

## Ex-Ante Evaluation (for Japanese ODA Loan)

Central Asia and the Caucasus Division  
East and Central Asia and the Caucasus Department  
Japan International Cooperation Agency

### 1. Name of the Project

- (1) Country: The Republic of Uzbekistan ("Uzbekistan")
  - (2) Project Site / Target Area: Tashkent City (2.86 million people); Samarkand City (570,000 people); and Bukhara City (280,000 people)
  - (3) Project: Health and Medical Service Improvement Project ("the Project")
- Loan Agreement: January 20, 2025

### 2. Background and Necessity of the Project

- (1) Current State and Issues of the Health and Medical Sector and the Priority of the Project in Uzbekistan

The average life expectancy in Uzbekistan increased from 65 in 1991, immediately after the country's independence, to 71 in 2021. However, it is still lower than the average life expectancy (78) in the EU states (World Bank, 2021). The proportion of non-communicable diseases ("NCDs") in the top 10 causes of death in Uzbekistan grew from 75.8% in 2000 to 87.4% in 2019 (WHO, 2023), indicating that the structure of diseases was changing. The top causes of death include ischemic heart disease (54.0%), stroke (16.7%), and cirrhosis of the liver (7.4%). This situation has caused concern about economic and social impacts of NCDs.

For ischemic heart disease and cancer, among NCDs, a system is put in place where a national specialist medical center in the capital city of Tashkent provides specialist medical services and trains medical specialists in partnership with regional branches. On the other hand, there are issues associated with neurological diseases (cerebrovascular diseases including stroke, other nervous system diseases, etc.). They are (1) the shortages of necessary medical equipment and (2) the absence of advanced medical facilities that provide medical services (including early rehabilitation) for stroke and other cerebrovascular diseases in Uzbekistan. At emergency hospitals to which patients in need of urgent medical care are transported, CT scanners, angiography equipment, and other medical equipment required to diagnose stroke and other cerebrovascular diseases are in short supply and/or are

extremely outdated. Some hospitals are still using medical equipment that was manufactured when Uzbekistan was part of the Soviet Union. It is difficult to provide modern medical care in such a situation. In Tashkent City, stroke patients are treated at the Republican Research Center of Neurosurgery and the Republican Emergency Care Research Center, neither of which specializes in the treatment of neurological diseases. The number of patients who go to these hospitals are rising as the population of the metropolitan area increases, and this makes it more difficult to provide medical care to patients with neurological diseases. To address the situation in Tashkent City, the largest city in the country with a growing population, it is necessary to overcome the shortages of medical facilities, by opening a top referral hospital specializing in neurological diseases as an addition to the above two hospitals, and to deliver a full range of medical services with a tertiary care hospital referral system. Another challenge faced by Uzbekistan is the lack of early medical care in the post-operative acute phase as well as the lack of a series of medical treatment and rehabilitation procedures from the acute phase to the recovery phase and the full activity phase.

Multidisciplinary Clinic of Samarkand State Medical University ("SamSMU1"), which is a tertiary care hospital in Samarkand Region, the region with the largest population, is the first and largest general hospital established in Central Asia. With the establishment of a medical institute in 1930, SamSMU1 became a hospital affiliated with the medical institute. In 1987, Multidisciplinary Specialized Center of Pediatric Surgery ("SamSMU2"), which is a hospital specializing in pediatric surgery, was established, and it serves as a core hospital in the region. As core hospitals in Samarkand Region and five surrounding regions (Jizzakh Region, Bukhara Region, Navoi Region, Surkhandarya Region, and Kashkadarya Region), SamSMU1 and SamSMU2 provide higher-level medical services, treat 100,000 outpatients and just under 20,000 inpatients annually, and play a pivotal role in pediatric surgery in the central to western regions of Uzbekistan. However, medical equipment at these hospitals is in short supply and/or is extremely outdated, making it a challenge to deliver quality medical services and train medical specialists using modern equipment. It is therefore imperative to update the existing equipment. Furthermore, the growing population in the region poses challenges for SamSMU1 and SamSMU2 to deliver adequate medical services as core hospitals in the region. The Uzbekistan government continues to build university-affiliated hospitals to strengthen the higher-level medical system at the regional level. In Bukhara Region where higher-level

medical services are available at SamSMU1, Hospital of Bukhara State Medical Institute ("BSMI"), a tertiary care hospital, was established in 2022 as a hospital affiliated with Bukhara State Medical Institute. Medical equipment has been procured with the central government's budget and delivered to BSMI, but nevertheless, BSMI lacks adequate equipment and is not capable of performing its role as a core hospital in Bukhara Region.

The Uzbekistan government has expressed its commitment to undertake reform to improve the health of its citizens in Priority Direction 1: "Creating suitable conditions for each person to realize their potential" of its development strategy, "Uzbekistan 2030 Strategy." The Uzbekistan government has also declared, in several Presidential Decrees for the health sector, its policy to improve the health system, train and develop healthcare professionals, and help them improve their expertise, in order to provide quality medical services for NCDs in wider areas.

As demand for specialist and advanced medical services, including rehabilitation, for neurological disease patients is expected to increase, infrastructure will be built and established for providing such medical services and developing human resources through the construction of Neurology and Stroke Center ("NSC") in Tashkent City in the Project. Furthermore, medical equipment of regional core hospitals in Samarkand City and Bukhara City will be updated to improve medical services. The Project is identified as an important project for the Uzbekistan government to achieve its goal of improving the country's health and medical system.

## (2) Japan's and JICA's Cooperation Policy and Operations in the Health and Medical Sector

The Japanese government has identified the improvement of the quality of social services including the health sector as Priority Area 2: "Building a fair and sustainable society" in the Republic of Uzbekistan: Country Development Cooperation Policy (September 2022) and has pledged its support for the SDG agenda of inclusive development, "Leaving no one behind." The health sector is included in the Cooperation Program: "Social Service Improvement and Expansion" to build a fair and sustainable society in JICA Country Analysis Paper for the Republic of Uzbekistan (March 2023). According to the Analysis Paper, there is an urgent need to update medical equipment of regional hospitals so that quality medical services can be delivered. The Analysis Paper also says that to

sustainably provide quality medical services, it is essential to train and develop healthcare professionals who are capable of delivering advanced medical services. The Project is, therefore, in line with JICA's policy and analysis results. The Project is also positioned as one of the clusters, "Strengthening Diagnosis and Treatment Capacity of Core Hospitals" in the JICA Global Agenda for Health.

### (3) Other Donors' Activities

The Korea International Cooperation Agency (KOICA) opened a pediatric hospital in Tashkent in 2020 to support its staff capacity building. KOICA also provides laparoscopic surgical tools to SamSMU2. The Kuwait Fund for Arab Economic Development (KFAED) provided medical equipment for regional-level tertiary care hospitals in Andijan City and Samarkand City in 2021, which includes the delivery of MRI scanners, CT scanners, and artificial respirators, among others, to SamSMU1. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) conducted training for healthcare professionals, such as doctors, nurses, and radiographers, to learn advanced technologies in imaging systems and minimally invasive surgery in several locations in Uzbekistan including Tashkent and Bukhara.

## **3. Project Description**

### (1) Project Description

#### 1) Project Objective

The objective of the Project is to strengthen the medical services for mainly NCDs such as neurological diseases and the functions of medical personnel development centers, by constructing NSC in Tashkent City and providing medical equipment to NSC, as well as improving medical equipment in the regional tertiary care hospitals in Samarkand City and Bukhara City, thereby contributing to the improvement of the health of the people of Uzbekistan.

#### 2) Project Components

A) Construction of and Equipment for NSC: Building a hospital with 250 beds and a training center. Equipment includes MRI scanners, CT scanners, X-ray machines, endoscopes, surgical equipment, angiography devices, rehabilitation equipment, and simulation equipment (international competitive bidding (construction: bilateral tied, equipment: tied))

B) Equipment for SamSMU1, SamSMU2, and BSMI: MRI scanners, CT scanners, X-ray machines, endoscopes, surgical equipment, angiography

devices, etc. (international competitive bidding (tied))

C) Consulting Services: Basic and detailed design services, assistance in the tendering process, construction supervision, healthcare professionals capacity building (training and technical cooperation for hospital operation and facility management (shortlisting (tied))

### 3) Project Beneficiaries (Target Group)

Ultimate beneficiaries: Areas where access to tertiary medical services will be improved (Tashkent City, Samarkand Region, Jizzakh Region, Bukhara Region, Navoi Region, Surkhandarya Region, and Kashkadarya Region) Population: approximately 18.31 million people

### (2) Estimated Project Cost

Estimated project cost: 27,592 million yen (Japanese ODA loan: 22,953 million yen)

### (3) Schedule (Cooperation Period)

The Project is scheduled to last for a total of 98 months from January 2025 to February 2033. The Project will be completed when the facilities come into use, which is scheduled for February 2030.

### (4) Project Implementation Structure

1) Borrower: The Republic of Uzbekistan

2) Guarantor: N/A

3) Executing Agency: Ministry of Health

4) Operation and Maintenance System: Ministry of Health

### (5) Collaboration and Sharing of Roles with Other Donors

#### 1) Japan's Activity

In the "Stroke Rehabilitation" (country-focused training: 2023 to 2026), which is a technical cooperation being undertaken, Japan helps Uzbekistan to build policy making capacity to improve a series of interventions in the acute, recovery, and full activity phases of rehabilitation procedures for stroke, and healthcare professionals to enhance their knowledge and skills required to deliver medical services on the front line. This training program is expected to achieve a synergistic effect with the Project in the development of human resources responsible for rehabilitation procedures for neurological diseases, which is the goal of the Project. In the "Project for the Prevention and Control of Non-Communicable Disease" (technical cooperation project: 2021 to 2026), Japan offers assistance in enhancing medical services provision and building management capacity on a regional/municipal level in an effort to improve the

capacity of primary care hospitals in Tashkent Region and Navoi Region to treat NCDs. The closer working relationship between the primary care hospitals and tertiary care hospitals is expected to be realized through the Project.

2) Other Donors' Activity

Attention will be paid to avoid a duplication of other donors' activities as described in 2. (3) Other Donors' Activities above.

(6) Environmental and Social Consideration

1) Environmental and Social Consideration

i. Category: C

ii. Reason for Categorization: The Project is likely to have minimal or little adverse impact on the environment and society as described in the JICA Guidelines for Environmental and Social Considerations (issued in April 2010).

(7) Cross-Sectoral Issues

i. Project related to combating climate change: N/A

ii. Poverty reduction / considerations for people in need: Medical fee reduction or exemption will apply to people in need.

iii. Measures against AIDS / HIV and other communicable diseases: N/A

iv. Participatory development: N/A

v. Considerations for people with disabilities: Facilities that will be provided in the Project will be designed with universal design in mind and from the perspectives of people with disabilities. The facilities include ramps and handrails installed for easy access for wheelchair users and corridors and rest rooms that provide ample space. Reasonable considerations will be given to people with disabilities when ensuring information security and personal safety for them so that they are not denied employment opportunities in the Project. Information security will be ensured for those who require reasonable support for communication, such as people with visual, hearing, or intellectual disabilities.

(8) Gender Category: GI(S) (gender activity integration project)

<Details of Activities/Reason for Categorization>

To address the issue of the mortality rate for NCDs being higher for both men and women in Uzbekistan than in European countries and other Central Asian countries, the target quantity of medical equipment for procurement in the Project that will be used by men and women has been set as the indicator for the Project. In addition, the following has been agreed: Equipment that is easy to use by both

men and women will be selected. Women's empowerment in the workplace will be promoted. Facilities will be designed to reflect specific needs of men and women (e.g. separate rest rooms for men and women, break rooms, baby feeding spaces, adequate lighting for safety reasons).

(9) Other Important Issues

N/A

#### 4. Targeted Outcomes

(1) Quantitative Effects

1) Outcomes (Operation and Effect Indicators)

| Indicator  | Target facility | Baseline<br>(Actual value in<br>2023) | Target (2033)<br>[*3 years after<br>project completion] |
|--|-----------------|---------------------------------------|---|
| Bed occupancy rate<br>(%/year)   | NSC             | 0                                     | 90  |
| The number of CT<br>scan diagnoses<br>performed per year   | NSC             | 0                                     | ***5,040<br>(2,297 for men)<br>(2,743 for women)        |
|  | SamSMU2         | 1,800                                 | 3,600   |
| The number of MRI<br>scan diagnoses<br>performed per year  | NSC             | 0                                     | ***3,360<br>(1,711 for men)<br>(1,649 for women)        |
|  | SamSMU2         | 0                                     | 1,200   |
| The number diagnostic<br>angiograms performed<br>per year  | NSC             | 0                                     | ***1,200<br>(739 for men)<br>(461 for women)            |
|  | SamSMU1         | 0                                     | ***1,200<br>(739 for men)<br>(461 for women)            |
|  | BSMI            | 0                                     | ***1,200<br>(739 for men)<br>(461 for women)            |
| The number of<br>endovascular<br>catheterization surgery<br>performed per year                       | NSC             | 0                                     | 360   |
| The number of patients<br>receiving stroke<br>rehabilitation (year)**                                | NSC             | 0                                     | 1,000   |
| The number of<br>students/healthcare<br>professionals using<br>training facilities<br>(persons/year) | NSC             | 0                                     | 400   |

\* The targets set in the Project are to be assessed three years after project completion as it is reasonable to review the executing agency's maintenance system and technical capabilities after the maintenance period.

\*\* The number of patients who were taken to hospital for stroke and started post-operative rehabilitation.

\*\*\* Based on the rate of use of Navoi Regional Multidisciplinary Medical Center (with approximately 200 beds) by men and women in 2023.

## (2) Qualitative Effects

Improvement of tertiary medical services for NCDs. Improvement of the health of the residents.

## (3) Internal Rate of Return

The economic internal rate of return (EIRR) has not been calculated as it is difficult to reasonably calculate and quantify the benefits of the Project although medical services and convenience are expected to be improved as a ripple effect of the Project. The financial internal rate of return (FIRR) has not been calculated as revenue cannot be generated from medical fees alone.

## **5. External Factors and Risk Control**

(1) Preconditions: The existing medical university buildings located on the building site need to be demolished and removed before the construction of NCS starts.

(2) External Factors: N/A

## **6. Lessons Learned from Past Projects**

According to the ex-post evaluation of the "Project for the Improvement of Medical Equipment in Diakov Hospital" for the Republic of Tajikistan (evaluation year: 2015), main parts for a CT scanner became faulty probably due to excessive use and needed replacing, and the CT scanner could not be used until spare parts with the same specifications were procured with the hospital budget. We have learned from this experience that it is essential to consider in advance how to procure spare parts to replace faulty parts, how to maintain equipment, and what specific actions to take in the event of an equipment breakdown.

The maintenance of major equipment is to be included in the equipment contract under the project scope of in order to ensure sustainable use of medical equipment in the Project. Additionally, the provision of guidance and instructions



for the initial operation and daily inspection of medical facilities and equipment provided in the Project is to be included in the supplier contracts so that they are effectively and properly used.

## **7. Evaluation Results**

The Project is in line with Uzbekistan's development challenges and policy and Japan's and JICA's cooperation policy and analysis. The Project will help improve the health of the people of Uzbekistan as it builds highly specialized medical facilities and provides medical equipment to address the issue of insufficient opportunities to access quality medical services. The Project is expected to contribute to SDG Goal 3 (good health and well-being), and it is, therefore, crucial to support the implementation of the Project.

## **8. Plan for Future Evaluation**

(1) Indicators to be Used

As indicated in Section 4.

(2) Future Evaluation Schedule

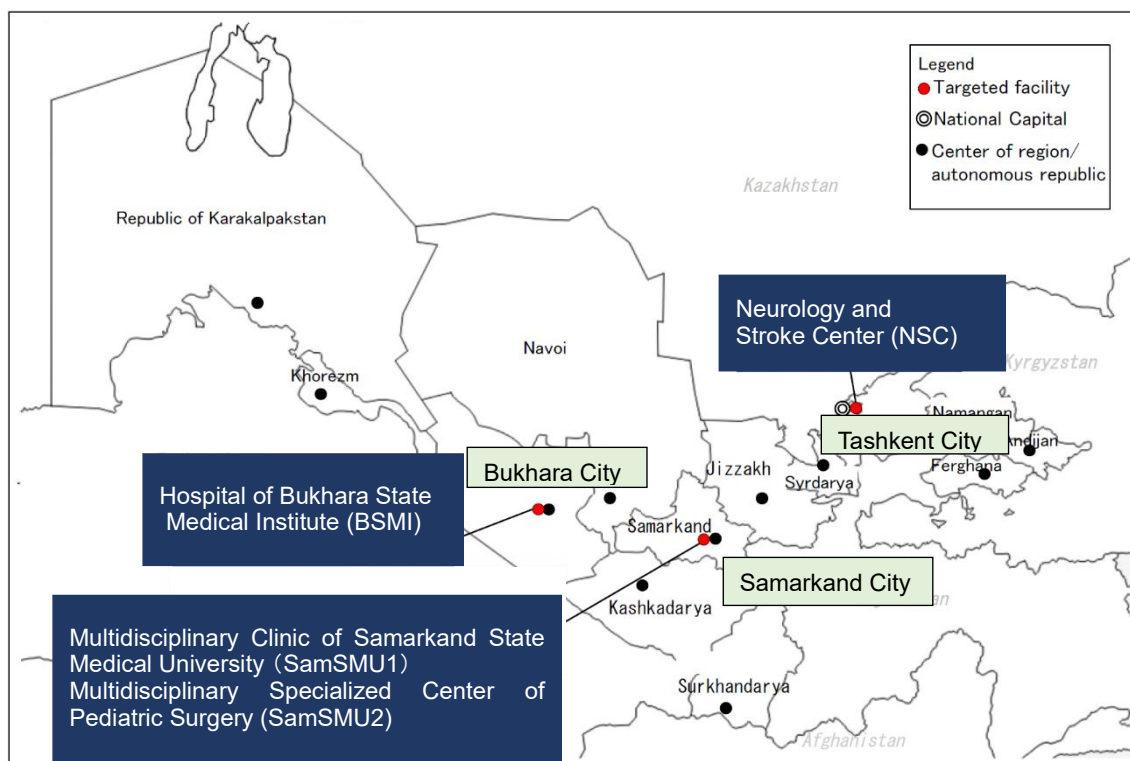
Ex-post evaluation: 3 years after the project completion

END

Appendix: Map for the Health and Medical Service Improvement Project

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### Map of the Republic of Uzbekistan



Source: Preparatory Survey Report for the Project