Policy Brief
Rapid Assessment Protocol for Insulin Access and Health Care for Patients with Diabetes

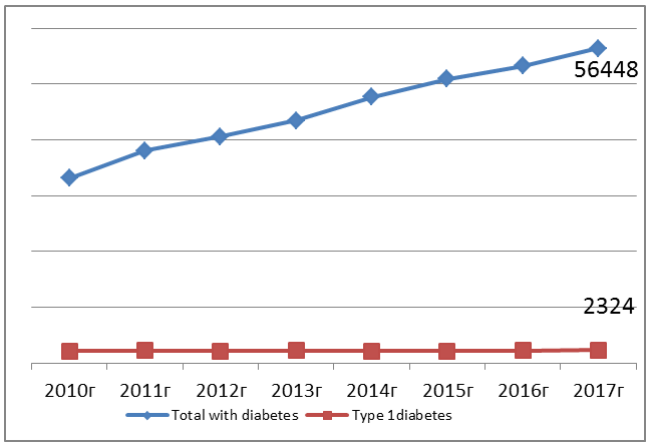
This Policy Brief provides key findings of the research the aim of which was to identify problems in health care delivery to patients with diabetes mellitus (DM) and insulin access as well as to evaluate changes that have taken place in diabetic health care delivery since the 2009 assessment.

To do the assessment a special methodology which enables rapid quality assessment of the health care delivered to patients with diabetes and insulin access (RAPIA) in low- and middle-income countries.

The main objective of this method is to collect, analyze and present data to do the assessment and inform about health system status with regard to diabetes management.

As of January 1, 2018, according to the official data of E-Health Center, totally 56,448 people were registered with diabetes mellitus which is 0.9% of the total population. It is obvious that actual number of people with diabetes is much higher; many people simply do not undergo examination and are not registered. .

Figure 1. Number of registered patients with diabetes, 2010-2017.

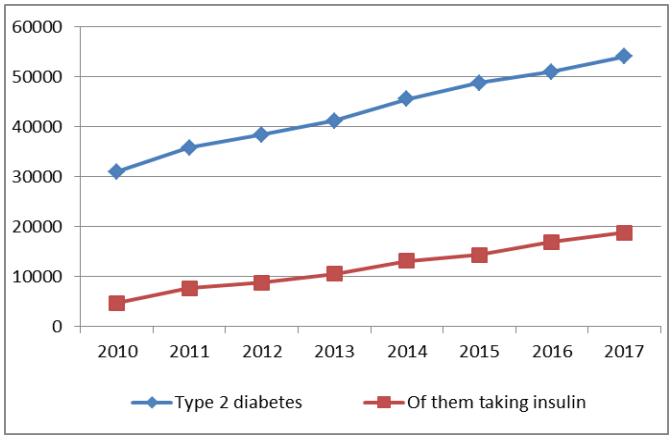


Source: E-health Center, 2017

According to the IDF estimates, diabetes incidence in the country should be about 180,200 people[1], which is three times more than the number of officially registered patients with diabetes.

The number of patients with type 2 diabetes taking insulin has been increasing. The proportion of these patients was 15% in 2010. In 2017 these patients made 35% - over a third of patients registered with type 2 diabetes.

Figure 2. Patients with type 2 diabetes taking insulin



Key Research Findings

Legislation and regulatory documents

Presently, in Kyrgyzstan there is a good political and legislative framework for the prevention and control of NCDs, including the fight against diabetes.

The State-Guaranteed Benefit Programme (SGBP) ensures free health services for patients with diabetes including provision of insulin and means for its injection.

The Law of the Kyrgyz Republic “On Diabetes Mellitus” was adopted in 2006, and many elements of this Law remain unimplemented due to insufficient funds allocated for health care.

In October 2017, the Ministry of Health approved the Program of the Kyrgyz Republic on Diabetes Mellitus for 2018-2022. However, inter-sectoral coordination

[1] IDF Diabetes Atlas 7th Edition. Brussels, 2015

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for preventive interventions at the population level remains insufficient.

Health System Organization

Family doctors are not fully involved in diabetes management. Management of patients with type 1 diabetes is entrusted to endocrinologists mainly concentrated at the national and oblast levels, particularly in the cities of Bishkek and Osh.

Complications associated with diabetes are managed by other narrow specialists.

Regular monitoring of the use of standards and diabetic care quality assessment as part of the quality assessment process are not carried out.

Continuity of diabetes management is limited and the pathways of patients when they seek health care remain complex. It is necessary to seek health care at different levels.

The level of hospitalizations of children and teenagers with diabetes is high and reaches 150%, while the out-of-pocket expenditures continue to be high. Children are hospitalized at the central level only – by Osh Interregional Children's Hospital in Osh city and National Center of Mother and Child Health in Bishkek city.

Diabetes Registry

The Diabetes Registry is implemented in all regions. However, data of the Registry are not used for planning of procurement of hypoglycemic drugs, including insulin. The system of data centralization and collection of the Registry remains complicated. Persons responsible for maintaining the Registry are not well trained and the existing procedures do not ensure the quality of data.

Clinical guidelines and clinical protocols (CG/CP)

Clinical guidelines and protocols have been developed for treatment and diagnostics of type 2 diabetes mellitus and its complications. However, family doctors are not trained and involved in diabetes management.

There are no standards and indicators to monitor and evaluate diagnostics and treatment of diabetes in compliance to clinical guidelines and clinical protocols (CG/CPs).

There are no CG/CPs for management of type 1 diabetes and its complications.

Prevention

PHC doctors are responsible for preventive measures but their workload continues to be excessive. The role of nurses in raising population's awareness of health issues is not adequately developed.

Primary health care facilities offer a minimum package of nutrition services: nutritional status assessment, counseling on dietary changes for patients with diabetes, however, further actions on assessment of the progress achieved by patients are limited.

There are still problems with early detection of diabetes and primary prevention, the level of complications related to diabetes is continuously growing. Education of patients is not given enough attention. Diabetes schools exist at the central level only, they do not work at the PHC level.

Diagnostic tools and infrastructure

Basic diagnostic tests are carried out for free at the PHC level, blood cholesterol levels have been identified for free since 2015.

There are still problems with availability of reagents and supplies including test-strips for diagnostic tests to identify blood glucose level in health organizations. Tests for glycated hemoglobin (HbA1) are carried out in private laboratories only; the average cost of a HbA1 test is 650 kyrgyz soms (10 US dollars).

There is a low provision of patients with glucometers and test strips in regions, 42% of respondents had glucometers at the time of assessment.

The reimbursement program for test strips to identify the blood glucose level has low coverage in regions.

The availability of diagnostic tools needed to manage diabetes complications is limited in health organizations.

Accessibility of insulins and oral antidiabetic drugs

In Kyrgyzstan, the Ministry of Health purchases insulin centrally using budgetary funds and it is provided to all patients for free.

As compared to 2009, the cost of human insulin has been reduced by 1.5 times, respectively; the cost of a monthly treatment course became cheaper.

Table 1. The cost of a monthly treatment course

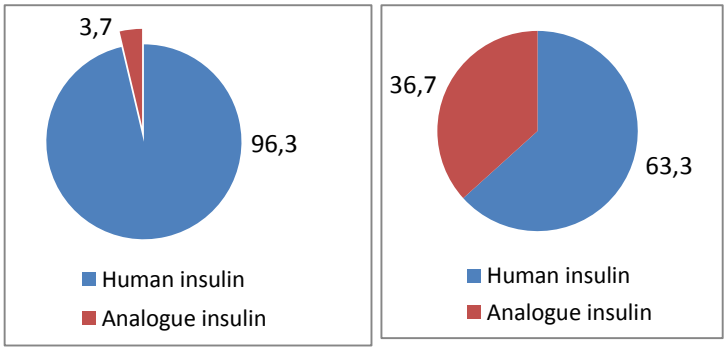
Types of insulin	Cost per month, 2009,$	Cost per month, 2016, $
Human, in vials	5,84	3,9
Human, in cartridges	14.51	9,6
Analogue, in cartridges	49.45	54,4

Source: Data of the Ministry of Health

According to the Order of the Ministry of Health since 2015 analogue insulin is purchased for patients with diabetes under 18 years old only. After that age all patients should use human insulin. Many patients continue to use analogue insulin after the age of 18 and buy it at their own expense in neighboring countries since insulin is not sold in the private pharmacy network in Kyrgyzstan.

The cost of analogue insulin continues to be high and accounts for over one third of the total budget allocated for insulin procurement.

Purchased quantity of packs,% Share of costs,%, 2016



Problems remain in identifying the needs and insulin distribution since the amounts purchased and distributed do not consider the real needs of health organizations.

Based on the 2009 assessment findings, transportation of insulin to oblast and raion health organizations had been specified as a serious problem. This is still a problem. In addition, storage of insulin in health organizations is not always appropriate.

Affordability of Metformin

Affordability of oral medicines is a problem for patients with type 2 diabetes, particularly affordability of the first-line drugs used to treat diabetes - Metformin.

Purchases of Metformin using the state budget funds are limited. It has not been purchased over the past two years that is why patients with type 2 diabetes buy this medicine at their own expense.

In the pharmacy network of the country there are various trade names of metformin, and prices vary by region.

Compared to 2009, average prices in Kyrgyz soms for generic names of Metformin increased up to 2 times. Metformin is not included in the state-subsidized medicinal programs at the outpatient level.

Table 1. Average price for one tablet of widely used oral medicines for diabetes

Generic name of a medicine	Average price per 1 tablet, som (USD), 2009	Average price per 1 tablet, som (USD), 2018 (February)
Glibenclamide 3.5 mg	1.3 (0.03)	1,63 (0,02)
Glibenclamide 5 mg	1.2 (0.03)	1,2 (0,02)
Gliclazide 30 mg	9.8 (0.23)	19,3 (0,28)
Metformin 500 mg	5.0 (0.12)	9,6 (0,14)
Metformin 850 mg	6.3 (0.14)	10,7 (0,16)
Metformin 1000 mg	9.7 (0.22)	14,9 (0,2)

Affordability of treatment with trade names of Metformin was estimated using the methodology (WHO and Health Action International), according to which treatment of chronic disease is considered to be unaffordable if a patient spends over one-day wage to buy the necessary drug for a 30-day course of treatment. The cost of a monthly value of Metformin is unaffordable because it is equivalent to 15-30 workdays with a minimum wage and to 1,2 - 2,4 workdays with an average wage.

Table 2. Data on affordability of Metformin under various trade names

Metformin, dose	Number of workdays with a minimum wage to buy Metformin for a monthly course	Number of days with an average wage to buy Metformin for a monthly course
Siofor, 500 mg	15,9	1,3
Metfogamma, 500 mg	15	1,2
Glucophage, 500 mg	30	2,4
Metformin, 500 mg	25,4	2

Key findings and recommendations

Given the importance of PHC and the role of family doctors involved in diabetes management it is required to provide the adequate practical training and resources. It is apparently required to solve the issue of unavailable diagnostic tools at relevant levels in health care system including the necessary tools to diagnose diabetes-related complications. This will require special training of health professionals on how to work with patients, including nurses as well as the

development of social and culturally adapted materials.

It is also required to regularly assess the quality of diabetic care as part of the quality improvement and performance-based financing process.

Free provision of insulin is supported by the state budget.

It is necessary to use resources efficiently by improving the system of data collection on diabetes and using these data in planning the procurement of insulin.

Consideration should be given to include Metformin as a first-line medicine for treatment of type 2 diabetes in benefit drug programs at the PHC level.

Patients remain committed to hospitalizations. This is supported by some contradictions in legislation which force patients to be hospitalized unnecessarily in order to get disability status and disability-related benefits.

The need for hospitalization should be determined based on clinical guidelines/clinical protocols (CG/CP).

Diabetes has been prioritized by adopting a separate Diabetes Program, however, better legislation on diabetes is required, including revision of the Kyrgyz Republic Law “On diabetes mellitus”

Diabetes associations can play an important role assisting to better diabetes management. Despite difficulties, the existing organizations in Kyrgyzstan helped to include diabetes issues in the agenda. Most of their activities are carried out in Bishkek, and their role in advocacy, patient education and assistance to the health care system must be determined.