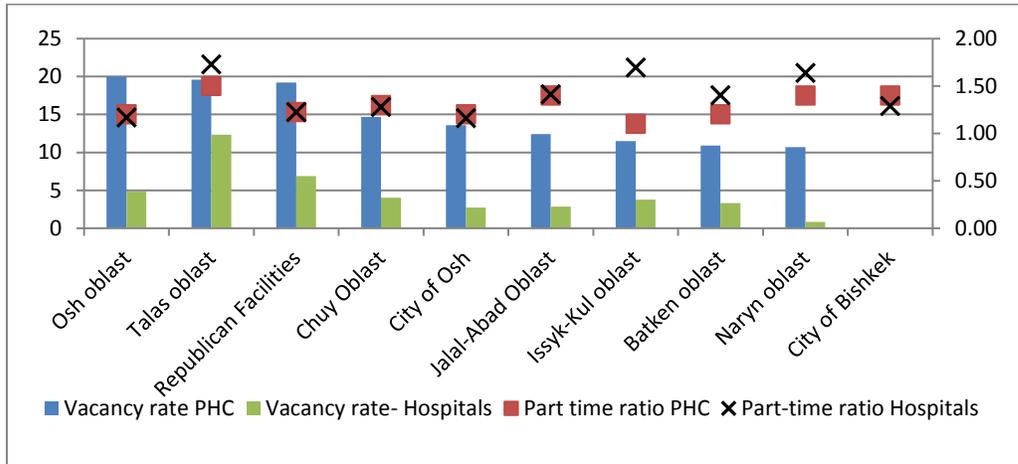
Figure 5.13. Vacancy Rates for Doctors by Type of Facilities and Region, 2015



Source: MoH (File from Sagyn).

All regions and cities employ doctors and mid-level medical staff overtime but there is no relationship between part-time ratios and vacancy rates. Figure 5.14 shows vacancy rates for doctors in PHC and hospitals and part-time ratios calculated as the ratio of filled positions (employed) to the number of individual staff working. We would expect staff in facilities unable to fill vacancies to compensate the lack of personnel through the use of overtime; this is not what the data reveal. Regions with lowest vacancy rates in hospitals such as Naryn and Issyk Kul have some of the highest overtime rates. Talas oblast has both high vacancy rate and high overtime for doctors in PHC facilities as well as hospitals, but the overtime rate is in fact lower in PHC facilities where the vacancy rate is higher. The lack of relationship between overtime and vacancy rates indicate that positions are not properly attributed or simply that unfilled vacancies complement low salaries.

Figure 5.14. Vacancy Rates and Part-time Ratios in PHC Facilities and Hospitals, 2005

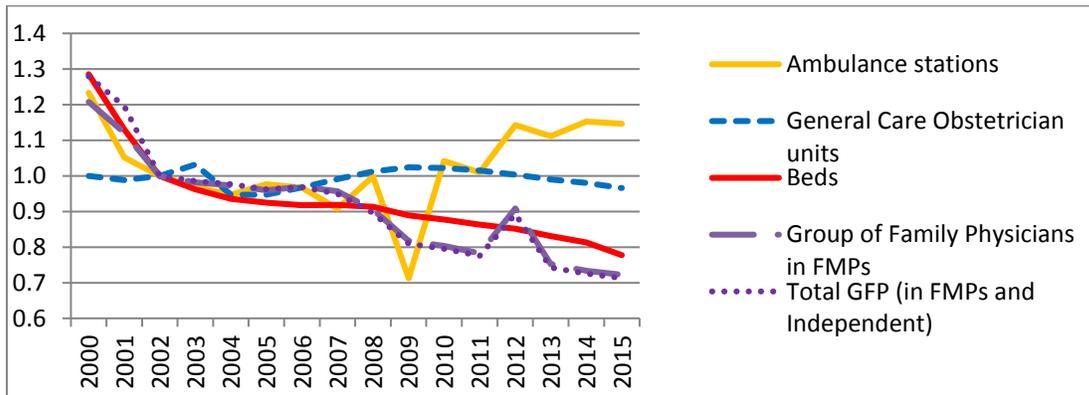


Source: MoH.

c. Physical capital (health facilities and beds)

Since restructuring, physical capital has not increased relative to population growth except for ambulance stations since 2011. Figure 5.15 shows trends in the number of beds and health facilities relative to population growth since 2000. The country went through an important phase of hospital restructuring in 2001–2002, with a 42 percent reduction in the number of buildings and 35 percent reduction of floor space (Kutzin 2003). Between 2003 and 2006, there was little change in physical capital except for a modest decrease in the number of beds (–4 percent in absolute terms and –8 percent per capita).

Figure 5.15. Trend in Beds and Health Facilities, 2000–2015 (Index corrected for population growth, 2002 = 1)

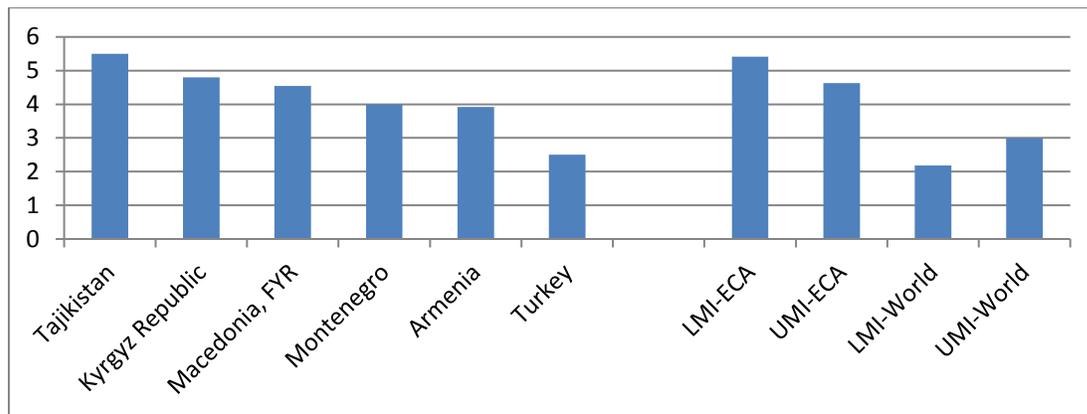


Source: Authors, using NSC data.

From 2007 to 2009, the number of general care obstetrician units increased both in absolute terms and relative to population but after 2010, the increase in absolute terms was not sufficient to accommodate population growth. In fact, the number of obstetrician units, supposed to benefit from savings from the 2001–2003 reform is now slightly lower relative to population than before the reform. Ambulance stations recovered their 2002 level in 2010 and subsequently increased faster than population growth. The number of FGPs continued to decrease at about the same rate as the number of beds in hospitals.

There is still some limited opportunity to decrease the number of beds relative to population but PHC facilities may need to be expanded (or host more GPs). The Kyrgyz Republic, with 4.8 beds per 1,000 people in 2010–2012, is below the average of LMICs in ECA and just reached the average of UMICs in ECA, but it is well above world averages for all middle-income countries. It is also above all middle-income countries found to be in the most efficient group of ECA countries in the analysis of Chapter 1 (Figure 5.16). It is therefore possible to obtain as good or better health results with fewer hospital beds. On the other hand, given the low number of GPs per population as shown above, further decreasing the number of PHC facilities is not recommended.

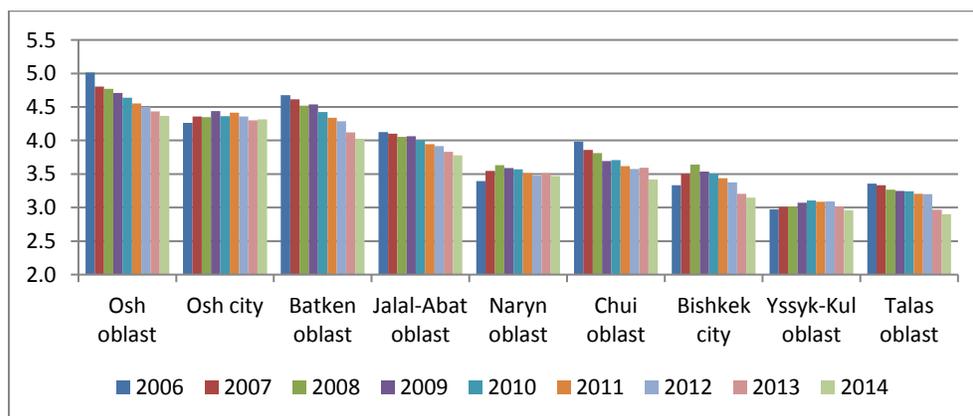
Figure 5.16. Hospital Beds per 1,000 People, Kyrgyz Republic Compared to Most Efficient Countries and International Benchmarks (2010–2013 averages)



Source: HNP database.

The number of beds per 1,000 population remains significantly higher in the South than in the North and East indicating some room for hospital downsizing in the South. Figure 5.17 shows trends in bed to population ratios by oblast and for the two major cities. Although the number of beds per resident population significantly decreased in all Southern oblasts (–14 percent in Batken and Osh Oblasts between 2006 and 2014), they did not decrease in Osh City (+1 percent), and there are still significantly more beds per population in the South (4.3 if we exclude Jalal-Abad and 4.1 with Jalal-Abad) than in the Northern part (3.2 beds per 1,000 people). Considering that the hospital restructuring reform was limited to the North in 2001–2002, there is still room for downsizing the number of beds in the South.

Figure 5.17. Hospital Beds per 1,000 Resident Population by Oblast, 2006–2014

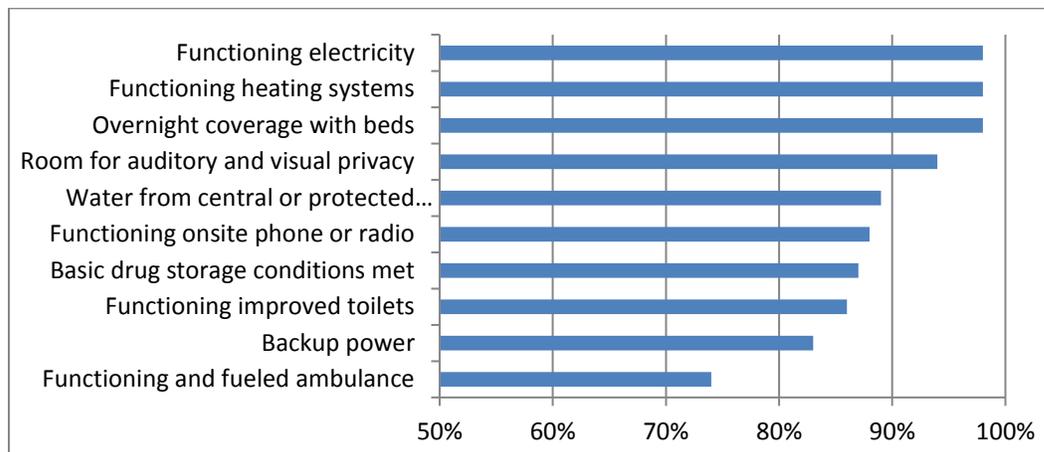


Source: NSC.

d. Basic infrastructure and equipment adequacy (in inpatient facilities)

The Health Facility Assessment of the RBF midline survey conducted in the 65 general hospitals in 2012–2013 revealed a few cases where basic infrastructure was not available (Figure 5.18). A large majority of the facilities reported no issues with basic infrastructure but the proportion, even small, is not acceptable as the problems identified are serious enough to render the facilities mostly ineffective in providing secondary health care and, in some cases, basic care. For example, one-quarter of the facilities did not have a functioning ambulance or fuel to operate it; one facility did not have electricity at the time of the survey and 11 did not have back-up power, 7 hospitals did not have water from a central or protected water source, 9 did not have functioning improved toilets, and 2 did not have access to a phone (out of the 8 with no phone on site).

Figure 5.18. Adequacy of Basic Infrastructure in General Hospitals, 2012–2013



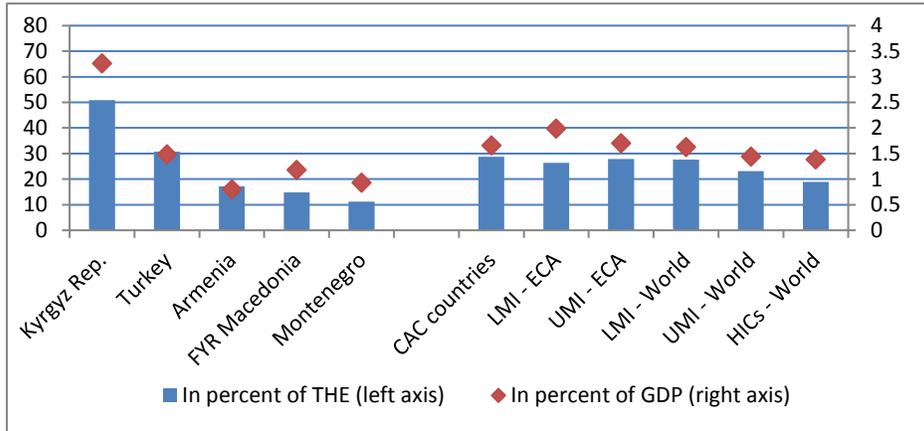
Source: Adapted from RBF Baseline Survey Report (World Bank 2016).

e. Medicine and supplies

Too much is spent on pharmaceuticals and the weight of pharmaceuticals on households' OOP expenditure is too high. Total expenditure on pharmaceuticals constituted 51 percent of THE in 2006 according to the World Pharmaceutical expenditure database (WHO) and 43 percent in 2007 according to NHA (more recent data was not readily available). Figure 5.19 shows, based on 2006 data, that the country is spending much more on pharmaceuticals as a share of THE and GDP than other countries on average, including the group of relatively most efficient countries (5.25). Considering that the share of pharmaceuticals (medicines and consumables) in household health expenditures in 2015 was 61 percent (KIHS), the situation has likely not improved since then.⁷⁹

⁷⁹ The rest of OOP for health went to hospitalization for 26 percent and PHC for 13 percent (KIHS 2015).

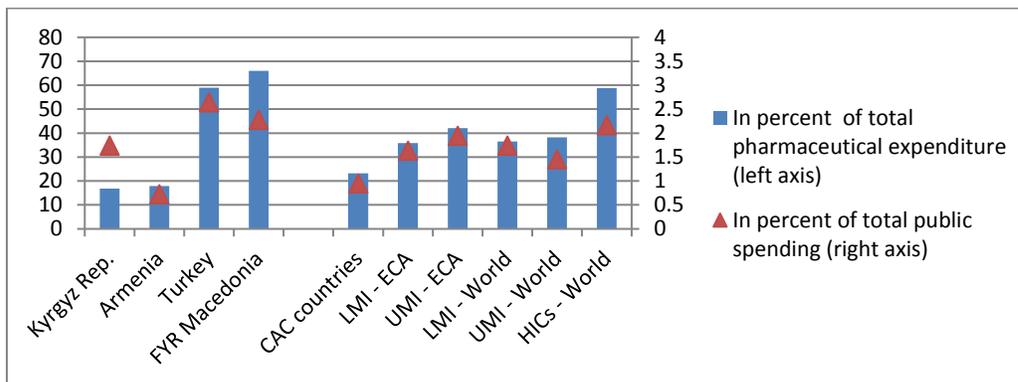
Figure 5.19. Total Expenditure on Medicines Compared to Most Efficient Countries and International Benchmarks (2006)



Source: WHO, World Pharmaceutical Expenditure database.

The share of expenditure on pharmaceuticals borne by the government is very low and could be significantly increased while decreasing overall pharmaceutical costs. According to NHA 2007, only 2.5 percent of total pharmaceutical expenditure was borne by the government; the World Pharmaceutical database gives a higher share of 17 percent for 2006. Considering that pharmaceuticals and supplies constituted about 14 percent of health expenditure of the government in 2010–2013 (see balance of input above) and that public health expenditure were between 55 and 60 percent of THE during the same period, the figure should be close to 5 percent of THE (the higher figure of 17 percent possibly results from including off-budget external funding). Even using the higher figure, we find that the Kyrgyz Republic is well below other countries in share of total medicine costs financed by the public sector (Figure 5.20). This low share of the burden, however, needs to be put in perspective of much higher total expenditure on medicines, as seen above.

Figure 5.20. Public Expenditure on Medicines Compared to Most Efficient Countries and International Benchmarks (2006)



Source: WHO, World Pharmaceutical Expenditure database.

Basic generic medicines were about four times international prices and were available 70–75 percent of the time in 2007–2013, but the situation is about average for LMICs. Expenditure on pharmaceuticals could be driven by very high demand for medicines in the country, simply because people tend to take more medicines. In the Kyrgyz Republic, there is a bit of both but

the price effect likely dominates. Differences in availability and price of select generic medicines were recorded for a set of countries across the world between 2007 and 2013 (WHO, GHO): the generic drug was available 70 percent of the time in the Kyrgyz Republic, about average for the middle-income countries surveyed.

Table 5.3. Median Availability and Relative Price of Selected Generic Medicines (2007–2013)

	Availability (%)		Median Price ratio (%) ^(a)	
	Private	Public	Private	Public
ECA				
Kyrgyz Republic	70.0	n.a.	3.9	n.a.
Kazakhstan	86.7	40.0	3.4	n.a.
Moldova	56.0	46.0	4.7	5.2
Russian Federation	100.0	100.0	4.1	2.7
Ukraine	91.4	88.6	3.7	4.0
EAP				
Philippines	21.7	26.8	10.8	10.8
Indonesia	57.8	65.5	2.0	1.8
Mongolia	90.0	38.7	n.a.	n.a.
LMICs, World (15 countries)	64.5	57.9	14.0	8.4
UMICs, World (10 countries)	72.0	56.4	4.9	1.6

Source: GHO data, extracted 2017/05/09.

Note: (a) The median price ratio is calculated using the lowest generic price relative to international base price.

A more recent study (WHO 2017) evaluates at 75 percent the availability of affordable basic diagnostic and treatment technologies and medicines, including generics required for treating major NCDs, both in public and private health care institutions. Prices were closer to the international reference price than the average of LMICs but higher than the average of UMICs. The country paid slightly more for medicines than Kazakhstan and Ukraine and much higher than Indonesia but slightly less than Russia and Moldova and a lot less than the Philippines (Table 5.3).

Prices of generic medicines have decreased but remain largely above international reference prices and significantly above for some basic generic medicines in the private sector. A survey of the Medicine Transparency Alliance (MeTA) conducted in the fall of 2015 compared price of medicines in 2015 and 2010. For the public sector, the report concluded that procurement prices as well as median prices for the majority of lowest-priced generics had decreased in line with the decrease in international reference prices. However, originator brands procured in the public sector were expensive (for example, seven times the international reference price for Metformin brand). For the private sector, median prices for the majority of generics decreased and were closer to the international reference price with a median price ratio of 2.2 versus 3.5 in 2010. Nevertheless, prices of certain basic generic such as Aspirin were almost 20 times the international standard. Prices varied from 1.0 and 1.86 across regions. Originator brands availability was very low compared to availability of generic medicines in all regions, likely due to the extremely high price of originator brands—for example fluconazole was over 100 times the reference price and almost 30 times more expensive than the generic equivalent (MeTA 2015).

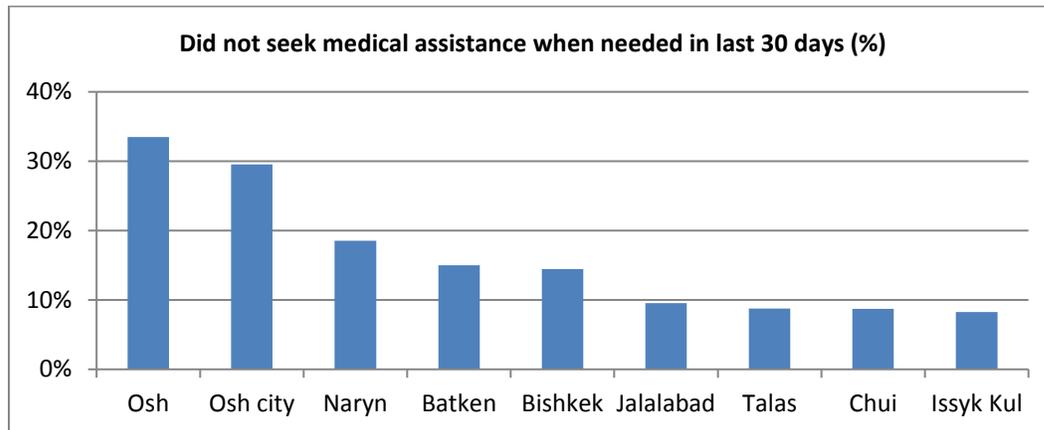
Prices of medicines appear to vary greatly across hospitals and regions. According to MHIF's data on procurement of medicines, prices between hospitals for the same generic, strength, and dosage can vary up to 800 percent. The contracts between MHIF and hospitals do not address the issue of drug prices.

Availability of medicines and supplies in inpatient facilities was found to be reasonable in 2012–2013 but important gaps were identified. The RBF Health Facility Survey, focusing on medicine and supplies for Maternal and Neonatal Health, concluded that “most tracer drugs and equipment were available at the vast majority of facilities.” There were, however, some concern relative to basic supplies that have the potential to significantly lower clinical efficiency. For example, supplies for sterilization (soap and water or disinfectant, sharps container, decontaminating solution, clean or sterile gloves) were inadequate in 15 facilities; some essential drugs in the treatment of hypertension in Pre-Eclampsia/Eclampsia (PE/E), despite the high incidence of PE/E in the country, were stocked in less than 7 percent of the facilities; Ergometrine, used to facilitate delivery of placentas and prevent bleeding after birth, was frequently not in stock; tetanus toxoid vaccine, iron or folic acid tablets were available at less than 60 percent of facilities. Overall, the study found that all basic antenatal care supplies were available at 72 percent of the facilities.

Utilization of health services

There are important differences in health care utilization by region and almost all people not seeking care did so because they self-medicated. On average nationally only 17 percent of people did not seek care when needed and no significant difference could be observed between rural and urban areas and across quintiles (except for the lowest quintile where the proportion dropped to 12 percent). There are however large differences across region (Figure 5.21) and in particular in Osh City and oblast where 30–34 percent of people did not seek care. Stated reasons for not seeking care are not associated with affordability (less than 4 percent nationally and less than 1 percent in Osh and Osh City), and even less to access or perceived low quality (less than 1 percent nationally and even less in Osh/Osh City). It is, nevertheless, overwhelmingly linked to the fact that people resort to self-medication (90 percent nationally and almost exclusively in Osh/Osh City) and mostly using pharmaceuticals rather than herbs. So if affordability is not given as the reason for not seeking care, very low effective participation of the State in the cost of pharmaceuticals is likely the main driver; increasing participation of the State may in fact encourage people to consult doctors to get prescriptions.

Figure 5.21. Health Seeking Behavior by Region (2015)

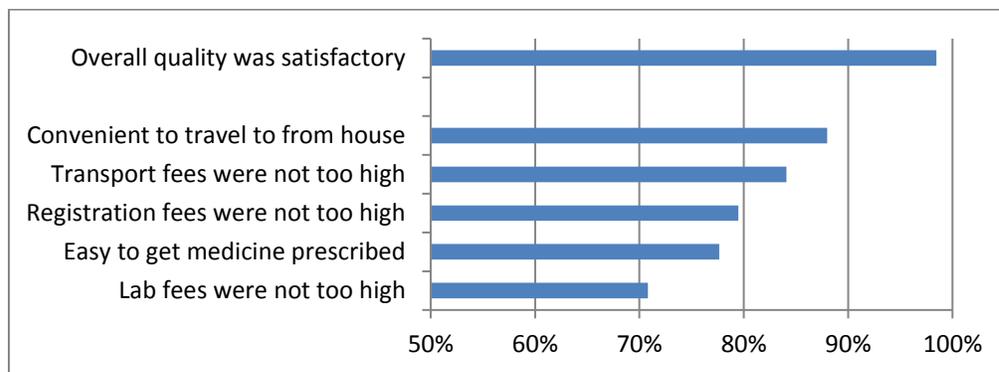


Source: KIHS 2015.

Note: Averages are obtained after applying sample weights.

Perception of quality and access was not an issue for people who visited inpatient facilities, but less satisfaction was reported relative to laboratory fees and ease to get medicines prescribed. Results of exit surveys from inpatient facilities in the Kyrgyz Republic in 2012–2013 indicate that overall perception of quality of hospitals is very good, with 98 percent of respondents overall satisfied. Nevertheless, close to one-third of respondents thought prices were too high for laboratory tests and 22 percent had difficulties getting prescribed medicines (Figure 5.22).⁸⁰

Figure 5.22. Perception of Cost and Access from Exit Surveys at Inpatient Facilities (2012–2013)

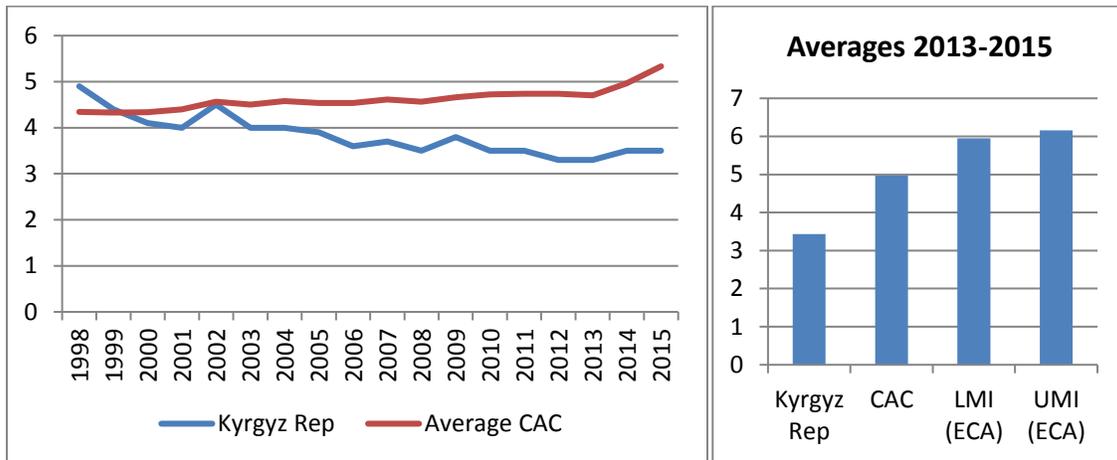


Source: Adapted from RBF Baseline Survey Report (World Bank 2016).

On average, people see a PHC doctor 3.5 times per year, significantly less than the regional average. Individuals on average visited a PHC doctor at the health facility 2.7 times in 2015. Adding home visits, the number of contacts per year was 3.5. The number slowly decreased between 1990 and 2006 (from 6.3 to 3.6 PHC contacts per person) and has remained relatively stable since then, while it stayed above 4.5 in the region. It is now close to half the ECA average for LMICs (Figure 5.23). This indicates that there is no overuse at the primary care level and there may be some gains to encouraging one check-up visit per year for all at the PHC level as a preventive measure.

⁸⁰ Exit surveys were conducted as part of the RBF baseline survey in 2012–2013 on 716 individuals (World Bank 2016).

Figure 5.23. PHC Contacts per Person per Year, Trend (1998–2015) and Regional Comparisons

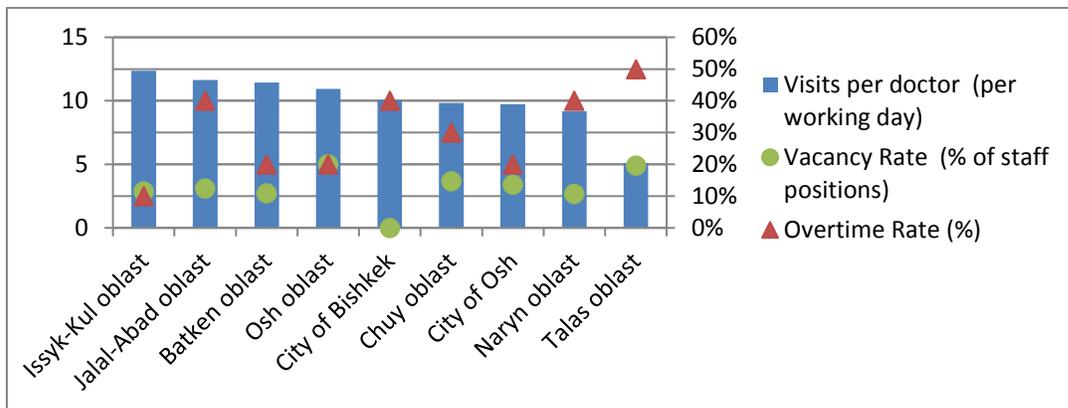


Source: Authors, using HFA database.

Productivity

Based on 2015 data, the number of consultations per doctor in FMCs is low nationally and across oblasts and not consistent with vacancy rates and staff overtime rates noted above. Nationally, doctors in PHC facilities (FMCs) saw, on average, 10 people per working day in 2015 with a variation from 12.4 in Issyk Kul to a low of 5 in Talas (Figure 5.24). These are low by any international standard. As a comparison, the average number of consultations in PHC facilities for GPs in Moscow Oblast, Russia, was 23 in 2007 (WHO 2009). When contrasting productivity numbers to vacancy and overtime rates, we find no systematic relationship. Interestingly, the oblast with highest number of consultations per day has the lowest vacancy and overtime rates and the oblast with the lowest number of consultations per day has the highest vacancy and overtime rates.

Figure 5.24. Productivity vs Vacancy Rates and Overtime for Doctors at the PHC level, 2015



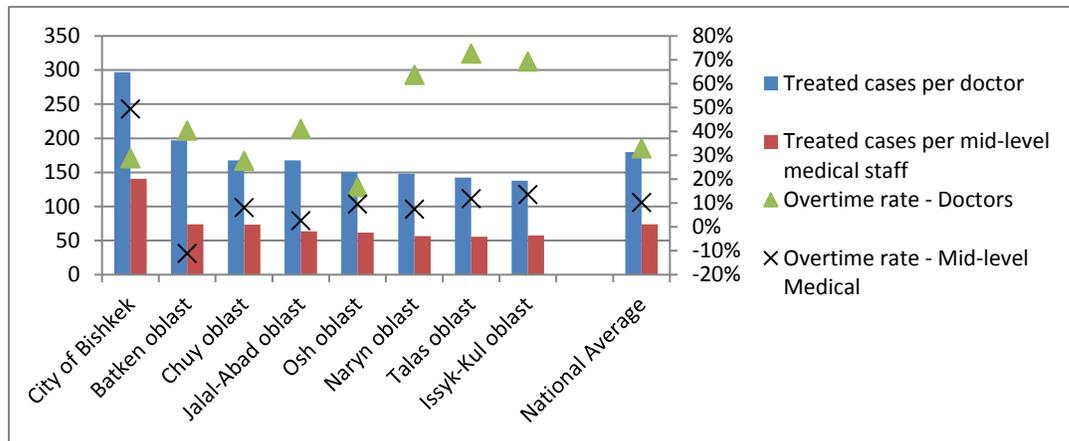
Source: Authors, using MoH reports.

Note: The number of visits is reported per doctor per year in the MoH reports. We used the number of working days in 2015 in the Kyrgyz Republic, assuming 5-day workweeks (253) to convert to day workloads.

Staff productivity at the inpatient level is also quite low on average but there are wide variations across the country, indicating potential gains from hospital restructuring. On average, there were 180 treated cases per doctor in inpatient facilities and 74 per mid-level

medical staff but the ratio varies from a high close to 300 in Bishkek and a low of 138 in Issik Kul Oblast (Figure 5.25).⁸¹ The highest overtime rates for doctors are in oblasts with the least number of treated cases per number of staff.

Figure 5.25. Hospital Productivity: Treated Cases per Staff, 2015



Source: Authors, using information shared by MHIF

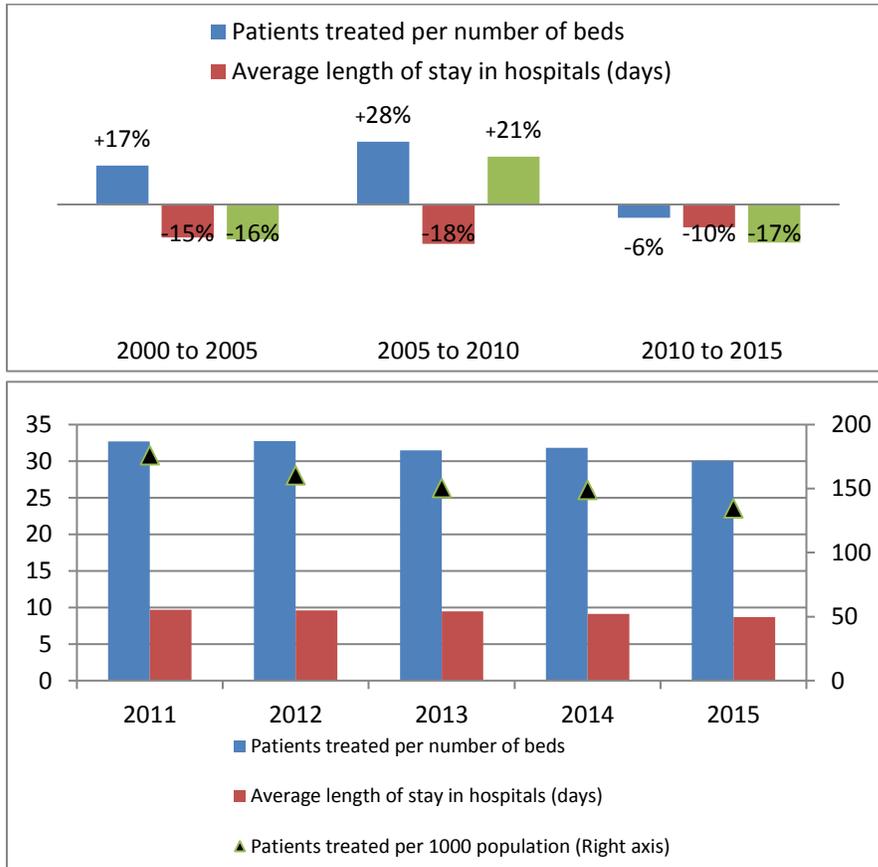
Note: Number of doctors and nurses are counted as full-time equivalent (FTE). Negative overtime rate indicates that there are more individuals working than employed FTE positions). Number of treated cases are from the MHIF quality examination report. The report does not separate Osh City so we combine Osh City and oblast for number of beds and staff. Republican facilities are excluded from the national average.

Bed productivity remained fairly stable since 2010 as average length of stay (ALOS) continued to decrease—albeit slower than the previous decade—and the number of treated cases increased slower than the population. The largest increase in bed productivity was between 2005 and 2010 with the number of patients treated per bed increasing from 25 to 32, but this increase was as much due to a decrease in ALOS as to an increase in the number of treated cases, significantly higher than the population growth (Figure 5.26). The peak utilization of beds was reached in 2011 when patients treated per thousand people were also highest (176). At that time the bed occupancy ratio for acute hospitals was 98 percent and it decreased to 85 percent in 2015. It is not possible to tell if the ratio of treated cases to population will continue to decrease but the indicator needs to be monitored. Given a sustained decrease in the number of patients treated per beds and ALOS, there may be a point when the total number of beds could be decreased but this is unlikely given that the number of beds per population is not particularly high in Kyrgyz Republic (442 versus 510 in LMICs in ECA). It may be useful, however, to examine differences in occupancy rates across hospitals to see if it would make sense to transfer capacity across facilities.⁸²

⁸¹ The number of doctors and mid-level medical staff is the FTE figure reported as “employed positions” in the MoH.

⁸² Facility-level data were not available for this report.

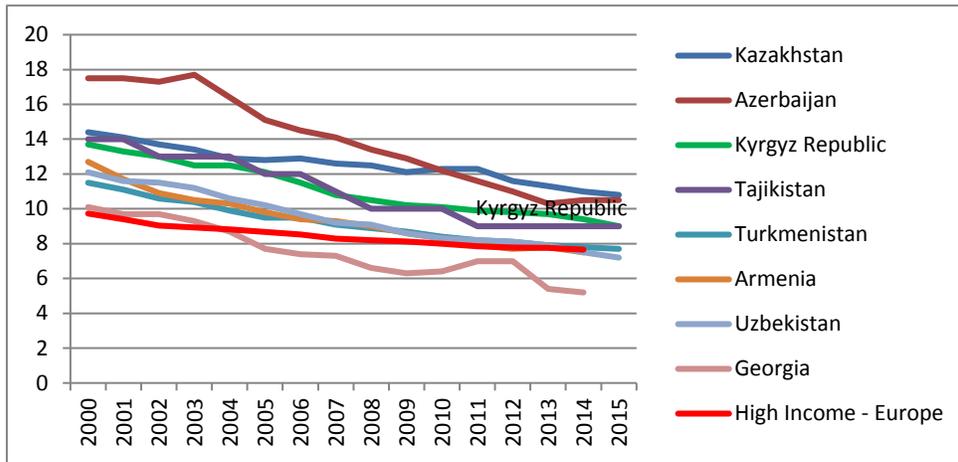
Figure 5.26. Trends in Utilization of Hospital Facilities, 2000–2015



Source: HFA dataset, WHO, updated 9/2016.

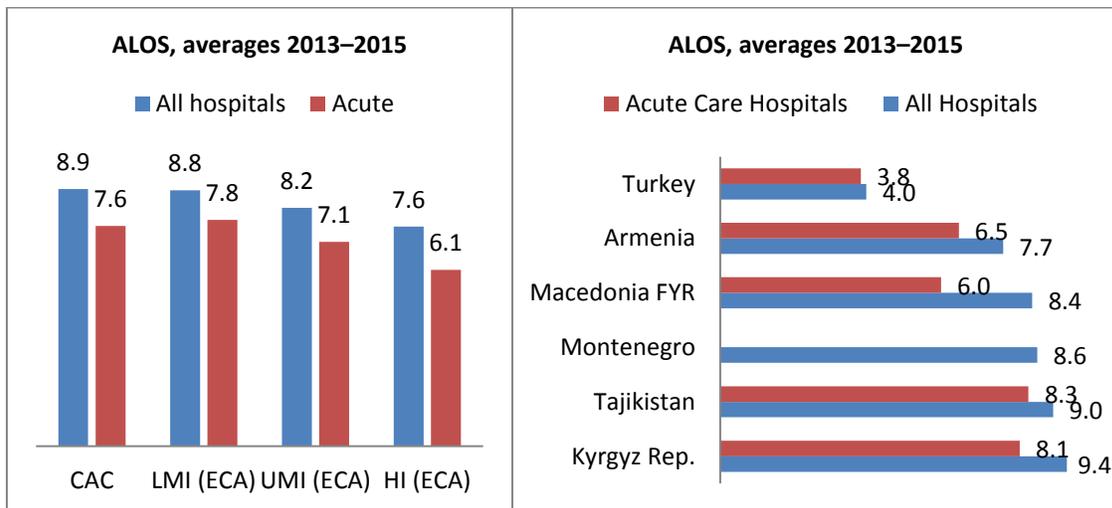
There is some room to decrease ALOS further, with the understanding that reducing ALOS in places where it is already low could in fact cause some efficiency loss. Decreasing ALOS in hospitals can save money if patients can continue care in a less expensive setting. Decreasing ALOS too far, however, would decrease efficiency. First, short ALOS increases cost per day if the intensity of care needs to be increased. Second, and potentially most damaging, discharging patients too early can damage health outcomes and increase the number of expensive re-admissions. There has been a general long-term decreasing trend in hospital ALOS in Europe and Central Asia and higher-income countries keeping patients shorter lengths of time on average (Figure 5.27). ALOS are not expected to decrease much further however. They have already leveled out around 6–7 days in Europe and Turkey is the only country in ECA with ALOS in acute care hospitals (short-stay) lower than 5. Nevertheless, the Kyrgyz Republic still has some room to improve efficiency by decreasing ALOS further. Currently, the country keeps patient about one day more than European HICs on average and has the highest ALOS among the most efficient ECA countries identified in Chapter 1 (Figure 5.28). The difference across regions is not very large (from 12 days in Chuy to 8 days in Batken) but significant enough to warrant focusing efforts on regions where ALOS is 10 or above, namely Chuy, Jalal-Abad, Naryn, and Issik Kul (Figure 5.29).

Figure 5.27. Length of Stay in Hospitals, Trends in Central Asian Countries and European HICs, 2000–2015



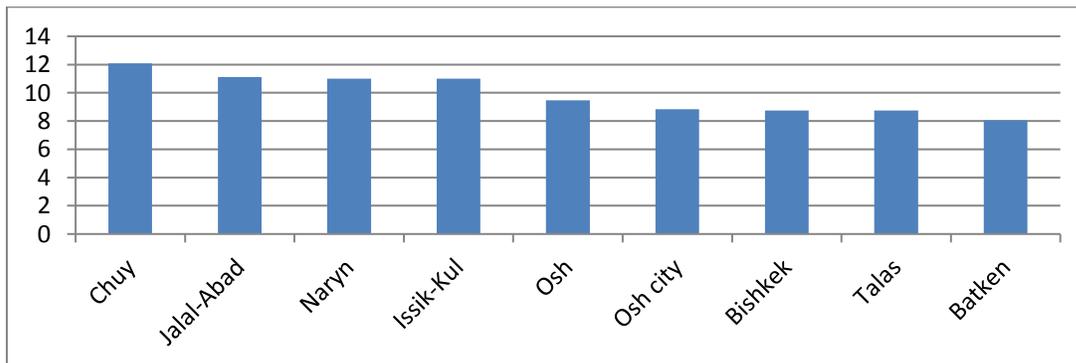
Source: HFA dataset, WHO, updated 9/2016.

Figure 5.28. Average Length of Stay in Hospital in the Kyrgyz Republic against Regional and Most Efficient Benchmarks, averages 2013–2015



Source: HFA dataset, WHO, updated 9/2016, HNP database.

Figure 5.29. Length of Stay in Hospital, as Reported by Patients (2015)



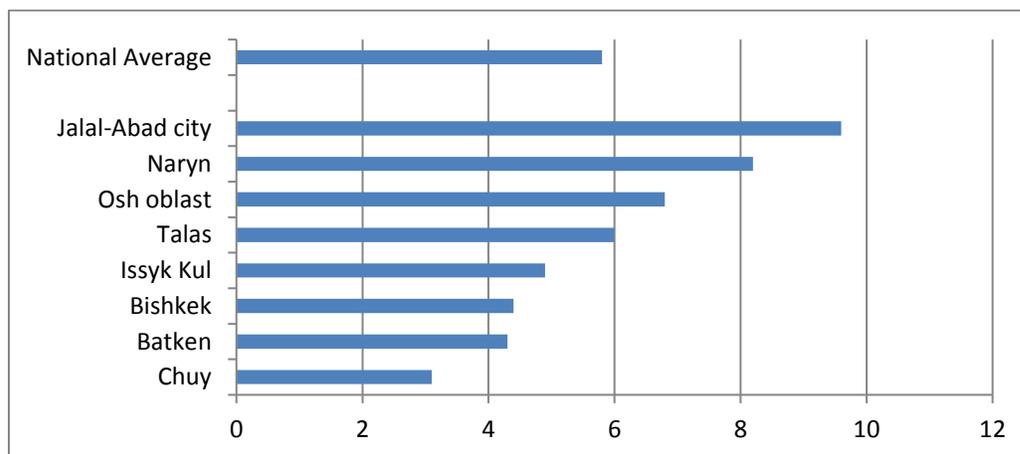
Source: KIHS 2015.

Effectiveness (in terms of using the appropriate input for the appropriate task)

The evidence on input productivity presented above does not distinguish between types of cases. The number of treated cases per doctor may increase and/or ALOS may decrease on average only because less severe cases or cases that could be treated at a lower level of care are treated in hospitals. Considering that the cost per day in a tertiary care hospital is much higher than treatment in a secondary care hospital and inpatient treatment is much more expensive than outpatient care, inappropriate matching between type of case and place of treatment increases costs without improving outcomes.

The national average rate of unjustified hospitalization based on MHIF quality surveys remained stable in 2014–2016 around 5–6 percent, but there are large variations across locations. Based on results of the quality survey carried out through inspections every year, 5.8 percent of hospitalizations in general hospitals were unjustified nationally in 2016, the same ratio as in 2015 and 1 percentage point more than in 2014. There are large variations across locations with a low of 3.2 percent in Chuy Oblast to close to 10 percent in the city of Jalalabat (Figure 5.30). Large increases were also noted in some oblasts (Jalal-Abat and Naryn) while others have improved significantly over the last 3 years (Issyk Kul). The rate of unjustified hospitalization in TB hospitals is similar, evaluated at 6 percent of treated cases in 2016.⁸³

Figure 5.30. Unjustified Hospitalization in General Hospitals across Cities/Oblasts, 2016 (% of treated cases)



Source of data: MHIF

The cost of these detected unjustified admissions in general hospitals is roughly evaluated at KGS 200 million. If we assume that these unjustified hospitalizations could all have been treated as ambulatory care, the cost may be evaluated using the number of unjustified cases and the difference between cost of care in tertiary or secondary hospitals and the cost of outpatient care. Cost estimates by level of care for the Kyrgyz Republic are taken from the 2013 SWAP II

⁸³ Difference between regions is not reported because of issues with small numbers in some regions, particularly Batken where only 20 cases were examined.

report (MoH/MHIF/KFW) and inflated to 2016 prices. Thus the loss is evaluated at KGS 222 million for 2016.⁸⁴

The rate of unjustified admissions is likely higher if we account for suspected cases based on medical procedures that could normally be performed at lower levels of care; the inefficiency associated with these cases was valued at KGS 700 million in 2013, approximately equivalent to 805 million in 2016 prices. A study conducted under SWAP II health in 2012–2013 reported an estimated loss of KRG 700 million due to treatment of cases at the wrong level of care. Using records from patients treated in Bishkek hospitals and a list of medical procedures best treated at level 1 (ambulatory care), level 3 (national hospitals), and level 2 (other hospitals), the team found 44 percent of cases could have been treated at a lower level. To compensate for data quality they reduced this proportion to 25 percent. Based on the 25 percent estimate, total savings that could be achieved by treating these cases at lower levels of care were evaluated near KGS 700 million in current prices, or about 805 million in 2016 prices.⁸⁵

There are also admissions that are justified given the severity of the case but could have been prevented if the ailment had been treated or prevented at lower levels of care; the loss associated with these cases was valued at about KGS 534 million in 2013, approximately KGS 617 million in 2016 prices. The same study (MoH/MHIF/KFW 2013) examined principal diagnosis of close to 100,000 non-surgery patients ages 6 to 79 admitted to hospitals and found 7,787 cases (8 percent) “could not be considered as ambulatory care sensitive conditions (ACSC) cases according to historical development, lack of service and lack of equipment on primary health care level.” The cost associated with this type of unjustified admissions was evaluated at 10 percent of hospital costs or KGS 534 million (hospital costs were aggregated across levels 2 and 3 hospitals using the number of cases and average cost at each level).

Quality of service (inpatient facilities)

Efficiency loss due to quality issues cannot be calculated here but it clearly contributes to overall inefficiency through direct effects on health, necessary readmission, and, in the case of incomplete records, duplication of tasks. Continued monitoring of quality will be essential, especially because, as will be seen later, it can be used as a measure for rewarding efficiency improvements.

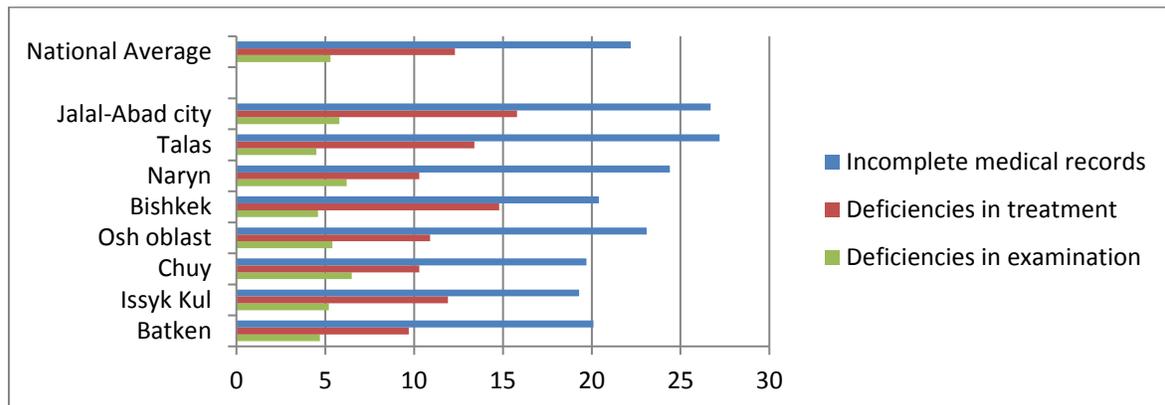
In 2016, flaws were still found in 10–16 percent of treatment procedures in general hospitals and 20–27 percent of medical records were incomplete. In addition to monitoring the rate of unjustified admissions in hospitals, the MHIF monitors quality in medical record keeping, examination, and treatment procedures by carrying expert examinations on 3–4 percent of cases. In 2016, 20.2 percent of medical records were found to be incomplete—from 19.3 percent in Issik Kul to 27.2 percent in Talas, and faults were found in 12.3 percent of treatments—from 9.7 percent in Batken to 15.8 percent in Jalal-Abad and in 5.3 percent of

⁸⁴ The costs are given in annexes to the report (MoH/MHIF/KFW 2013); they were evaluated in current prices at KGS 7,924 per patient in national hospital (level 3), 5,281 in other general hospitals (level 2), and 2,281 per patient as outpatient/ambulatory (level 1). The number of unjustified hospitalization cases is calculated using the number of treated patients indicated in the same MHIF quality report 2016. Cost savings are calculated using the difference between level 3 and level 1 costs for Bishkek hospitals and the difference between level 2 and level 1 for others. The 2013 cost estimates are inflated to 2016 prices using the GDP deflator (WEO).

⁸⁵ In their analysis, unjustified hospitalization at level 3 is assumed to be usefully treated at level 2 and unjustified hospitalization at level 2 usefully treated at level 1.

examinations—from in 4.5 percent in Talas to 6.5 percent in Chuy (Figure 5.31). Quality has decreased over the last three years in examination procedures and completing medical records but, as was the case for the overall level of unjustified hospitalizations, the percentage of deficient treatment procedures, which are most directly and immediately impacting costs remained stable in 2014–2016.

Figure 5.31. Treatment and Examination Quality across Cities/Oblasts, 2016 (percent)

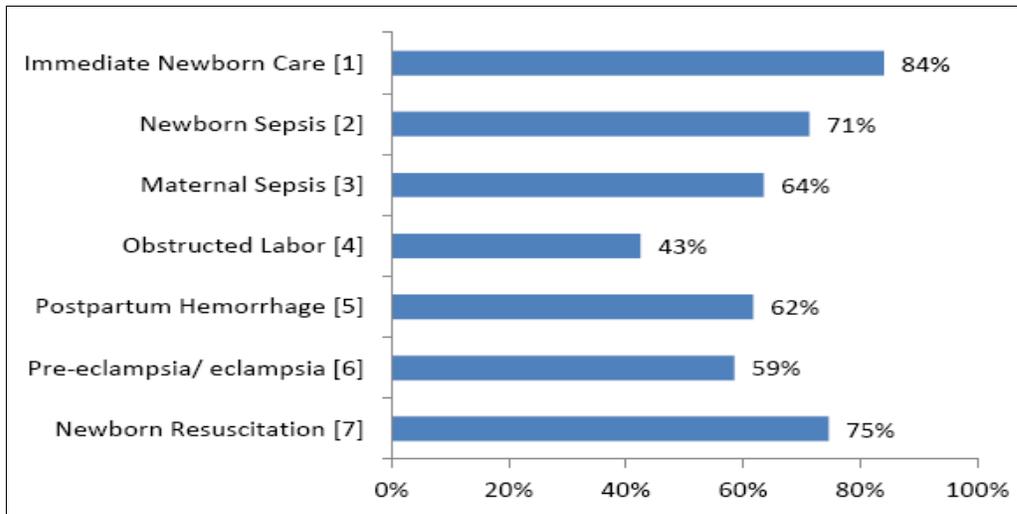


Source of data: MHIF

The RBF baseline survey revealed some important knowledge gaps in some key aspects of Maternal and Neonatal Health.⁸⁶ While ordinary examination procedures were generally followed and basic knowledge of immediate newborn care was good overall, serious gaps were identified both in diagnosis and treatment of complications (Figure 5.32). This was particularly true for obstructed labor where “only 40% to 60% of medical workers identified each given sign of obstruction, and the only well-known option to treat the complication was a Caesarian section (85%), with other measures like administering parenteral antibiotics or IV fluids only being mentioned by 20% or less of the sample” (World Bank 2016, 41).

⁸⁶ The Health Worker Knowledge of Management of Obstetric and Newborn Study was one of the six modules of the survey; results are based on responses to multiple-choice questions, a clinical case study on PE/E, and simulations of newborn resuscitation and postpartum hemorrhage complications. The survey was carried out in all 65 secondary hospitals in 2012–2013.

Figure 5.32. Knowledge Assessment for Maternal and Neonatal Health in Hospitals (2012–2013)

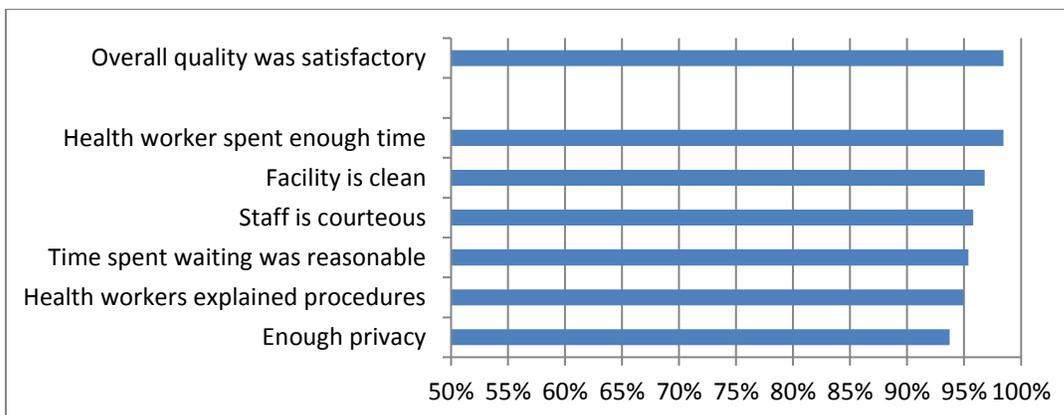


Source: Reproduced from RBF Baseline Survey Report (World Bank 2016).

Note: [1] Mean score for immediate newborn care; [2] Mean score of signs of sepsis in newborn; [3] Mean of scores for (1) evaluation and (2) actions for a woman who; [4] Mean of scores for (1) signs of obstructed labor and (2) actions to identify/treat obstructed labor; [5] Mean of scores for (1) signs to assess in a woman with heavy postpartum bleeding, (2) actions for woman with PPH due to atonic uterus and (3) actions for retained placenta and/or products of conception [6] Mean of scores for PE/E case study; [7] Mean score for newborn resuscitation simulation.

Perception of quality is very good among patients who visited secondary hospitals, but people appear to expect more medicines than they receive. Results from the 2012–2013 exit surveys conducted for the RBF baseline study show 98 percent of people who visited an inpatient facility found the overall quality of services satisfactory. Over half of people responded that they received timely medication while direct observations indicated appropriate timing in 95 percent of cases (Figure 5.32). This is consistent with the evidence above showing a high level of self-medication using pharmaceuticals.

Figure 5.33. Patients’ Satisfaction: Results of Exit Surveys (2012–2013)



Source: Adapted from RBF Baseline Survey Report (World Bank 2016).

5.3. Policies to increase production efficiency

Below, we examine opportunities directly aimed at improving production efficiency within the health sector. Opportunities are organized by broad category of reform and may include

solutions that fit under clinical, operations, and governance categories. We focus on three areas for reform with particular relevance to the Kyrgyz Republic given the situation described above: (a) hospital rationalization and strengthening of inpatient care, (b) medicine procurement/price regulation, and (c) increasing the use of incentives. Many of these reforms have already been suggested in previous studies—the World Bank’s Public Expenditure Review Policy Notes (World Bank 2014), SWAP—Health II report (MoH/MHIF/KFW 2013), and so on, and some are already launched (TB hospital rationalizations, RBF).

a. Hospital Rationalization and Strengthening of Outpatient care

Savings may be obtained directly by rationalizing the use of hospital facilities while ensuring that patients can be treated in outpatient facilities for equivalent results. The planned restructuring/rationalization of TB hospitals and treatment to reduce unnecessary hospitalizations was estimated to generate savings worth 1 percent of the health budget. The MoH has established a road map for the rationalization of TB hospitals, approved by decree in January 2017.⁸⁷ The rationalization aims at lowering the number of cases treated at the hospital level and distribute capacity across the country to treat outpatient and perform laboratory services. The road map plans the closing of 9 TB hospitals before 2026.⁸⁸ The capacity reduction will be progressive to achieve 40 percent reduction in TB inpatient beds by 2020 and reach 52 percent by 2026 (from 2,605 beds in 2016, to 1,565 in 2020, to 1,245 in 2026). Savings will be tracked and re-injected in priority areas, notably transportation, lab services, and primary level services. Savings are in part supposed to compensate for the decrease in financing from GAVI and the Global Fund during the transition phase (see Chapter 2), especially for laboratory costs, although it is not known at this point how much or when Global Fund funding for expensive lab procedures will be cut.⁸⁹ Total savings were estimated to reach the Kyrgyz Republic’s 139.7 million in 2020 or close to one-fourth the SGBP 2017 budget for inpatient TB care.⁹⁰ Relative to total GHE in 2016 (as used as benchmark throughout this report), the rationalization will create fiscal space worth about 0.9 percent by 2020 and up to 1.1 percent by 2026.⁹¹

Continuing hospital restructuring in the Southern part of the country, resulting in a bed per population ratio similar to the North, would potentially generate KGS 385 in savings, equivalent to 2.3 percent of government expenditure on health and possibly attainable by 2022. The evidence presented above showed that the overall number of beds per population could be further reduced, in particular in the southern regions, where hospital restructuring did not take place. Based on the evidence presented above, bringing the number of beds per population in the Southern regions down to ratios obtained in the North would allow cutting

⁸⁷ Action approved by Kyrgyz Republic Government decree #9 from 01.17.2017, realization determined by actions in accordance with MoH decree #123.

⁸⁸ The restructuring was supposed to start August 2017 but started earlier with the closing of a children’s TB hospital in Bishkek and some patients transferred to primary care for treatment in two regions.

⁸⁹ According to the Government decree of 01/17/2017, all savings to the Republican budget realized in the process of restructuring and optimization of TB organizations will be transferred for diagnostics and treatment of TB patients in organizations of primary healthcare, and the purchase of anti-TB drugs, thus gradually replacing drugs purchased from donor resources of Global Fund and GAVI (document from road map shared by the MoH).

⁹⁰ The road map indicates a reduction of 25 percent of budget financing for anti-TB aid. According to the data we obtained, the KGS 139.7 million represent 23.5 percent of funds reserved for inpatient TB care in the SGBP (part of the MHIF PBB); if we add funds reserved for TB drugs, also in the SGBP, it goes down to 21 percent. We do not have the MoH detailed PBB for 2017.

⁹¹ The 1.1 percent assumes that savings per bed cut are constant.

2,813 beds (Table 5.4).⁹² Extrapolating the savings the MoH anticipates from its planned restructuring of TB hospitals, hospital restructuring in the South could bring KGS 385 millions in additional savings or 2.4 percent of 2016 total state budget expenditure on health. Based on the time it took to establish the road map for TB hospitals (2 years) such savings could be obtained by 2022 if discussions start in 2018. As was noted in World Bank (2014), simply reducing the number of beds is not sufficient to realize these savings; it needs to be accompanied with incentive compatible reforms on the side of patients (for example, change in co-payment rules) and health facilities (see below).

Table 5.4. Estimate of Potential Bed Reduction in the South and South-West Regions

	2016 resident population (thousands)	2014 difference in bed/1,000 population ^a	Potential number of beds to cut
Osh Oblast	1,260	1.16	1,459
Osh City	270	1.10	298
Batken Oblast	493	0.82	403
Jalal-Abat Oblast	1,147	0.57	654
Total number of beds			2,813

Source: Authors, using NSC data.

Note: a. The difference is calculated relative to the average number of beds in the North, including Narin Oblast (3.21 beds per 1,000 population against 3.18 if we exclude Narin).

Reducing the rate of unnecessary hospitalization goes hand in hand with increasing the ability to identify these cases, to treat them in ambulatory settings, and to ensure that residents of different oblasts (or even rayons) have sufficient access to quality outpatient care. As savings from hospital rationalization are realized, the savings need to finance improving PHC facilities (including more GPs) and, in some case, secondary hospitals (including outpatient surgery units), so they have the means to treat these suspected cases of unjustified hospitalization based on principal diagnosis. Another condition to realize these savings is to create the capacity to identify specific recommendations to reduce unnecessary hospitalizations stated in the 2013 report on SWAP-Health II are still valid, in particular the following:

- Pay hospitals according to severity of cases based on a revised Diagnostic-Related Group (DRG) payment system
- Use existing list of same day surgery suspected surgical procedures
- Establish outpatient units in or close to hospitals for diseases listed as Ambulatory Care Sensitive Conditions.
- Endow secondary level hospitals and first level health care units with necessary equipment and train medical doctors for their new tasks.
- Medical personnel may work in the hospital and outpatient ward but should have clear distinction in task and working hours.
- Payment for each patient in the outpatient ward is either by Same-Day-DRG or as an ambulatory case.
- Better evaluate the scope and reasons of patients migrations to be treated in Bishkek hospitals and use results of the study to target needed improvements outside of Bishkek area.

⁹² Our discussions with the MHIF/MoH indicated that the surplus of beds is mostly in rayon hospitals.

b. Medicine procurement and price regulation

The current situation relative to regulation of pharmaceutical retail prices (none) and public procurement for hospitals (fragmented) contribute to low efficiency driven by costs and impose a growing burden on individuals. Recommendations to improve efficiency in medicine procurement and pricing have been made before and the point here is not to reiterate these recommendations. It is important, however, to emphasize the magnitude of benefits that could be expected from such reforms based on experiences in other countries and to highlight some of the barriers to reforming the sector in the Kyrgyz Republic to increase the chances of realizing these gains.

Price regulation is generally easier to implement than procurement reforms, but they have proved insufficient and their impact on prices decreases overtime. Experience in OECD countries proved that price regulations did contribute to price transparency and generally resulted in price decreases in the short run but their beneficial impact on price levels diminished over time due to strategic response from pharmaceutical manufacturers and the ability of wholesalers and retail pharmacies to exploit the reference price setting to their benefits (OECD 2017). Price regulation was strongly encouraged as a first step in a recent WHO report in light of the heavy and increasing burden of pharmaceutical costs in OOP; specific recommendations were made to introduce price controls (in particular, maximum pharmacy retail price on ADP drugs throughout the country) in the short run, with a medium and long term goal to reduce the share of OOP in medicine costs (WHO 2016b).

There is ample evidence to show that procurement reforms have the strongest potential to sustainably reduce pharmaceutical prices, and, together with improved supply chain and coordinated stock management, improve availability. Coordinating procurement through binding or voluntary collaboration across hospitals, regions, the nation, or even internationally (for example within the EAEU for the Kyrgyz Republic) to increase market power on the demand side presents the best potential for sustainable price decreases and long-term containment of pharmaceutical prices (OECD 2017). There are many examples of such successful efforts to coordinate procurement of medicines, pointing to important savings (Seidman and Atun 2017). In the three years between 2007 and 2010, Mexico saved US\$2.8 billion due to improved stock management and the creation of a center of excellence in procurement serving all public health care stakeholders (OECD 2013). Greece reformed its procurement system in 2010 to coordinate tenders for hospital pharmaceuticals and medical devices through a centralized agency (the Health Procurement Committee); the agency reported a 10 percent overall price reduction for pharmaceuticals and a 20 percent price reduction for selected medical devices (Kastanioti et al. 2013). Together with price reductions, stock management improved in Greece by allowing for transfer of redundant stocks between hospitals.

Probably the most relevant example for the Kyrgyz Republic is Serbia, where centralized purchasing by the MoH was tested for drugs used in hospitals (previously purchased at the hospital level), representing about one-third of drug purchases in Serbian health care system; the pilot claimed average price reductions of 27 percent leading to total savings worth EUR 25

million (Verheijen 2014).⁹³ The use of ‘framework agreements’ for the Kyrgyz Republic was suggested before as a means to “produce the efficiency saving and quality improvement of centralized procurement, while maintaining the flexibility of the current system where each facility purchases its own drugs” with the caveat that “the introduction of ‘framework agreements’ would require time and enhanced capacity, both at the MHIF and Drugs Supply and Medical Technology at the MoH” (World Bank 2014).

One way to set the path to procurement reform and encourage coordination is to systematically capture and publish data on price variations within the country. The NHS England Procurement Atlas of Variation is one example of such effort: “Initially, the Atlas covered 100 product lines; at present it covers more than 500. Users can create interactive maps with hospitals color-coded according to the price they paid for each product line as well as overall performance on all products. Estimates of annual potential savings are also readily available” (OECD 2017).

The fact that households currently bear a large part of pharmaceutical expenditure is not just a consequence of high prices, it also likely contributes to persisting inefficiency by reducing the immediate financial advantage to the public sector of containing pharmaceutical prices through reforms that generally involve setup costs. As shown before, pharmaceutical costs are in most part paid by households OOP. This happens despite current legislation where medicines for priority conditions under the SGBP should be provided free of charge and drugs on the ADP list (targeting mostly NCDs) reimbursed 50 percent for exempt and insured individuals. Medicines for priority conditions actually cost about 80–90 percent of the retail price (WHO 2016b). The government bearing so little of pharmaceutical costs is likely the key to the low interest in establishing centralized purchasing. If the government can take on more responsibility for medicines rather than leave it a good part to the private sector, then centralized purchasing could yield significant savings. Of course, given current procurement and pricing practices, increasing the responsibility of the government in covering pharmaceutical costs cannot be done without an increase in the budget, which is not feasible given tight fiscal space. On the other hand, increased responsibility of the state together with coordinated procurement and price regulation could yield significant reductions in drug prices, better management of stocks, increased reliance on generic drugs, and better containment of self-medication.

c. Increasing the use of incentives (rewards for good performance)

There are significant opportunities to reduce unnecessary hospitalizations, improve medical record keeping, encourage preventive activities, and generally increase quality of care through incentives. The MHIF has a system of penalties against hospitals to prevent repeated violations. The system of penalties may seem more attractive in a situation when fiscal space is so limited but is likely to be costly in terms of efficiency, especially if these penalties cannot be enforced. In fact our meetings revealed that the penalties are blamed for demoralizing the staff for the last 20 years. The current MHIF rules could be changed into an incentive system rewarding

⁹³ The way it works: “the Health Insurance Fund makes the so-called ‘framework’ agreement with selected companies, for selected drugs at an agreed price. [...] Hospital and pharmacy will still place their orders with the suppliers, who will deliver directly to the facility. The staff in the hospitals will now have more time to deal with other relevant issues. In addition, this system enables patients in Serbia to be treated with the same drug for the same disease equally anywhere in the country” (Verheijen 2014).

performance across and within hospitals. This could be achieved using own resources saved elsewhere. RBF has been already been experimented with successfully to improve quality in hospitals for MCH interventions (see below). RBF is currently being tested at the primary care level. Similar incentives may be used to improve the referral system—giving incentives for patients to use the appropriate facilities as well as incentives and means for personnel to send patients to the appropriate facilities. Finally, incentives may be used in HR strategy and planning, for example to improve the distribution of personnel across geographical areas.

The experience with RBF in hospitals for MCH consultations has been extremely positive and there is strong momentum to generalize the experience to all levels of health care and types of interventions. RBF was first tested in 2014 as a randomized experiment throughout the country to improve the quality of MCH interventions in district (rayon) hospitals. All rayon hospitals were randomly split into three groups. One-third of the hospitals continued business as usual (group 3), another third was quarterly monitored for quality using a balance score card approach (group 2), and the last group (22 hospitals) was monitored and received RBF tip-up payments based on their score (group 1).⁹⁴ Top-up payments represented about 8–13 percent of hospital budgets but made all the difference for hospitals, especially given the budget constraints in the first six months of the year. Results of the midline evaluation survey are not yet available but a midterm review was conducted with very strong results. The group receiving RBF payments increased its average score from a baseline of 9.3 percent to 79.0 percent; group 2, despite not receiving rewards increased its average score from 8.6 to 60.8 percent; and group 3 barely increased its score from 11.5 to 13.7 percent.

5.4. Capturing savings from efficiency gains

Besides the need to reallocate savings from efficiency gains ex post from areas of waste to areas in need of strengthening, rules guaranteeing the sector to retain savings are important ex ante to help generate these savings. Strict rules about directing savings from efficiency gains to most beneficial use regardless of where they were generated reduces the probability of generating these savings. There is an important debate over how efficiency savings should be redistributed. Once savings are obtained, they are pooled and (in principle) directed to most beneficial use, which may not be in the unit that generated the savings, or even in the health care sector. While this makes sense ex post to generate maximum benefits, it may not be optimal ex ante if it affects the probability of generating these efficiency gains. Indeed, there is nothing to redistribute if there are no savings. Improving efficiency, and more specifically technical efficiency, requires some efforts on the part of all actors in the health sector. These efforts are much less likely to take place if the health sector is not able to retain at least part of the savings generated. The issue is familiar to the country, cited as an example in the report of the 2014 UHC conference in Montreux (WHO 2015d)

[...]it is important to look at “who captures the savings” from efficiency gains. A lesson learned from Kyrgyzstan is that both technical and political issues can arise in retaining savings from efficiency gains in the health sector. Technical issues can relate to savings falling out of the health budget especially when budgets are formed based on inputs using standards or normatives. This issue was addressed in Kyrgyzstan through a combination of reforms that reduced fragmentation in the pooling of funds, fully realized program budgeting, and transitioned to output-based provider payment systems. These changes in technical mechanisms were necessary but not sufficient to overcome the initial response by

⁹⁴ <https://www.rbfhealth.org/project/kyrgyz-republic>.

the MOF to take the savings back to the budget, away from the MOH (and thereby effectively reducing the MOH budget as a consequence of efficiency gains in the sector). Over time, however, political will was mobilized (from combination of internal and external pressures) to maintain the level of the total health budget rather than penalizing the sector for improvements in efficiency. (p. 9)

Guarantees to the sector that a minimum percentage of the budget is reserved for health goes a long way in motivating the sector overall. Since 2012, under the second SWAP agreement to finance the Den Soluk program, the health sector is guaranteed to receive at least 13 percent of consolidated government expenditure, excluding external funding for health under the agreement (in practice, the 13 percent have applied to domestic funding only). So at least, the health sector as a whole is able to retain savings from efficiency gains without the need to provide evidence of such gains. Providing evidence of such gains combined with a good plan for beneficiary use of additional funds could help the case for reprioritization, which, as seen in Chapter 2, could provide significant fiscal space going forward. Indeed, it is generally easier to obtain more funds when there is a guarantee that the money will generate high returns.

Pooling gains at the level of the health sector will allow savings to be put to best use in consideration of allocative efficiency (especially if the PBB can be put in place) and to further improve technical efficiency. Pooled funds can be best used to finance

- Incentives available across health units,
- Gaps in areas that suffer inefficiencies simply due to lack of funds, and
- Setup or transitional costs necessary to further efficiency enhancing reforms.

At the micro level, however, individual units may still not be motivated to generate savings if they cannot see a direct benefit. If units save resources and see the amount of resources available for the next year reduced because they need less, as is the case with the current budgeting procedures, waste will continue to occur.

Creating a pooled fund that rewards efficiency improvements at the level of the units or/and the individual actor would encourage such savings. A precondition to motivate efficiency savings, as seen in Chapter 4, is to make sure that units that generated savings have the means to argue that the difference between planned and executed expenditure is in fact due to efficiency improvements. Another condition is that, if they can show improvement they will see direct benefit. While it is not recommended to block savings for the specific unit where savings were realized, it is important to consider incentives to generate savings in these units. Savings from all units that can be traced to efficiency improvements could be pooled into a specific fund that provides reward to actors who have engaged additional efforts to generate them, providing there is a way to measure and report such efforts. Rewarding efficiency improvement could in fact replace the current practice of fining facilities for quality or other violations as they create an equivalent opportunity cost.

6. Potential Gains and Summary of Options

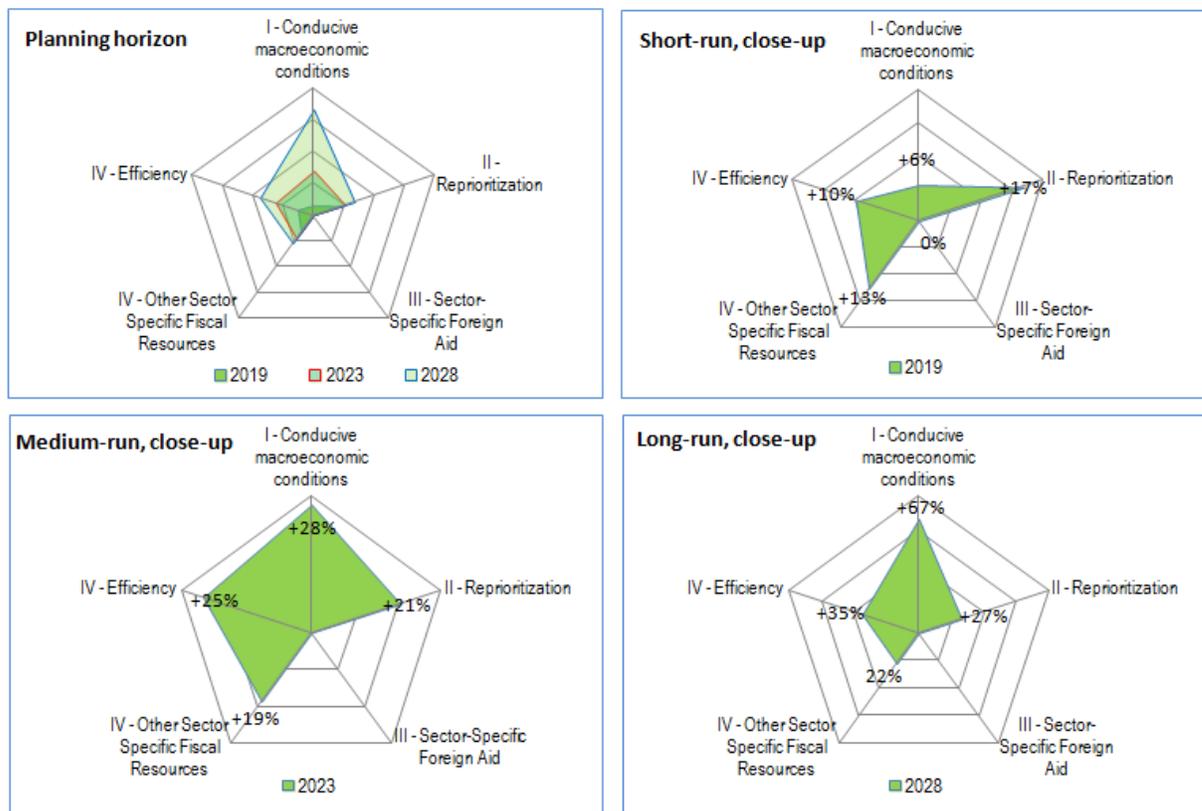
6.1. Assessment of total fiscal space potential

Best estimates of fiscal space can be combined using the traditional five pillar graph to represent total potential fiscal space in the short, medium, and long run for the Kyrgyz Republic (Figure 6.1). Figure 6.1 represents the quantified estimates of total fiscal space that

could be realized by 2019 (the expected start of the program), 2023 (5-year horizon), and 2028 (10-year horizon) along the traditional five pillar graph (see the Introduction). Potential increases in budgetary space (either by adding funding or reducing resource needs) are expressed in percentage of THE realized in 2016 and fully based on the analysis provided in the report. The graph highlights the fact that resources from the different pillars do not in fact add up and are likely multiplicative. The exact nature of the interaction, however, is not known and likely difference across different pillars, so changes in the size of the area are just an approximation of overall fiscal space.

Estimates for Pillar I are taken from the first sections of Chapter 2 on economic growth and debt. Estimates for Pillar II are from section 2.4. Pillar III is from section 2.3 on development assistance (no net gains are expected from this pillar). Estimates of Pillar IV are aggregated from the different feasible options that could be quantified in Chapter 3, including potential gains from increased social contributions (sections 3.1 and/or 3.2) and excise taxes (section 3.3). When the new funds are not earmarked to health, as is the case for excise taxes, we assume the share to health to correspond to the reprioritized figure (if reprioritization does not take place, the figure needs to be cut by about 2 percent.) Finally, the estimate for Pillar V on efficiency gains is from section 1.2. The estimate is based on comparing deviations from expected expenditure in the Kyrgyz Republic versus countries that placed more favorably than the Kyrgyz Republic on the efficiency map (with equal or better outcomes along all the dimensions measured); it is assumed that the potential is reached progressively.

Figure 6.1. Fiscal Space for Health in the Kyrgyz Republic Quantified along the ‘Five Pillars’ (percentage increase relative to 2016 GHE)^{a/ b/}



Source: Authors' simulations; 'Five pillars' graph template from Tandon and Cashin (2010).

Note: a. 2016 GHE includes realized expenditures of the State Budget. They include the development budget, SWAP funds, and MHI for a total of KGS 16,068 million.

b. The space is based on best available estimates considering feasible targets (maximum that the Kyrgyz Republic can expect if it implements the necessary reform). The figure for other sector-specific resources that are not earmarked to health assumes that health receives the same percentage of funds in the budget as in 2016. The figure increases by an additional 3 percentage points in 2019 and 6 points in 2023 and 2029. Efficiency gains assume the Kyrgyz Republic matches achievement of current best performers in LDCs of the ECA region.

6.2. Summary of options and feasibility

Table 6.1 summarizes the different options for fiscal space presented in Chapters 2 to 5. Specific sources of fiscal space for health and different options to obtain additional sources were given through this report; they are summarized in Table 6.1. As far as efficiency gains are concerned, fiscal space is quantified as a whole and will be given in the last section that summarized quantification of gains along the traditional five pillar graph (explained in the Introduction). The different ways suggested to fill the efficacy gaps are given in Table 6.1, but they are by no means exhaustive. For additional resources, potential gains are given when they could be quantified; qualitative information is given otherwise. Information on the timeline (short, medium, and long run) and feasibility are indicative and need to be reviewed by the main actors (MoH, MHIF, MoF). Caveats include potential risks and equity considerations. The rank is an appreciation of the authors in terms of priority for action. A long timeline and high priority indicates that steps need to be taken to facilitate moving toward a goal. It is as important to take these steps to move on easy options that can be implemented in the short run. The section number is given in the first column as cross-reference for details.

Table 6.1. Fiscal Space for Health - Summary of Options

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
2.1 2.5	Growth: 2017: 3.5% 2018: 3.8% 2019–2022: 5–5.4% 2023–2028: 5.4%	National reforms as announced, budget deficits as planned (3% in 2017 down to 2% in 2018 and 1.7% in 2022), share to health as in 2016. The higher projections for gains assume that the revenue-generating capacity of the government remains at 36.4% of GDP throughout the period.	<i>Short run:</i> –239 to +894 <i>Medium run:</i> 3,030 to 4,518 <i>Long run:</i> 8,766 to 10,701 (up to double 2016 budget by 2029 if growth is sustained around 5 percent/year	Gains exponential with time if growth is sustained. Feasibility: Average	Projections to 2022 are about average, barring political instability. Downward risk from world trade but positive outlook from EAEU integration. Projections beyond 3 years (from 2020) less reliable. Arbitrary linear extrapolations of IMF projection after 2022.	n.a.

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
2.3	External funds for health	Negotiations, coordination	No net increase expected. May obtain funding to encourage health reforms for efficiency improvements, setup costs.	Through the planning period	Transition period where the Kyrgyz Republic prepares for future decreases in some sector-specific funding but these decreases are not expected to occur during the period, given growth projections. Good standing needs to be sustained.	n.a.
2.4 2.5	Reprioritization	Share of health in budgetary funds increase to 13.6% (+2.5 points) sustained through the whole period. Guaranteeing to the sector a minimum percentage of the budget goes a long way in motivating the sector to realize efficiency gains. Showing efficiency gains also encourages continuing high shares.	(Additional): <i>Short run:</i> 2,534–2,715 <i>Medium run:</i> 3,057–3,296 <i>Long run:</i> 3,976–4,285	Gains exponential with time if growth is sustained. Feasibility: Average	Conservative estimate based on 2013 (did not result in cuts in other social sectors). Gains are calculated assuming the same higher share is sustained	1
3.1	SHI	Additional 1 percent social contribution for health as a payroll tax on employees	<i>Short run:</i> 1,060 <i>Medium run:</i> 1,219 <i>Long run:</i> 1,475	<i>Short run:</i> Feasibility Low <i>Medium run:</i> Feasibility: Average <i>Long run:</i> Feasibility: Good	Discussions to start early. Issue of equity will be raised opposing formal to informal sector, exempt versus nonexempt. Possibility to replace by a contribution based on income taxes that may be seen as more equitable (next).	1
3.1	Voluntary	Include a legal delay	Not valued -	<i>Short to</i>	No culture of	2

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
	participation in SHI	between payment and effective coverage. Offer different levels of coverage at different prices.	small	<i>medium run</i> Feasibility: Good	voluntary health insurance. Needs to be associated to quality improvement in public service.	
3.1	Scope of benefit package	Consider the option of applying different benefit packages to different population groups.	Not valued	<i>Medium run.</i> Discussion to start.	Recommended on equity/fairness grounds	2
3.1	Period of coverage	Extend period of coverage to employees employed less than a full year (especially seasonal) Number of months up to 11 depending on sums to SHI in previous months.	Not valued. Benefits could be large if the rule encourages formal employment. Costs not large if unemployed are among exempt.	<i>Medium run.</i> Discussion to start.	A pilot could help determine whether the measure encourages formal employment. The total payment for 12 months needs to be equal to the cost of voluntary participation in SHI. Needs to be combined with reform regarding how the MHIF uses budget funds for unemployed exempt beneficiaries.	2
3.1	Co-payments and exemptions	A. Reintroduction of co-payments for exempt categories based on ability to pay B. Review exempt categories to include all recipients of welfare	Fiscal space reduced by B in short run but A can compensate ; Savings may be reused for efficiency measures	<i>Short to medium run.</i> Possibly temporary measure Feasibility: Medium to low Discussions to start.	Recommended to improve equity/fairness. May be politically difficult to take away advantage obtained.	2
3.2	Income tax contribution to health	1 percent social contribution on all income based on income tax returns	<i>Slightly higher than with SHI payroll contribution</i>	Same as SHI Feasibility: Medium to low	Broader based and may be easier to pass than a payroll tax for SHI. But resistance to	1

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
				Easier to get popular support than other types of general taxes	be expected from the MoH as it is de facto an earmarked tax.	
3.3	Tobacco excise tax	Plan A: As currently in legislation until 2022. New legislation to adjust excise taxes to inflation and real per capita GDP growth from 2022 onward	<p><i>Short run:</i> R: 335–412 AE: 337–616</p> <p><i>Medium run:</i> R: 588–721 AE: 496–907</p> <p><i>Long run:</i> R: 688–844 AE: 350–640</p>	<p><i>Medium run</i> (indexing) Feasibility: High</p> <p>Scenario C recommended as least effort</p>	This is the status quo situation to 2022. The revenue may be added to the base scenario only if revenue-to-GDP ratio is increased due to the excise tax. Since the law was announced in 2017, we assume it will increase the revenue-to-GDP ratio	3
3.3	Tobacco excise tax	Plan B: Legislation amended to adjust excise tax rates to inflation and real GDP growth	<p><i>Short run:</i> R: 370–454 AE: 350–640</p> <p><i>Medium run:</i> R: 761–934 AE: 534–977</p> <p><i>Long run:</i> R: 871–1,079 AE: 688–1,259</p>	<p><i>Short run</i> if the legislation can pass before 2019</p> <p>Feasibility: Medium to high</p>	<p>Legislation may not be specific to tobacco taxes.</p> <p>Resistance may come from producers but indexing easier to pass than changes in rates so the two may be presented independently.</p>	1
3.3	Tobacco excise tax	Plan C: Legislation is changed from 2019. Tax raised to KGS 1,600 per 1,000 cigarettes in 2019 and raised to KGS 2,850 in 2022. From 2023 onward, the tax is just inflated every year to compensate for inflation and real GDP per capita growth.	<p><i>Short run:</i> R: 416–511 AE: 366–670</p> <p><i>Medium run:</i> R: 988–1,212 AE: 575–1,052</p> <p><i>Long run:</i> R: 1,108–1,360 AE: 733–1,342</p>	<p><i>Short run:</i> Indexing and new rates</p> <p>Feasibility: Medium to high</p>	Feasibility in short term (2019) depends on ability to enact new legislation superseding previous one. Bolder reform with higher rates encouraged but would depend on coordination with the EAEU.	1
3.3	Alcohol	Threefold increase in	<i>Short run:</i>	<i>Short run</i>	The simulations	1

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
	excise tax	tax on vodka and liquor in 2019 and sustained. The tax increase would equalize tax rate announced in neighboring Kazakhstan.	R: 130–170 Decreasing over time if not indexed to inflation and GDP growth. AE gains not estimated (constant consumption)	Feasibility: Medium EAEU rules to equalize excise taxes increases chances of implementation	assume constant alcohol consumption, which is not realistic. Given decreasing consumptions, however, gains from averted expenditure are expected to more than compensate the lower tax revenue.	
3.3	Other excise taxes	Start discussions to implement taxes on sugary beverages and fatty foods	R: Small AE: Potentially large	<i>Medium run</i> Feasibility: Good	Discussions themselves may have the necessary effect on fiscal space (use as advertizing); this is where the sector stands to gain most (in AE, prevention of CVD, diabetes).	2
3.3	Public-private partnerships in health care provision	Review current proposals against risk of inflated costs. Strengthen institutions and verify preconditions are met to move forward on public-private partnerships	No gain in fiscal space expected. Successful public-private partnerships more likely to bring efficiency gains (quality) but no expected AE.	Long run	Public-private partnerships in capital investment not recommended based on risks to not deliver on fiscal neutrality. Public-private partnerships in service may be more feasible but preconditions for success are not met.	3
4.1	Efficiency - PFM improved revenue collection	General legislation aimed at reducing informality	n.a. but potentially large for SHI	Continuous	Need to address specifically fast growing/emerging activities	2
4.4	Efficiency - PFM	Improvements in procurement	AE: 237 to the health sector		Valuation based on valuation of	n.a.

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
	General government	procedures, already planned	Costs outside health sector		total savings of 0.4 percent of GDP (IMF 2016) and current expenditure share of health in GGE	
4.4	Efficiency - PFM Health facilities, HR	Improved training and monitoring to reduce financial procedure violations	AE: 55	<i>Short run</i> Feasibility: Good with support	Specific recommendations in PFM review Issue of staff turnover: need to ensure continuity of skills in positions	1
4.4	Efficiency - PFM Health budget/facilities	Increase flexibility of spending allocation across financing sources	n.a.	<i>Short to medium run</i> Feasibility: discussions necessary	Already recommended in previous reports (Health PER, World Bank, 2014)	1
4.4	Efficiency - PFM General budget	Smooth out releases from the Republican budget to fund health facilities across quarters	n.a.	<i>Short run</i> Feasibility: Depends on the MoF	Already recommended in previous reports	1
4.4	Efficiency - PFM MHIF budget	Integrate amounts paid using budgetary funds to cover exempt individuals in the SHI budget	n.a.	<i>Short run</i> Feasibility: Depends on the MoF	Funds need to be secured to pay for priority spending.	2
4.4	Efficiency - PFM Health budget/facilities/HR	Review allocation rules for unspent salaries—consider changing the rule to allow using allocated funds to finance personnel incentive system. Monitor vacancy rates against overtime rates and performance on quality standards.	n.a. potential improvement in quality (better outcomes for same spending) ; may also generate savings	<i>Short run</i> Feasibility: Depends on budget structure, may be easier combined with fully integrated PBB	Funds may be capped at the facility level but not at the individual level. Considering some degree of substitutability in inputs, consider allowing the use of these funds for other line item such as equipment	1
4.4 5.2	Efficiency - PFM and Allocative	Review PBB programs structure (both MHIF and MoH) according to	AE: n.a. Condition to monitor	<i>Immediate/ short run</i> Feasibility:	Technical assistance needed to better explain	1

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
		guidelines (some information in section 5.2) and allow subprograms with same names/codes across administrations Fully integrate the improved PBB into budget accounting tool (1C)	progress on allocative efficiency, more flexibility to use resources where most needed if program is well designed	Medium to high	PBB role and how it is used. Resistance from administrative units afraid to lose control of their budget can be addressed within PBB. Better coordination can be achieved across health facilities	
5.2	Efficiency - Allocative	Review SGBP list of essential medicines— include high-impact products: contraception, Aspirin	High Both improved outcomes and high return to investment (minimal cost)	<i>Short run</i> Feasibility: Depends on budget	Efficiency gains not immediately in the form of AE. Investment may be delayed if lack of funding.	1
5.2	Efficiency - Allocative	Include high-impact preventive activities in quality control check lists and in designing incentive packages	High Both in terms of improved outcomes and high return to investment	<i>Medium run</i> Feasibility: Good, follow-up on RBF	Process to design the right policies may be long.	1
5.2	Efficiency - Allocative	Improved targeting of the poorest at PHC level and accompany follow-up through higher levels of health care	n.a. Gains in the form of improved outcomes rather than lower expenditure	Medium run	Return to investment not tangible in terms of R or AE so measure needs budget or use retained savings from elsewhere.	1
5.3	Efficiency - Technical Input reduction	Restructuration/rationalization of TB hospitals according to road map already established Savings to benefit PHC	By 2020: 140 By 2022: 175	Short to medium run		1
5.3	Efficiency - Technical Input reduction	Restructuration of hospitals	<i>Medium run</i> : 370	<i>Medium run</i> Feasibility: Good but need to get stated on road map		1

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
5.3	Efficiency - Technical Effectiveness (appropriate mix of inputs for appropriate task)	Goal: Reduce unnecessary hospitalization that can be treated elsewhere cheaper given current state of PHC facilities and district facilities. This can be done by removing spurious incentives, modifying provider payment rules for such cases, improving record keeping. Use of incentives possible.		<i>Short run - Urgent</i>	Actual detected unnecessary hospitalization to be reduced first (cost KGS 200 million)	1
5.3	Efficiency - Technical Effectiveness	Goal: Reduce unnecessary hospitalization. Reduce suspected cases by strengthening clinical capacity to treat specific conditions as day surgery or outpatient units.	Net gain: n.a. Potentially large	<i>Medium run</i> Feasibility: ? if recommendation did not lead to action since 2013, does it mean there are problems?	Recommendation in SWAP 2 2013 report	1
5.3	Efficiency - Technical Medicines prices	Atlas of prices: Systematically capture and publish data on price variations across the country as a means to motivate coordination	n.a.	<i>Short run</i> Feasibility: Good but involves upfront costs.	Measure that could be used in waiting for a more complex procurement reform. Could accompany with flexibility to allow hospitals to post joint tenders.	
5.3	Efficiency - Technical Medicines price regulation	Establish maximum prices, regulate mark-ups	n.a.	<i>Short to medium run</i> Feasibility: Needs legislation	Caveat is that gains may not be long lasting, although easier to do than procurement reform	2
5.3	Efficiency - Technical	Set up coordinating agency for centralized procurement using	Gains: Potentially very large and	<i>Long run</i> Feasibility: Medium to	Suggestion in PER (World Bank 2014)	1

Ref.	Source of fiscal space/mean	Action (or goal when action needs to be determined)	Potential yearly gains for health ^(a) (KGS, millions)	Timeline - feasibility	Comments/ Caveats	Rank
	Medicines Procurement	framework agreements	increasing relative to status quo given current trends in price increases	low but conditions can be changed	Conditions need to be established so reform can move forward. Need to build step by step. Important for sustainability. Problem likely to get worse. Negotiation of framework agreements do not imply warehouses or transport still covered by supplier.	
5.3	Efficiency - Technical	Change MHIF penalty system into a reward system	Investment	<i>Medium run</i> Feasibility: Good but needs to find the source of funding		2
5.3	Efficiency - Technical	Generalizing RBF across all health facilities, including PHC level Review design with focus on preventive	Investment - Expect good return on performance	<i>Short run</i> (what is already started) continue to long run Feasibility: High combined with ability to retain efficiency savings		1
5.4	Efficiency - PFM	Pooling savings from efficiency gains to ensure optimal use of saved funds. Still need to guarantee some benefit to areas where efforts are made.			Effective pooling implied a functioning and integrated Program-Based Budget.	1

Note: (a) R = Revenue for health; AE = Averted Expenditure.

References

- ADB (Asian Development Bank). 2013. *Private Sector Development Update, 2013*. Report of the Asian Development Bank.
- . 2014. *The Kyrgyz Republic Strategic Assessment of The Economy Promoting Inclusive Growth*. Report of the Asian Development Bank.
- ADO. 2017. *Asian Development Outlook, Transcending the Middle-Income Challenge*. Asian Development Bank, May 2017.
- Akkazieva, B., M. Jakab, and A. Temirov. 2016. “Long Term Trends in the Financial Burden of Health Care Seeking in Kyrgyzstan.” Health Financing Policy Papers, Barcelona, World Health Organization Regional Office for Europe.
- Bader, P., D. Boisclair, and R. Ferrence. 2011. “Effects of Tobacco Taxation and Pricing on Smoking Behavior in High Risk Populations: A Knowledge Synthesis.” *International Journal of Environmental Research and Public Health* 8 (11): 4118–4139. <http://doi.org/10.3390/ijerph8114118>.
- Barnett, P. G., T. E. Keeler, and T.-W Hu. 1995. “Oligopoly Structure and the Incidence of Cigarette Excise Taxes.” *Journal of Public Economics* 57 (3): 457–70.
- Bitran, Ricardo. 2014. “Universal Health Coverage and the Challenge of Informal Employment: Lessons from Developing Countries.” Health Nutrition and Population Discussion Paper 87077, World Bank, Washington, DC.
- CBO (Congressional Budget Office). 2012. *Raising the Excise Tax on Cigarettes: Effects on Health and the Federal Budget*. Congressional Budget Office, Pub. No. 4036. Washington D.C., USA. http://www.cbo.gov/sites/default/files/cbofiles/attachments/06-13-Smoking_Reduction.pdf.
- CDC. 2009. *The Power of Prevention of Chronic Disease: The Public Health Challenge of the 21st Century*. National Center for Chronic Disease Prevention and Health Promotion. Atlanta, USA: CDC.
- Chatham House. 2014. *Shared Responsibilities for Health: A Coherent Global Framework for Health Financing*. Final Report of the Centre on Global Health Security Working Group on Health Financing. The Royal Institute of International Affairs, Chatham House.
- Fölscher, Alta. 2007. “Budget Methods and Practices.” In *Budgeting and Budgetary Institutions*, edited by Anwar Shah, 109-135. Public Sector Governance and Accountability Series, World Bank.
- Gaudin, S. 2016. “Relative Efficiency of Public Spending in Health and Education: Two-Dimensional Analysis Using Panel and Cross-Sectional Data.” Unpublished draft report.
- Gaudin, S., and Yazbeck. 2013. “Health Sector Policy Challenges in Low and Middle Income Countries: Learning from Public Expenditure Reviews.” Background paper for the health and economy program. Draft.

- GBD (Global Burden of Disease). 2015. *Global Burden of Disease Study 2015 Results*. University of Washington, Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2016.
- Giuffrida, Antonio, Melitta Jakab, and Elina M. Dale. 2013. "Toward Universal Coverage in Health: The Case of the State Guaranteed Benefit Package of the Kyrgyz Republic." Universal Health Coverage Studies Series (UNICO) UNICO Studies Series No. 17, World Bank, Washington, DC.
- Global Fund Observer, March 3, 2017 "Kyrgyzstan Is Implementing Transition Planning for TB and HIV."
- Heller, P. 2006. "The Prospect of Creating 'Fiscal Space' for the Health Sector." *Health Policy and Planning* 21 (2): 75–79.
- HIPC. 2009. *Debt Sustainability Indicators. Heavily Indebted Poor Countries Capacity Building Programme*. www.development-finance.org/en/.../83-debt-sustainability-indicators-2009-02.html.
- IARC (International Agency for Research on Cancer). 2011. "Effectiveness of Tax and Price Policies for Tobacco Control. International Agency for Research on Cancer." *Handb Cancer Prev Tob Control* 14.
- IMF (International Monetary Fund). 2016a. *International Monetary Fund Country Report No. 16/56, February 2016*.
- . 2016b. *International Monetary Fund Country Report No. 16/186, June 2016*.
- . 2017. *Regional Economic Outlook Update, Caucasus and Central Asia, World Economic and Financial Surveys, May 2017*. <http://www.imf.org/en/Publications/REO/MECA/Issues/2017/04/18/mreo0517#>.
- Jakab, M., B. Akkazieva, and J. Kutzin. 2016a. *Trends in Informal Payments*. Barcelona: World Health Organization Regional Office for Europe.
- . 2016b. "Can Reductions in Informal Payments Be Sustained? Evidence from Kyrgyzstan, 2001–2013." Health Financing Policy Papers, WHO Barcelona Office for Health Systems Strengthening.
- Jamal, Shafique, and Melitta Jakab. 2013. *Targeting Performance of Co-Payment Exemptions in The State Guaranteed Benefit Package*. Barcelona: World Health Organization Regional Office for Europe.
- Kastanioti, C., N. Kontodimopoulos, D. Stasinopoulos, N. Kapetaneas, and N. Polyzos. 2013. "Public Procurement of Health Technologies in Greece in an Era of Economic Crisis." *Health Policy* 109 (1): 7–13.
- Kutzin, J. 2003. "Health Expenditure, Reforms and Policy Priorities for the Kyrgyz Republic." Policy Research Paper 24, Health Policy Analysis Unit (DFID/WHO), Bishkek.
- Kutzin, J., Ainura Ibraimova, Melitta Jakab, and Sheila O'Dougherty. 2009. "Bismarck Meets Beveridge on the Silk Road: Coordinating Funding Sources to Create a Universal Health Financing System in Kyrgyzstan." *Bull World Health Organ* 2009 (87): 549–554.

- Lange, Andreas. 2016. "Healthcare Infrastructure Public-Private Partnerships in Developing Countries: The Queen Mamohato Hospital in Lesotho." Master's thesis, Massachusetts Institute of Technology Sloan School of Management. doi:10.13140/RG.2.1.2112.0885.
- Leaver, Rosemary. 2004. "Measuring the Supply Response Function of Tobacco in Zimbabwe." *Agrekon Agricultural Economics Research, Policy and Practice in Southern Africa* 43 (1): 113–131.
- Mathauer, I., M. Theisling, B. Mathivet, and I. Vilcu. 2016. "State Budget Transfers to Health Insurance Funds: Extending Universal Health Coverage in Low- and Middle-Income Countries of the WHO European Region." *International Journal for Equity in Health* 15 (57).
- MeTA (Medicines Transparency Alliance). 2015. *Medicine Prices, Availability, Affordability in Kyrgyz Republic: Report of a Survey Conducted September to October 2015*. MeTA Project in Kyrgyzstan (Medicines Transparency Alliance): Bishkek.
- Ministry of Health (of the Kyrgyz Republic) . 2016. *Priority Activities for 2017–2018 within the Framework of the Den Sooluk National Health Reform Program*. Presentation for the Midterm Review June 24, 2016. Ismailov M.A. Head of DCRI of MoHKKR.
- MoH/MHIF/KFW. 2013. *Comprehensive Sector-Wide Approach-Health Care II in the Kyrgyz Republic, Final Report (and annexes)*. Final Report March 2013, Ref-No.: 2007 70 370.
- OECD (Organisation for Economic Co-operation and Development). 2013. *Public Procurement Review of the Mexican Institute of Social Security: Enhancing Efficiency and Integrity for Better Health Care*. OECD Public Governance Reviews, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264197480-en>.
- . 2017. *Tackling Wasteful Spending on Health (Chapter 1)*. OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264266414-en>.
- Seidman, G., and R. Atun. 2017. "Do Changes to Supply Chains and Procurement Processes Yield Cost Savings and Improve Availability of Pharmaceuticals, Vaccines or Health Products? A Systematic Review of Evidence from Low-Income and Middle-Income Countries." *BMJ Global Health* 2 (2): e000243. <http://doi.org/10.1136/bmjgh-2016-000243>.
- Tandon, A., and C. Cashin. 2010. "Assessing Public Expenditure on Health from a Fiscal Space Perspective." Health, Nutrition and Population (HNP) discussion paper, World Bank, Washington, DC.
- Tian, G., and F. Liu. 2011. "Is the Demand for Alcoholic Beverages in Developing Countries Sensitive to Price? Evidence from China." *International Journal of Environmental Research and Public Health* 8 (6): 2124–2131. <http://doi.org/10.3390/ijerph8062124>.
- Vardavas, C. I., F. T. Filippidis, I. Agaku, V. Mytaras, M. Bertic, G. N. Connolly, and P. Behrakis. 2012. "Tobacco Taxation: The Importance of Earmarking the Revenue to Health Care and Tobacco Control." *Tobacco Induced Diseases* 10 (1): 21. <http://doi.org/10.1186/1617-9625-10-21>.
- Verheijen, Tony. 2014. "Transparency Equals 25 Million Euro in Savings." The World Bank <http://www.worldbank.org/en/news/opinion/2014/02/10/transparency-equals-25-million-euro-savings>.

- Vinokurov, E. 2017. "Eurasian Economic Union: Current State and Preliminary Results." *Russian Journal of Economics* 3 (1): 54–70. <https://doi.org/10.1016/j.ruje.2017.02.004>.
- Wang, et al. 2016. "Health Expenditures Spent for Prevention, Economic Performance, and Social Welfare." *Health Economics Review* 6: 45. DOI:10.1186/s13561-016-0119-1.
- World Bank. 2014. *Kyrgyz Republic Public Expenditure Review Policy Notes: Health*. Report number 88979, World Bank: Washington, DC.
- . 2016a. *PFM in Health: Service Delivery Challenges and Opportunities, Kyrgyz Republic Case Study*. Draft, February 2016.
- . 2016b. *Kyrgyz Republic: Performance Based Payments for Maternal and Neonatal Health Quantitative Baseline Survey Report*. April 2016.
- . 2017a. *Kyrgyz Republic: Second Health and Social Protection Project Financial Management Implementation Support and Supervision Report, April 2017*.
- . 2017b. Republic of Chile: Public Expenditure Review (unpublished). The World Bank.
- WHO (World Health Organization). 2009. *Evaluation of the Organizational Model of Primary Care in the Russian Federation - A Survey-based Pilot Project in Two Rayons of Moscow Oblast*. WHO regional office for Europe: Copenhagen.
- . 2013. *Global Action Plan for the Prevention of Non-Communicable Diseases 2013-2020*. Geneva: World Health Organization.
- . 2015a. *Tobacco Taxation Policy in Kyrgyzstan*. Copenhagen: WHO Regional Office for Europe.
- . 2015b. *Country Profile Kyrgyzstan. WHO Report on the Global Tobacco Epidemic*. Geneva: World Health Organization; 2015.
- . 2015c. *Fiscal Space, Public Finance Management and Health Financing Policy: A Collaborative Agenda*. Montreux, Switzerland, December 9–11, 2014. http://apps.who.int/iris/bitstream/10665/153947/5/9789241508506_eng.pdf.
- . 2016. *Earmarked Tobacco Taxes: Lessons Learnt from Nine Countries*. Geneva: World Health Organization.
- . 2016b. *Pharmaceutical Pricing and Reimbursement Reform in Kyrgyzstan*. Schneider, P. and S. Vogler. Copenhagen: World Health Organization Regional Office for Europe.
- . 2017. *Progress Report on the Implementation of Kyrgyzstan's Programme and Action Plan on Prevention and Control of Noncommunicable Diseases, 2013–2020*. WHO Regional Office for Europe, 2017.

Annex

Data Sources

National sources:

- National Statistical Committee (NSC) publically available files on government expenditure and revenue, National Accounts, prices, wages, and some health sector input data
- Kyrgyz Integrated Household Budget Survey (2015) - survey conducted by the NSC
- World Bank RBF Baseline Survey conducted in 2012–2013 in all 65 secondary hospitals of the Kyrgyz Republic

Main sources for internationally comparable data:

- Institute for Health Metrics and Evaluation (IHME): Global Burden of Disease Study (GBS), 2015. <https://vizhub.healthdata.org/gbd-compare/>
- International Monetary Fund (IMF): World Economic Outlook (WEO) and Government Financial Statistics (GFS)
- OECD: OECD statistics (ODA, ODA for Health, and CPA) <http://stats.oecd.org/qwids>
- WHO: Global Health Expenditure Database (GHED), Global Health Observatory (GHO); Health For All database for Europe (HFA); National Health Account Tables for Kyrgyz Republic (2007).
- World Bank: HNP master database (compiles data from different sources), International Debt Statistics (IDS), World Development Indicators (WDI)

Potential gains and savings need to be expressed using a single benchmark for total GHE. Several numbers could be used depending on the source and definition of GHE. Throughout the report, we use the 2016 figure of KGS 16,065.5 million for the State Budget on Health provided by the authorities for the calculation of the SWAP rule 1.⁹⁵

⁹⁵ The government expenditure data publically available through the NSC cannot be used because it does not identify health in the investment budget.

Chapter 3: Methodology - Simulating Total Gains from Increasing Tobacco Taxes

The simulation is carried out subject to determining the values of three parameters: the price elasticity of demand, tax incidence (whether the tax burden is shared, which determines the percentage increase in price after a tax increase, *ceteris paribus*), and a multiplier for treatment costs. The parameters can be modified to assess the robustness of results or as new information becomes available (the simulation spreadsheet may be requested from the authors). The parameter values are based on best available evidence.

Changes in volumes of sales are estimated using a price elasticity of demand of -0.54 , estimated using individual-level Kyrgyz data from KIHS 2015.^a The elasticity is consistent with findings from other studies, which have found elasticities ranging from -0.4 to -0.8 (IARC 2011).^b The elasticity is corrected for income effects (for tobacco, the income effect would dampen the effect of the price increase) using variation in price elasticity across quintiles (KIHS 2015), although we found that the magnitude in the range of prices tested was small relative to the price effect and could be ignored.

The relationship between reductions in cigarette purchases and averted health expenditure is calculated based on results of the same KIHS data background study that was used for elasticity estimates. The study simulated cost savings after a 33 percent and a 60 percent increase in price based on 2014 MHIF figures on treatment costs for Chronic Obstructive Pulmonary Disease, stroke, heart disease, and lung cancer. Comparing the treatment cost estimates per person by disease to international evidence indicated an underestimate for stroke and neoplasm. Adjustments were made adjusting for differences in GDP per capita. The adjustments resulted in total costs multiplied by 1.8 for the high cost scenario.^c Treatment costs are assumed to increase with GDP per capita, which may be explained by higher expectations on treatment from a wealthier population.

The simulations were run with different parameters. In particular, higher incidence of the tax reaches demand reduction goals faster and thus reduces government revenue by about 10 percent and increases averted expenditures by 12–17 percent. However, the excise tax as percentage of the price is smaller in all cases despite the stronger reduction in demand, confirming the fact that demand reduction goals are more appropriate for tobacco control targets referring to percentage of tax in price for tobacco control.

Note: a. Results using KIHS 2015 data are based on a separate study by the World Bank team. The methodology and other details are available from the authors.

b. The estimated elasticity using cross-sectional data applies to a change in price *ceteris paribus*. Real GDP growth is likely to decrease the elasticity due to income effects. The effect was estimated using variation in price elasticities across quintiles in KIHS 2015. The correction, however, did not change results significantly.

c. The high estimates do not account for last year of life treatment costs.

Chapter 5: Allocative and Technical Framework

Allocative efficiency: 'Doing the right things'

Identifying inefficiencies in expenditure allocation assumes the ability to identify expenditures by function, know the nature of health needs at the national level and across geographical areas, and gather evidence about the relative costs and impacts of different activities (including long-run impacts). Reducing allocative inefficiencies is a matter of establishing financing priorities based on evidence and being able to match funding to priorities. Box A.1 reviews how to assess allocative efficiency using data on expenditure allocations by type of service. The data on expenditures by type of use, however, is not always available in low- or middle-income countries, particularly in countries where budgeting is still done by line item based on historical needs, as is the case in the Kyrgyz Republic.

Box A.1. Evaluating Allocative Efficiency Using Data on Expenditure Allocations by Health Functions

Allocative efficiency is attained when resources are put into the uses that generate the greatest benefits; basically, the 'right things' are being produced. Ideally, with perfect knowledge of demand and supply conditions (needs, preferences, and relative costs of different activities) one can find the optimal combination of goods and services to produce. The exercise, however, is rarely feasible given that it is highly data intensive.

Nevertheless, a lot can be said by confronting data on expenditure uses (by functional categories) with priority uses based on

- Some general appreciation of needs given changes in disease burden or income growth;
- General knowledge on the extent to which different actions generate societal benefits (when, for example, improving the health of an individual will generate benefits to society as a whole, not just to the individual being treated); and
- Information on best value-for-money characteristics of different categories of interventions (for example spending on primary care and prevention).

The need to prioritize some health programs against others in the name of allocative efficiency depends on specific conditions of the country and needs to be based on an evaluation of the situation and evolution of major health outcomes, utilization indicators, and demographics.

By affecting parameters such as accessibility and quality, however, the functional distribution of health expenditures is not just a response to demand pressures or to need; it also influences the types of services that will be effectively used by individuals and how much will be needed in the future. Indeed, there is some degree of substitutability between the different kinds of care dispensed at the primary, secondary, or tertiary levels or in different types of facilities in terms of reaching desired outcomes (lower mortality and morbidity). Expenditures on prevention, for example, complement current expenditures on curative care contemporaneously but substitute for future expenditures on curative care and are therefore recommended in a sustainability perspective. Finally, while efficiency and equity often involve a tradeoff in other sectors, the two goals tend to be complementary in the health sector. In particular, directing more resources to primary health care and prevention is usually recommended both as efficiency and equity enhancing.

Source: Author.

Technical (production) efficiency: 'Doing things right'

Identifying inefficiencies in the production of health care requires a good understanding of the multiple aspects of the health system. Some countries are more efficient than others at transforming financial inputs into desirable outputs/outcomes but inefficiencies causing waste

in the health sector exist in all countries and are often very similar across countries, although they differ in degree and scope. The framework proposed by the OECD (2017) helps identify where they may occur, why they occur, and points to the different ways they can be removed or mitigated (Box A.2).

Box A.2. Technical Efficiency: A Framework to Identifying Wasteful Spending in Health

Types of inefficiencies

- **Clinical care:** Patients not receiving the right care. This category includes duplication of tests and services, low-value care, and avoidable adverse events.
- **Operational:** The same results could be obtained with fewer resources in health care provision. This category includes purchased inputs that must be discarded, inputs that could be purchased at lower prices, or the use of high-cost inputs when low-cost inputs would be sufficient.
- **Governance related:** Resources are unnecessarily diverted from health care activities either because of organizational issues (weight of administrative tasks, time spent in transport, and so on) or because of opportunities to use resources for personal gains (fraud, abuse, and corruption)

Drivers

Actors (including patients, clinicians, managers, and regulator) may behave inefficiently.

Unintentionally when

- They do not know (or do not agree with) best practices. Suboptimal decisions and errors and deviations from best practice may come from cognitive biases, knowledge deficits, risk aversion, and habits/traditions; or
- They know but cannot do better: the system is poorly organized and managed and coordination is weak.

Deliberately when

- They stand to lose by doing the right thing; this occurs when economic incentives are misaligned with system goals—for instance, when clinicians are paid for providing services irrespective of whether the services add value; or
- There are opportunities to gain for doing the wrong thing despite regulations (often linked to weaknesses in monitoring and enforcement). All categories of actors might generate waste intentionally when it serves their self-interest. This last driver is in fact a variation on the third (poor incentives) but it more explicitly points to fraud and corruption.

Solutions

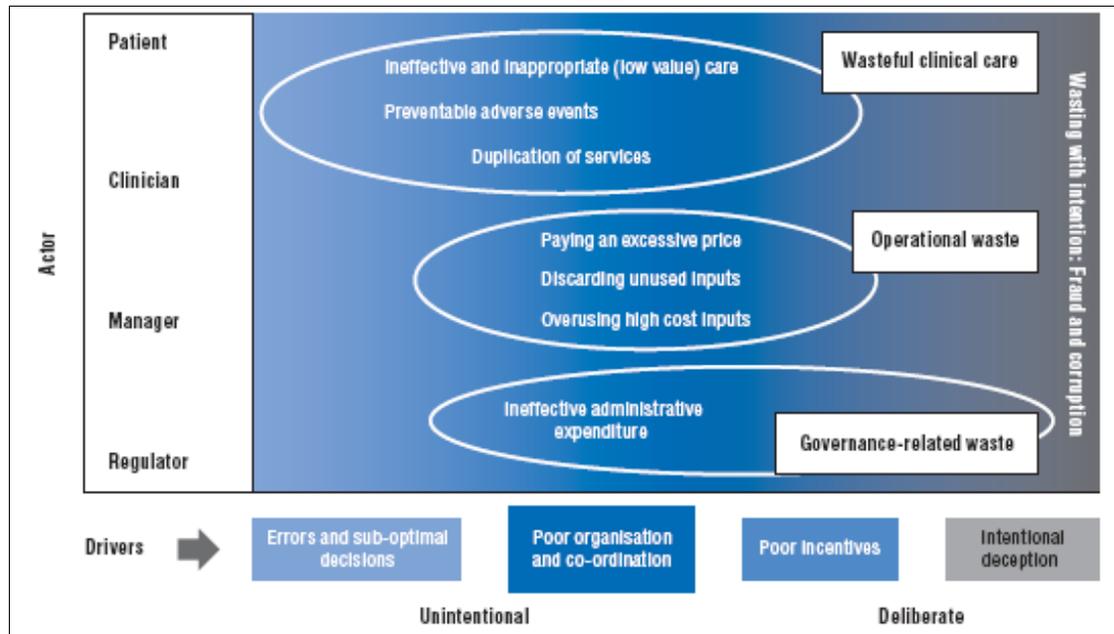
Different types of policies can, alone or in conjunction with others, mitigate or resolve these inefficiencies:

- Collecting data (to support diagnosis and tailor reforms)
- Providing qualitative information, training, influencing behavior
- Changing the incentives so they are compatible with the efficiency goal
- Changing the laws and regulation to prompt organizational change and coordination

Source: Adapted from OECD (2017).

To identify areas of inefficiency and find appropriate solutions, one needs to understand the systemic drivers that condition behaviors and motivations of all actors in the system. Taking action that will sustainably limit waste in the health system presupposes an understanding that inefficiencies are not a matter of individuals but the consequence of the system in which they evolve. Low performance and waste, whether due to unintentional or deliberate behavior, can be traced to systemic conditions involving multiple actors and drivers (Figure A.1).

Figure A.1. Three Categories of Waste Mapped to Actors Involved and Drivers (OECD)



Source: Reproduced from OECD (2017).

Categorization of inefficiencies and their drivers is useful to identify sources of inefficiency but in fact, different categories are often interconnected. There are no hard lines between different categories of inefficiencies and it is common that a given type of inefficiency can itself cause inefficiencies in the other domain. This is true across types of technical inefficiencies, for example, improper discarding of unused input (operational waste) can create problems in terms of quality of care (wasteful clinical care). This is also true for allocative inefficiencies that can be caused by technical inefficiencies. For example, too much will be spent on hospitals/inpatient care relative to primary care if the referral system does not work well, if the price of certain pharmaceuticals or equipment is too high, if coordination between different services is poor, if discharging patients is difficult, and so on.

Finally, insufficient funding itself may be an important reason for inefficiencies at different levels. For example if the salary of health personnel is not sufficient to live decently, health personnel must hold other jobs or/and will be absent more frequently. Or if there is not enough money to buy medicines, the proper care cannot be dispensed and so on. This also may be linked to allocative efficiency issues if the reason for these shortages is that money is spent where it is less needed.