



Central Asia Regional Economic Cooperation Program



ASIAN DEVELOPMENT BANK



# **Assessment of Diagnostic and Reference Laboratory Functions in National Laboratory Systems in Kazakhstan and Kyrgyzstan**

**Almaty-Bishkek  
2018-2019**

# GOALS

Determine the need for establishment of a reference laboratory for Kazakhstan and Kyrgyzstan

Identify the direction in laboratory studies that requires the establishment of a reference laboratory

Identify an organization that can be a reference laboratory

Establish a scheme of the relationship and collaboration between Kazakhstan and Kyrgyzstan in this area

# IMPLEMENTED ACTIVITIES

A mission to Kazakhstan from 27.06.2018 to 04.07.2018 – in Astana and Almaty cities



A review of clinical and diagnostic laboratories



Interviews with maintenance engineers from leading companies manufacturing laboratory equipment



A review of the legal framework



A mission to Kyrgyzstan from 06.08.2018 to 18.08.2018 – in Bishkek city



Visits to public and private laboratories

# ASSESSMENT OF LABORATORIES IN THE REPUBLIC OF KAZAKHSTAN

## Ministry of Health of the Republic of Kazakhstan



RSE Scientific and practical center of sanitary-epidemiological expertise and monitoring



"National Medical University" JSC

LIS



"National Scientific Center of Surgery" named after A.N. Syzganova JSC

LIS



Research Institute of Cardiology and Internal Diseases

LIS

Лабораторная информационная система – автоматизация рабочих процессов в клиничко - диагностических лабораториях

## City hall of Almaty



Centralized Bacteriological Laboratory



Almaty City Clinical Hospital No. 7

LIS



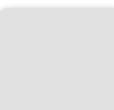
Almaty City Clinical Hospital No. 4

LIS



Almaty City Clinical Hospital No. 5

LIS



Almaty City Clinical Hospital No. 12



Almaty City Clinical Hospital No. 1

LIS

## Private sector



LLP «INVIVO»

LIS



LLP «INVITRO»

LIS



LLP CDL "OLYMP"

LIS



LLP "Regional Diagnostic Center"

LIS

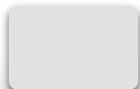


LLP «AquaLab»

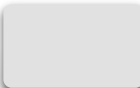
LIS

# ASSESSMENT OF LABORATORIES IN THE KYRGYZ REPUBLIC

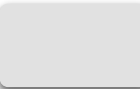
## Ministry of Health of the Kyrgyz Republic



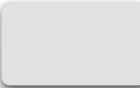
Republican Diagnostic Center



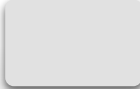
National Hospital



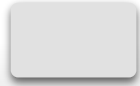
Chui Oblast Hospital



National Center of Oncology and Hematology



NPA "Preventive Medicine"



Republican Center of Infection Control

## Private sector



LLP "Bonetsky Laboratory"

LIS



LLP "Express Plus"

LIS



LLP "AquaLab"

LIS



LLP "Eurolab"

LIS

**LIS**

Laboratory information system - automation of operational processes in clinical diagnostic laboratories

# ASSESSMENT OF BACTERIOLOGICAL LABORATORIES

## KAZAKHSTAN



RSE "Scientific and practical center of sanitary-epidemiological expertise and monitoring"



JSC "National Medical University"



Centralized Bacteriological Laboratory



LLP «INVIVO»



LLP «INVITRO»



LLP "CDL OLYMP"



## KYRGYZSTAN



Republican Center of Infection Control



Sanitary and Epidemiological Surveillance



LLP "AquaLab"



LLP "Bonetsky Laboratory"



Manual methods

Automated analyzer

# PROBLEMS IN BACTERIOLOGICAL LABORATORIES

Pre-analytical stage:  
requirements to collection  
of bio-material samples are  
not followed

The sphere of accreditation  
lacks bacteriological  
research

Shortage of specialists  
(micro-biologists)

No approved minimal list of  
antibiotics to identify  
antibiotics resistance

# LEGAL FRAMEWORK



Order № 758 of 28 September 2015 of the Ministry of Health of the Republic of Kazakhstan

A reference laboratory (the RL) is a medical laboratory performing organizational and methodological work on the introduction of an external quality assessment system (hereinafter - the EQA) and conducting research in diagnostically complex and expertise-related cases

The RL shall be established by a decision of the authorized body in the field of health on the basis of scientific and republican specialized centers, research institutes, which implemented and operate a quality management system accredited for compliance with national and international standards and participates in international projects and scientific programs in the field of public health.

Establishment and organization of a national system for the EQA of laboratory studies in the form of ILCT (interlaboratory comparative tests) in accordance with the ST RK standard ISO / IEC 17043-2012 with the accreditation of the qualifications verification provider.

Order No. 458 of 28.06.2018 of the Ministry of Health of the Kyrgyz Republic



A reference laboratory of the health system (hereinafter – the RL) is a laboratory of a health institution performing laboratory studies/tests in the health system, as well as is recognized as a scientific and practical, educational and methodological center in accordance with this Regulation

A laboratory can be recognized as a RL, if it is a part of a health institution of the republican level.

Organization and implementation of PT programs on the profile of ongoing research in accordance with the requirements of ISO / IEC 17043.



# Recommendations



The Republic of Kazakhstan

The Kyrgyz Republic



## A reference laboratory for clinical and diagnostic research

JSC "National Medical University"

Build a new centralized laboratory (on the basis of public private partnership with "Bonetsky's Laboratory" LLP ) with the subsequent assignment of the status of a reference laboratory

## A reference laboratory on micro-biological research

RSE "Scientific and Practical Center of Sanitary-Epidemiological Examination and Monitoring" by right of economic management».

The Republican Center of Infection Control of Kyrgyzstan.

## TRANSPORTATION OF BIOMATERIALS



Offering delivery, warehouse management, customs clearance services and logistics solutions to a broad range of clients operating in various industries including: retail sales, food and beverages, construction, metallurgy and mining, oil and gas, power, pharmaceuticals, automotive, manufacturing industries, etc.

# Support by the Asian Development Bank



The Republic of Kazakhstan

- Procure laboratory equipment and reagents for the facilities to perform the tasks of a reference laboratory;
- Engage consultants for establishment of reference values for laboratory studies;
- Assistance in conducting research work with international institutions;
- Provide training to CDLs' specialists for ISO 15195, 15189 certification;
- Undertake a full laboratory certification according to ISO 15195, 15189;
- Organize international courses for the staff;
- Non-interrupted procurement of controls for quality assessment.

The Kyrgyz Republic



- Build a new state-of-art centralized laboratory with:
  - modern laboratory equipment;
  - ISO 15189, 15195 accreditation;
  - LIS (Laboratory Information System);
  - well-developed IT infrastructure and facilities;
- Procure a stock of reagents and consumables;
- Assistance in obtaining ISO 15189, 15195 accreditation;
- A possibility of hiring consultants to draft regulatory documents;
- Overseas training courses for staff;
- Engaging consultants to establish reference values for laboratory studies;
- A laboratory base for the Medical Academy of Kyrgyzstan.

## Effect on the two countries

Recognition of laboratory results of the two countries



Interlaboratory monitoring, as an indicators of research quality control



Joint research work to identify reference values



Sharing experience in development of new methodologies, training of laboratory technicians and students in the field of laboratory diagnostics, as well as rotation of staff among laboratories of the two countries



Development of a unified regional information database on the results of laboratory diagnostics



Statistics on the effectiveness of citizens treatment,  
taking into account regional characteristics of the two countries

Назарларыңызға рахмет!

Конул бурганын учун рахмат!

Thank you!