

*The Road to Free Insulin*

# KYRGYZSTAN CASE STUDY

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September 2017

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*This case study is part of a series entitled “The Road to Free Insulin: Country Case Studies” that was created for the ACCISS Study. They are aimed at understanding the role of government, clinicians, and civil society in enabling insulin to be provided free of charge in some contexts.*

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## **Background**

Kyrgyzstan (officially the Kyrgyz Republic) is an extremely mountainous landlocked country in Central Asia, with almost 90 percent of its territory 1,500m above the sea level. The country occupies an area of 199,951 km<sup>2</sup>, the seventh largest area amongst Commonwealth of Independent States (CIS) countries. The capital and largest city is Bishkek.

As of 26 November 2015, the population of Kyrgyzstan reached six million people. Of those, 34 percent live in urban areas, and the rest in rural areas. Thirty-three percent of the population is under the age of 15 and seven percent is over 65 (1). The average population density is 31.1 people per km<sup>2</sup>.

According to the National Statistics Committee (NSC) the Gross Domestic Product of Kyrgyzstan accounted for \$US6.56 billion (458 billion Kyrgyz soms) in 2016, the World Bank estimated the Gross Domestic Product (GDP) of Kyrgyzstan in 2015 to be US\$6,57 billion (GDP per capita in 2015 was US\$1163,3 USD) and the GDP annual growth was 3.5 percent (2).

Based on World Health Organization's Global Health Expenditure Database, Kyrgyzstan spent US\$477 million on health care in 2014 in general, and per capita health financing was US\$82 dollars. Out of total health expenditures, 39 percent were spent by households, another 56 percent by the government (12 percent of the total allocated budget), and the other five percent was from external funding. Government expenditure on health as GDP came up to four percent. Financing of the Kyrgyz health system comes from three principal sources: the public sector (general taxation and mandatory health insurance), private households (mainly in the form of out-of-pocket payments) and external funds from international development agencies (around nine percent in 2014).

## **The Kyrgyz Health Care System**

The Kyrgyz Health Care System has considerably developed and drifted away from the standard Soviet model of Semashko (characterised by financing through the state budget but under strict centralised control and administration by the national government) through a long process of health sector reforms. These comprehensive reforms varied from changes made to the clinical practice to the transformations in health system organisation and financing aimed at strengthening primary health care and hospital sector restructuring. Particular attention was paid to the health system financing reform which envisaged Provider and Purchaser Split and the creation of a Single Payer system with implementation of incentive mechanisms. Currently, capitation is used for funding primary health care, and case-based financing for the hospital sector.

In terms of how the health system functions, it is made up of several levels: a national or republican level, a regional or oblast level that is divided into several districts or "raions". The raion level involves primary health care, which is represented by family medicine centres (FMC) and secondary health care level is represented by territorial hospitals. Oblast and republican facilities involve the delivery of specialised and high-technology care. Health facilities are also subdivided by the level of health care delivery into PHC, inpatient care (including tertiary level facilities), public health organisations and others.

## **Diabetes in Kyrgyzstan**

Like many countries, Kyrgyzstan is facing a growing burden of non-communicable diseases (NCD), with cardiovascular disease (CVD) the main cause of mortality of adult population, amounting to 50,8 percent (2015, RHIC) in total mortality of the population. Diabetes is one of the key risk factors of CVDs. Therefore, since 2006 CVD has been a priority in the

consecutive national health reform programs: Manas Taalimi and Den Sooluk ([http://densooluk.med.kg/images/MyFiles/DenSooluk/Densooluk\\_eng.pdf](http://densooluk.med.kg/images/MyFiles/DenSooluk/Densooluk_eng.pdf)), reflecting the commitment and priority given by the Government to these health issues, which have led to improved health system performance and a reduction in the burden of avoidable cardiovascular disease.

Prevalence of diabetes and related risk factors such as weight gain and obesity is increasing in the country (8.6 percent and 44.5 percent accordingly in 2016 [3]). As of 1 January 2017, there were only 2,071 registered with type 1 diabetes, including children under 14 years old (319), and 47,632 people registered with type 2 diabetes. This is less than one percent of the total population (0.8 percent). It is obvious that the actual number is larger since many people with signs of this condition, especially in rural areas do not undergo an appropriate examination. PHC doctors do not have the commitment to identify and register patients with diabetes in a timely manner, especially type 2 diabetes patients.

Primary health care is delivered to people with diabetes by FMC and general practice centres (GPC) at raion level and by the City Endocrinology Dispensary in Bishkek, the capital of Kyrgyzstan.

All consultations are provided free of charge at the primary level, as well as basic laboratory tests in FMCs (blood glucose, total cholesterol, creatinine etc.). Tests for glycated hemoglobin (HbA1C), blood lipids are carried out in private laboratories only, at the average price of US\$ 10-15 for and US\$ 25-30, respectively. These tests must be paid out of pocket.

At the primary level basic NCD services are delivered by a family doctor. However, even in regions, where family medicine principles work well, people with diabetes are referred to an endocrinologist for diagnosis confirmation, treatment correction and regular consultations. Family doctors tend to believe that follow-up and management of patients with diabetes is the responsibility of endocrinologists.

According to the State Benefits Program approved by the Kyrgyz Republic Government, inpatient health care is delivered for people with diabetes free of charge in hospitals. Hence, a practice of “preventive” hospitalisations takes place, at least once a year, particularly for people with type 1 diabetes. Inpatient specialised care is delivered to people with diabetes in endocrinology departments of tertiary health organisations (National Hospital, National Mother and Child Health Center, endocrinology departments in oblast merged hospitals) and secondary health organisations – raion territorial hospitals which have endocrinology beds.

Endocrinologists are available in family medicine centres of raion level only. Those patients who live outside the raion center in villages come regularly to the endocrinologist for advice and to get a free insulin (this may take up to one hour by private transport using their own money). Waiting time of patients for endocrinologists’ consultations may be up to several hours without previous appointment.

## **The Provision of Free Insulin**

All people with diabetes, including children, are provided with free insulin and it is not sold in the retail pharmacy network.

Because of the insufficient funding, insulin cartridges are only purchased for children until the age of 18 years of age. Adults with diabetes use insulin in vials. The number of purchased insulin syringes is not enough, people must buy these using their own funds.

Insulin and some oral pharmaceuticals are purchased centrally by the MoH, and delivered to the central warehouse of the Department of Drugs Provision which is a structural division of the MoH. According to the distribution list of the MoH and based on needs, insulin is

distributed to oblast FMCs and OMHs. These health organisations are then responsible for the distribution across the whole oblast. Oblast health organisations apply to the central level in Bishkek, raion health organizations apply to the oblast level. Oblast health organisations go to the central level once a quarter to obtain the required amount of insulin. Organisation of trips to Bishkek and transportation of insulin are the responsibility of oblast health organisations. The transportation of insulin is also specified as a serious challenge.

The Ministry of Health centrally purchases insulin and distributes it to the oblast level, then from the regional (oblast) level, insulin is distributed to the raion (district) level at PHC – to FMCs. Usually, raion FMCs receive the insulin supply for six months. In the FMC, insulin is distributed by the endocrinologist, but the chief nurse of the FMC typically hands over the insulin to patients as prescribed by the endocrinologist for two months.

When a person with diabetes who needs insulin is hospitalised, a territorial hospital makes a request to the FMC for the delivery of insulin. In Bishkek, insulin is received from the warehouse of the MoH and is distributed by the City Endocrinology Dispensary. There are no insulin stores in FMCs of Bishkek.

In accordance with the Kryg Law “On state procurements”, insulin procurements are carried out by tendering, once every two years. A commission, which involves the MoH and representatives of professional diabetes associations, develops specifications for procurement of specific types of insulin by lots. Pharmaceutical companies, represented by international pharmaceutical companies, offer prices on CIP terms (carriage and insurance paid to Bishkek).

A key requirement is that a purchased pharmaceutical should be registered in Kyrgyzstan. All pharmaceuticals in the EDL, including insulin, are exempted from VAT and other import charges. Currently, the MoH only carries out centralised purchases of insulin and desmopressin for diabetes insipidus using the state budget funds.

As a result of tender, a winning company delivers insulin to the central warehouse. The MoH makes payments most often after the delivery of insulin and payment time limit can be more than six months after the delivery of goods, due to uneven opening of budgetary financing for the MoH by financial authorities.

Kyrgyzstan only purchases insulin from two manufacturers - Eli Lilly and Company and NovoNordisk. According to data on purchases of insulin for 2016, 31,4 percent of the total allocated funds for insulin were spent on analogue insulin. It should be noted that only children with type 1 diabetes (approximately 300 children) are provided with analogue insulin. Thus, one third of the total allocated funds for insulin is spent for these children. The rest of the budget is used to purchase human insulin for adults with type 1 and type 2 diabetes. The most commonly procured insulin is Humulin R and NPH in 10ml vials, at a price of US\$3.3 per vial. All other insulins purchased (in smaller quantities) and are available only in cartridges and pens. These prices range from Humulin R for US\$12 per pack of five 3ml cartridges, to Levemir at US\$70.98 per pack of five 3ml cartridges, to a Novorapid pen which is priced at US\$53.13 per pen.

## **History of the Provision**

In 2006, the law of the Kyrgyz Republic "On Diabetes Mellitus" came into force. This law establishes that management of diabetes should be free of charge for those affected, as well as insulin, oral medications and services for monitoring blood glucose. In accordance with this law, special conditions have been created for centralised purchases of insulin and some oral antidiabetic drugs by the Ministry of Health. This law also regulates free provision of inpatient medical care, consultations and laboratory tests. However, some components of

this law remain unrealised due to insufficient funding, the devices to control and monitor blood glucose and the devices to inject insulin, are not purchased to the full extent.

It should be noted that adoption of the law of the Kyrgyz Republic in 2006, which guarantees free provision of insulin, does not mean that until this time there were other conditions for the provision of insulin. This practice has remained since the days when Kyrgyzstan was not yet independent and before the health care reform implementation.

MoH is responsible for health policy implementation including the obligations under which it manages the procurement and distribution of insulin.

The Diabetes Association of Kyrgyzstan was created in 1998 to ensure protection of rights of people with diabetes. The Diabetes Federation was established in 2008 by parents of children with type 1 diabetes. The key activity of these organisations is diabetes education. Associations play an important role in improving diabetes management; and free provision of insulin remains on the agenda of the Government and the MOH as a result of their efforts. However, currently there are only a couple of associations which carry out educational activities in Kyrgyzstan. They operate at the central level only in the capital of Kyrgyzstan, Bishkek. All their activities are carried out using donor funds and are not regulated by the MoH.

## **Challenges/Lessons Learned**

Diabetes management at the PHC level is poor, particularly in rural areas. Diabetes prevention and early detection are ineffective due to a low level of professional knowledge and inadequate commitment of family doctors to diabetes management. Family doctors are not involved in the follow-up of patients with diabetes. Further, family doctors do not pay attention to education particularly with type 2 diabetes and the role of nurses in diabetes management is very limited. These functions are completely entrusted to endocrinologists, whose availability in regions is limited.

Diagnosis and follow-up of complications resulting from diabetes (diabetic nephropathy, retinopathy, etc.) are handled by other doctors of sub-specialties (nephrologists, ophthalmologists, etc.), whose accessibility is also limited in regions. In regions and remote FGPs, access to endocrinologists is also limited. Thus, according to the MoH, in 68 percent of diabetes management cases decompensation of diabetes remains at the primary level.

Due to the lack of education for people living with diabetes, people are poorly informed about the consequences of diabetes, healthy lifestyle, nutrition, physical activity, etc. Therefore, most do not adhere to continuous treatment and healthy lifestyle. “Schools of Diabetes” are well developed at the central level only with the assistance of non-government organisations.

NCDs, including diabetes, have a special place in health sector policy. However, health policy is considered to be an area of responsibility for the MoH only. Despite the fact that the government is involved in cross-sectoral coordination, interagency cooperation is one of the significant barriers to population-based interventions.

While a special emphasis is placed on comprehensive NCD prevention and control; and a number of specific programmes are adopted, the programme to prevent and fight diabetes in the Kyrgyz Republic has not been approved yet, although efforts to develop draft program were made as early as in 2010. Moreover, there is no national agency that would be responsible for advisory and methodological support to diabetes management across the country.

Insulin is fully provided free of charge to all people in need, but there is a lack of funding for other medications and diabetes supplies needed, including oral hypoglycemic drugs and insulin injection devices (syringes). People are not provided with devices for blood glucose monitoring. People with type 2 diabetes buy tableted pharmaceuticals at their own expense, regardless of the fact that in accordance with the legislation they should get them at no cost.

At present, the need for insulin is not calculated accurately, it is approximate, based on purchases of previous years. This leads to irrational use of insulin, its underuse and, accordingly, the expiration of shelf life. However, some other regions and health facilities may experience its shortage. This is linked with inadequate work of the Diabetes Registry and a lack of appropriate monitoring of insulin use at the community level. Many health organisations have no adequate conditions for insulin storage (cold chain). Also, transportation of insulin from the central level to the oblast and raion is the responsibility of a health facility which do not have proper cold chain transportation

In all regions there is a severe shortage of endocrinologists and well trained mid-level health personnel. Availability of endocrinologists in the Kyrgyz Republic does not exceed 0.2 per 10 000 population.

In 2009, a clinical guideline “Diagnosis, management and prevention of type 2 diabetes at the primary health care level” as well as evidence-based clinical protocols on management of diabetic nephropathy, neuropathy and retinopathy were approved. However, implementation of these guidelines has certain barriers, and therefore not all family doctors have been trained in the approved clinical guidelines. There is no clinical guideline on diagnostics and treatment of type 1 diabetes.

There are no integral divisions of the endocrinological service in the country, such as Diabetic Foot office, Diabetic Retinopathy office and Kimmelstiel-Wilson disease office.

The most important challenge is inadequate diabetes management at the PHC level, including prevention, early diagnostics, treatment and management.

## **Key Recommendations**

1. Strengthen activities on early diagnostics and detection of diabetes amongst people with risk factors, to reduce mortality due to diabetes and its late complications.
2. Improve health care quality for people living with diabetes at every health care level, through development and implementation of standards for treatment of type 1 and type 2 diabetes.
3. Implement mechanisms of co-payment (reimbursement) for insulin to improve its accessibility, efficiency of procurement and the mechanisms of price regulation for insulin purchases through direct negotiations with manufacturers.

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