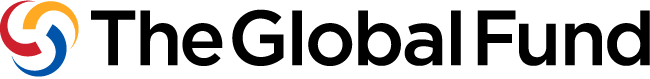
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*Refer to the “Tailored for Focused Portfolios” Instructions to complete this form.*

Summary Information

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| --- | --- |
| **Country(s)** | Kazakhstan |
| **Component(s)** | TB |
| **Planned grant(s) start date(s)** | 01 January 2023 |
| **Planned grant(s) end date(s)** | 31 December 2025 |
| **Principal Recipient(s)** | National Scientific Center of Phthisiopulmonology (NSCP) |
| **Currency** | US$ |
| **Allocation Funding Request Amount** | The final data to be added |
| **Prioritized Above Allocation Request (PAAR) Amount[[1]](#footnote-2)** | The final data to be added |
| **Matching Funds Request Amount[[2]](#footnote-3)**  (if applicable) | Not applicable |



# **Section 1: Funding Request and Prioritization**

To respond to the questions below, refer to the *Instructions*, as well as national strategy documents, **Programmatic Gap Table(s), Funding Landscape Table(s), Performance Framework, Budget and Essential Data Table(s)**.

## Overall Context and Funding Priorities

a) Highlight the critical elements of the **country context** that informed the development of this funding request, including key and/or vulnerable populations, human rights and gender considerations.

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| **Overall context**  Kazakhstan is the upper-middle-income country in Central Asia with a gross national income per capita (PPP) of 24,380 based on applicable international dollar value[[3]](#footnote-4) and a population estimated at 19.03 million[[4]](#footnote-5). It has borders with [Russia](https://en.wikipedia.org/wiki/Russia) in the north, [China](https://en.wikipedia.org/wiki/China) in the east, and [Kyrgyzstan](https://en.wikipedia.org/wiki/Kyrgyzstan), [Uzbekistan](https://en.wikipedia.org/wiki/Uzbekistan), and [Turkmenistan](https://en.wikipedia.org/wiki/Turkmenistan) in the south. With an area of 2,724,900 square kilometers, Kazakhstan is the ninth-largest country in the world. It is administratively divided into fourteen regions, headed by the regional governor and three cities of “republican significance”- Almaty, Nur-Sultan and Shimkent. These regions are further divided into 117 districts with rural settlements and villages and vary in their level of socio-economic development, population density, climatic conditions and the degree of urbanization. The population density is 6.98 per sq. km of land area, reaching in some regions 3.0 per sq. km. The country experiences an extreme continental climate in most of the territory, with cold winters with temperatures up to minus 52°C. During the long winter months, transportation within many regions of the country is becoming sharply limited or even closed.  The country is multi-ethnic, with Kazakhs majority, followed by Russians, Uzbeks, Ukrainians, Germans, and other minor ethnic groups. The urban population makes up around 58%[[5]](#footnote-6). Overall, the age structure is relatively young, with more than 29% of the population below 15 years of age, and 7% aged 65 years and above in 2020. The annual population growth rate is estimated at 1.3%, resulting from a birth rate of 21.3 births per 1,000 population, a death rate of 7.19 deaths per 1,000 population[[6]](#footnote-7), and a net migration rate of -5 persons per 1,000 population.  *National Health Strategy*  The Government is committed to make the quality of healthcare services available and affordable to all and modernizing the national health system with a focus on efficiency and financial sustainability. In a mid-term perspective[[7]](#footnote-8) it aims to reach economic and social end results, including private investment expansion and jobs creation, increase in life expectancy from current 71.4 to 75 years in 2025 and population satisfaction with the quality of healthcare services. The country will finance these efforts in light of their likely significant costs, other competing public priorities, and the country’s expected available future fiscal space following its medium-term expenditure framework (MTEF). However, all these efforts can be further complicated by the major health and economic uncertainties resulting from the COVID-19 pandemic and possible new emerging threats. The strategic directions of the new MoH “Healthy Nation” plan are:   * *Promoting Public Health* through shaping modern and effective healthcare system. The efforts will directed toward developing inter-sectorial collaboration on non-communicable diseases prevention and control, the formation of a healthy lifestyle, including the promotion of physical activity and healthy nutrition; promotion of continuous quality improvement of screening programs; and prevention of behavioral risk factors. * *Guaranteeing affordable quality care.* As the health status of the population is influenced by measures aiming to improve and expand the availability of quality complex health services and expands access to such services in underserved and rural areas, the measures have been taken to scale up the introduction of the new models of care delivery practices and quality assurance; to address workload challenges and modernization of education and science. * *Formation of the modern disease risk forecasting system for increased epidemiological preparedness and response* through transition to an advanced epidemiological surveillance and prediction models, increased epidemic prevention and control capabilities and expanded population access to modern, highly accurate, and precise laboratory testing. * *Ensuring availability of pharmaceuticals and medical devices of local production* through enlargement of domestic production and human capacities. * *Increasing the share of population who practice healthy lifestyles* through further development of healthy behaviors, including physical activities.   **Macroeconomic Framework and Budgeting**  To assure the country’s socio-economic development, the National Fund has been operating since 2000 that receives direct taxes from the oil sector and revenues from the privatization of state property and the sale of agricultural land. It was established for performing savings and stabilization functions- the funds are used in the form of guaranteed transfer to the republican budget. Also, the saving accounts operate within the republican and sub-national (local) budgets for unplanned expenses or expenses in emergencies.  The budget formulation in the country is characterized as a three-phased process, starting with the preparation of three-year rolling budgets- MTEF, followed by the Budget Law. After Government’s approval of procedures and deadlines of the budgeting cycle, the Ministry of National Economy (MoNE) develops the main directions of the country’s fiscal and tax policy and makes an annual forecast of social and economic development, which is approved by the Republican Budgetary Commission and then by the government. The document serves as the basis for regions and cities of republican significance to prepare the forecasts of the social and economic development at the sub-national level to be approved by the local executive. The forecast takes its direction from the Strategy of Kazakhstan-2050[[8]](#footnote-9), multi-year strategic plans and the President’s annual message. The Ministry of Finance does the budget formulation and establishes budget ceilings for the sectors, initiating the discussions with ministries responsible for their organization-based strategic development plans by defining the sector’s priorities and highlighting the results to be achieved by allocated funds. The budget package is then presented to the parliament for ratification and adoption of the Budget Law for three consecutive years.  As a basis for the preparation of the draft republican budget for 2022–2024, the baseline scenario was taken, assuming moderate growth rates of the world economy, recovery of business activity, and a gradual increase in demand, a less volatile situation on external exchange markets and the adaptation of economic policy to the new realities of the global development. At the same time, the leveling of the negative consequences of the coronavirus pandemic is expected and the gradual stabilization of the epidemiological situation through non-pharmaceutical measures and enhanced vaccination are foreseen. Albeit at a slower pace, Kazakhstan’s recovery is forecasted to be robust of the double shock the country faced from the global Covid-19 crisis and the drop in oil prices in 2020. These shocks hit the economy markedly and the GDP contracted by -2.8% in 2020. With lifting the COVID-19 measures and getting the outbreak under control, it has expanded by 2.3% in the second quarter of 2021 over the same quarter in the previous year.  The projected pace of growth is 3.9% in 2022, with further growth to 5.2% in 2026[[9]](#footnote-10), but significant downside risks yet remain due to uneven economic recovery across countries and higher debt-related risks to the global financial market. To adjust to external shocks caused by the pandemic, including depressed global demand and oil price, which is Kazakhstan's main export commodity, the Government has allowed sticking to a free-floating exchange rate regime for the local tenge currency, which resulted in tenge overall depreciation by 10% in 2020. An emergency interest rate hike from 9.25% to 12% on 10 March 2020 failed to stem a plunge to the record low. Projections in the Budget Law for 2022-2024 are made at a global oil price of US$60 per barrel (US$1 to 425 tenge rate), and estimated annual production volumes. The National Bank expects inflation to remain within the target range of 4.0-6.0% until the end of 2022, 4.0-5.0% in 2023-2024, and 3.0-4.0% in 2025-2026. To achieve the goals the country set in the mid-term, the National Bank plans to pursue a balanced monetary policy with an increased efficiency of the monetary transmission mechanism channels.  The depressed economy during the pandemic and expected pace of growth will have notable effects on poverty and unemployment rates and hit the most vulnerable groups, based on the WB projections. The poverty rate was expected to increase to 14% in 2020 from 8.5% in 2019 and a baseline of 6% in 2016, resulting in 1.5 million additional poor people.[[10]](#footnote-11) The data on unemployment rate points to persistently high levels in the second half of 2020 after a spike in the first half forming 5% in Kazakhstan[[11]](#footnote-12). The pandemic hit severely hospitality, wholesale and transport sectors that account for 30% of employment. The brunt of the crisis was disproportionally fallen on vulnerable populations by deepening their pre-existing vulnerabilities and inequalities. To mitigate the negative impact of the crisis, the country developed and implemented various support measures. This required binding decisions to be made on where substantial financial resources should be directed to minimize social inequalities thrown by the epidemic and improve long-term resilience.  To address the growing needs generated by the pandemic, the 2020-2022 republican Budget Law was revised twice in 2020 and increased the budget spending level. As a result, the budget gap was broadened to an estimated 3.5% of GDP in 2020 (-1.8% in 2019). To pay for the deficit, Kazakhstan signed loan agreements with the Asian Development Bank[[12]](#footnote-13), and the Asian Infrastructure Investment Bank[[13]](#footnote-14) totaled 1.5 billion euros, contributing to increased external debt. The deficit of the republican budget in macroeconomic framework is estimated at the level of 3.3% to GDP in 2022 (2.8% to GDP in 2023, and 2.5% to GDP in 2024) will be financed primarily from internal sources.  The government expenditure functions in 2022-2024 correspond to the national priorities of the Republic of Kazakhstan approved by the Decree of the President,[[14]](#footnote-15) which includes social and health security and protection and quality education. The government projects a nearly 5% average annual increase of public spending on health from the republican budget, attributable to increased funding towards the guaranteed volume of free medical care and health promotion and digitalization. It dedicates some 12% of its public budget to health for effective financial protection, risk sharing and redistribution. According to the adopted new Republican Budget Law, the budget programs on public health promotion, the guaranteed volume of free medical care, including TB and HIV healthcare services, as well as social assistance schemes are secured and not subject to sequestration during the budget execution at central and local levels.  The share of THE in the GDP was estimated at 3.0% in 2019, which is far below the average health spending in the OECD countries (8.8%). The share of public expenditure in THE made up 59.94%, which is less than the OECD average (73.5%).[[15]](#footnote-16) The share of out-of-pocket spending in the total health expenditures (THE) made up 34% in 2019, forming a large proportion of private health expenditures spent mainly on medicines and medical consumables. Contributions to the voluntary healthcare payment schemes in the total health expenditures structure formed nearly 6%.  **Health Financing**  The Code "On people's health and the health care system" adopted in July 2020 laid out the legal basis and outlined the framework for transition from a centralized to a mixed health-financing model. Consolidation of health funding pools and administrative functions at the central level with the establishment of the compulsory health insurance fund (CHIF)[[16]](#footnote-17) has reduced fragmentation of financing, allowed to overcome unjustified regional differences. The CHIF[[17]](#footnote-18),[[18]](#footnote-19) pools monies in separate accounts and pays for health care within the frame of the state-guaranteed volume of free medical care (or the program of state guarantees), and in the system of compulsory social health insurance (CSHI), performs regular audits and expenditures’ analysis, monitors the performance of impaneled healthcare providers, manages complaints and conduct sensitization and awareness-raising events on components of CSHI.  The first year of large-scale implementation of compulsory social health insurance coincided with the COVID-19 pandemic by increasing the complexity of the health system' challenges. However, despite the quarantine measures, the population enrolled under the CSHI scheme made up 85% at the end of 2020. The SHIF has accomplished all necessary steps to be fully operational that allows effectively respond to the outbreak. The CSHI deductions and contributions were mobilized to guarantee population access to narrow specialist' consultations, high-tech diagnostic services, day-care, and rehabilitation by injecting more than KZT550 billion into the healthcare system. This significantly increased the volume of services and made them accessible to patients irrespective of their insurance status.  The CSHI is financed primarily from contributions of employers and taxpayers, and the republican budget’ transfer to cover the premium costs for economically inactive population groups. The last includes persons registered as unemployed, non-working pregnant women, those on maternity leave, unemployed who care for a disabled child, recipients of pension payments, persons in the penitentiary system and detention centers, disabled and full-time students. Foreigners and non-residents, who are permanently residing in the country and returnees, enjoy similar rights and bear the same obligations as citizens of Republic of Kazakhstan (RK).  Further development of healthcare as a multi-tier system distributes responsibility for the health of citizens between state, employers, and taxpayers and guarantee equitable and affordable access to quality healthcare services:   * state-guaranteed volume of free medical care including TB services, financed from republican and sub-national budgets; * benefits’ package under the CSHI, financed through a mix of contributions from the state, employers and employees, self-employed and through other sources not prohibited by law; * benefits’ package of the voluntary health insurance, financed from voluntary contributions of citizens or employers; and * package of paid services, financed through payments by users.   **TB Financing**  In Kazakhstan, most of the funding for the TB control program comes from domestic resources. With the establishment of CHIF, the domestic funding has shifted from the local to the national government by keeping the oblast administration’s responsibility for the cost of TB social support component[[19]](#footnote-20), and additional support to the program of state guarantees and ACSM activities. The local expenditures have increased over time for the social assistance and accounted for nearly 4.4% of the total TB budget in 2020, with the regional variations from low 1% to high 12%.  The international assistance network aims to control TB in Kazakhstan is limited and represents an annual average of approximately 5% of the total spending on TB service in 2013-2021. The analysis identifies the GF, USAID, Partners in Health (PIH) and KNCV Tuberculosis Foundation (KNCV) as key partners that contribute resources to fill the gap in the country’ efforts to control TB (*for more detailes please refer to section 3.2. Sustainability and Transition).*  **TB services payment approaches**  The payment to TB dispensaries for the medico-social services[[20]](#footnote-21),[[21]](#footnote-22) is based on the amount specified in their contracts, determined by the complex tariff (CT) for a TB patient, multiplied with the average number of active TB patients for the reporting period, and by adding the cost of anti-TB drugs not exceeding their purchase price paid retrospectively. Payment for the delivery of inpatient and hospital-replacing care to TB patients in the republican organization is made at a rate of a bed-day, and for the surgical care at the interregional level- at the cost of the corresponding DRG.  There are different ambulatory TB care delivery models operational, including TB cabinets established as an organizational part of policlinics, outpatient TB departments at the regional TB Centers, and outreach services for hard-to-reach population groups through mobile facilities. Therefore, varying payment policies or a mix of them have been envisaged in the transition phase and reviewed for the evidence of cost-saving in delivering desired treatment outcomes.  The care organization when the TB cabinets are administratively integrated into the PHC facility structure is the most prevailing model within and across the regions. In this model, the typical PHC team provides the TB prevention and control services, and Territorial Phthisiatricians focus more on care coordination, clinical management, and treatment oversight at the primary care level. The expenses are included in the budget of PHC facilities formed from the capitation payment, incentive fund allocations, tariff-based financing for diagnostic services, and paid services. In very few districts, the regional TB Centers can maintain sub-contracts with PHC facilities, where the TB units are established to provide the full range of ambulatory services to TB patients. Under this model, PHC is paid from the contractual amount formed from the complex tariff for an active TB patient.  The TB services rationalization at the hospital level and integration of TB control in PHC, and promotion of compliance with the WHO standards will be supported by streamlined financing, including mechanisms that will allow reinvestment of savings into the TB Service. In parallel to the hospital beds reduction, it is becoming critical to have further increased capability at the PHC and motivated staff to manage TB patients appropriately and ensure good health outcomes. Moreover, the cohesion strategies for improving incentive structures at the TB Center and PHC levels have been discussed.  **Health Information System**  A unified health management information system (HMIS) was founded in Kazakhstan in 2007 to tie together the healthcare reforms through generating timely and accurate data allowing information analyses to monitor performance and enable safe and reliable quality care delivery. The system has been gradually expanded into primary and inpatient health care as the clinics begin to understand the potential advantages arising from the use of information technology, including further reduction of reporting paperwork burden. The HMIS is used in nearly all healthcare facilities that allows to generate data from population enrollment, encounter or service delivery, maintain disease’ registers and administrative records, and perform payment functions. The efforts are underway for efficient interaction between health information systems and subsystems within the health sector and the overall e-government system.  The NSCP owns well-established and functioning TB information system. The national TB Registry (NRBT) is a comprehensive web-based tool that integrates case management, drugs control, and surveillance data into a single platform for effective monitoring and evaluation of the national TB program. The system enables electronic TB recording and reporting. Considering the country’s aspiration towards moving to e-health and revisted by the WHO cases definitions, the current system requires the updating of recording and reporting modules.  **Public Procurement**  According to the MoF[[22]](#footnote-23), the public procurement in Kazakhstan accounted for approximately a total of KZT 5.9 trillion in 2020, forming about 8.4% of GDP, up from 7.1% in 2018. It represents a large market in the country. The framework for public procurement has undergone significant improvements in recent years, taking account of the rising importance this function has for effective public service delivery and adapting it to the increasing demands of its citizens and public organizations. Today the entire process of public procurement is automated; it provides access to legislation and norms related to public procurement, and detailed instructions for different users. More than 104 thousand suppliers and 26 thousand customers are currently registered on the web portal.  Kazakhstan has a Single Drug Distributor introduced in 2009 – SK-Pharmacy- responsible for procuring medicines from the drug formulary system and medical products, within the guaranteed volume of free medical care and within the system of CSHI for the state-owned healthcare organizations. It allows achieving significant budget savings from centralized procurement, consolidation of demanded volume of medicines and supplies across the country, and exclusion of intermediaries from the purchasing chain by directly contracting with the manufactures. At the same time, part of the logistics costs such as certification, customs clearance is borne by SK –Pharmacy. There are also arrangements introduced for purchasing drugs and medical supplies/products through the UNDP and UNICEF pooled procurement mechanisms and the Global Drug Facility (GDF). The single drug distributor maintains long-term contracts with the domestic producers and contributes to the support and development of the local pharmaceutical industry. The most significant price reduction is achieved through the tender process. The procurement processes and provision of medicines, medical supply and products within the guaranteed volume of medical care in the system of compulsory health insurance, is carried out in accordance with the Rules[[23]](#footnote-24),[[24]](#footnote-25) the country has adopted.  The market size of TB drugs is relatively small, except for levofloxacin (Lfx), moxifloxacin (Mfx), Meropenem; and some anti-TB drugs (Bdq, and pediatric anti-TB drugs) have no yet registered in the RK. Registration of medicinal products under the new EAEU rules came into force in July 2021, and the current provision does not foresee a simplified procedure for the WHO pre-qualified drugs registration.  **Social Order**  The state social order is operational in all regions with an increase in funding at the sub-national level in recent years. Funds have been allocated to public health, education, culture, social programs, youth policy, religious affairs, tourism, physical education, and sports. The main administrators of the budget programs at the local level, implementing more than half of all social projects, were regional departments of internal policy. An annual increase of funding for TB services through social contracting was also observed in 2017-2019, with the larger share of resources allocated for the projects administered by the MoH.  Improvements were made in the legal and regulatory framework: e.g., the new Code on health and the health care system underlines local executive bodies responsible for organizing social support to vulnerable population groups. Most TB patients who receive outpatient treatment on a regular basis receive cash benefits, food packages, and travel passes. In addition, integrated social, legal, medical community-based interventions are designed for people in difficult life situations.  Kazakhstan has accumulated significant experience in social contracting. In 2002, the government adopted the concept paper on state support of NGOs, and in 2005 the Law “On state social order, grants and bonuses for non-governmental organizations in the Republic of Kazakhstan” [[25]](#footnote-26), regulating the collaboration of the government with NGOs[[26]](#footnote-27) as providers of social and health-related services. Since then, the Law has undergone several revisions, and the latest amendments and additions allow extending the duration of a social project for up to three years. Also, a unified grant-funding operator was established, letting NGOs spend up to 10% of the grant for the material and technical support. There are other legislative and regulatory acts in this field endorsed: the Law "On public procurement", and the Rules for public procurement. In August 2018, the Minister of Labor Social Development adopted the rules for forming, monitoring and evaluation of the social order along with the Standard of the state social order. [[27]](#footnote-28)  The government has lifted some requirements envisaged for the supplier while procuring services through state social order, e.g., it does not require to be payable and submit the proof of financial resources sufficient to fulfill the obligations under the contract. The procurement rules define approaches for the bids’ technical and financial assessments, overall evaluation, and the final ranking. The method applied for the bid evaluation emphasizes the importance of the technical proposal, by reducing the competitively offered prices through the scaling technique for technically good proposals. Importantly, the government is interested in the dialog with civil society and supports the civic forums.  A wide range of services can be contracted[[28]](#footnote-29), which are classified under the relevant budget programs with the inclusion of the project summary. In 2019, approximately KZT24.8 million were spent through the social contracting for the TB projects listed below:   * Social support to patients on ambulatory care in c. Balkhash (NGO “DAUA 2050, Karaganda region); * TB prevention and detection among the key and vulnerable population: drug users (NGO “White Chamomile”, Kyzylorda region); * Providing hot meals to TB patients (PO Center for mothers support, Pavlodar region); * Social support to students from key groups, with active TB (Almaty, regional TB Center); * TB mass information campaign (PF “Igilik”, Akmola region); * Intervention on timely detection of TB among migrants (Association of Legal Entities "Kazakhstan Tuberculosis Control Network", Nursultan, Almaty and Shimkent cities).   In 2020, the funds were directed to local COVID-19 response measures, and approximately KZT23.5 million were spent through the social contracting for the TB projects:   * Social support to patients on ambulatory care in c. Balkhash (NGO “DAUA 2050, Karaganda region); * Providing hot meals to TB patients (PO Center for mothers support, Pavlodar region); * TB mass information campaign (PF “Igilik”, Akmola region); * TB survey among university students, private companies and organizations (ALE "Kazakhstan Tuberculosis Network", all regions).   In 2021, the announced tender on the amount of KZT20.3 million for services on infection diseases prevention and healthy lifestyle promotion was cancelled, and the funds were absorb for the COVID-19 recovery measures. The financing of NGOs for the TB services services delivery made up nearly KZT21 million in 2021:   * TB mass information campaign (PF “Igilik”, Akmola region); * Providing hot meals to TB patients (PO Center for mothers support, Pavlodar region); * Organization and implementation of activities aimed at preventing tuberculosis and detecting diseases at early stages among adolescents and youth (general population and vulnerable groups) (PO "Kos Kanat Zhetisu", Almaty region).   Recovering from the pandemic-induced downturn, the NTP expects that the local governments will increase the funds for the NGOs-led TB services in the mid-term under the social contracting mechanism.  Based on feedback obtained from the local NGOs evolved in social contracting, the main challenges and lessons are:   1. the need in having own funds to implement the social order as payroll should be no more than 40% of the contractual amount; 2. (need in constant collaboration with the regional government and tracking the announcements regularly; 3. be able to understand the specific terminology and capable of using an electronic system; and 4. afford the nominal fees introduced recently for the services of the electronic portal on “Public Procurement.”   It is worth mentioning that the local government allocation for TB patients’ social support scheme was increased from KZT1,494 million in 2019 to estimated KZT1,761 million in 2021 (KZT1,321 million was spent in nine-months of 2021).  **Human Resources for Health (HRH)**  A well-functioning healthcare system requires an adequate number of qualified and motivated health workers. Though the health workers have been in the spotlight of the policy dialogue for years in the country, the HRH planning has attracted increasing attention from the health policymakers in recent years. The country is refining the HRH policy to address workforce supply, education, training, management of performance, working conditions, and remuneration approaches. To guarantee the equitable distribution of the medical workforce, different policy options are discussing, including training opportunities, rotation programs, and financial incentives for staff deployment to rural areas. Enhancing the system of professional certification and licensing of doctors and nurses, improving quality of training and continuous professional development of health workers, and developing biomedical research are among the implementation objectives of the health strategy in mid-term.  In line with the Code on health and the health care system, Kazakhstan is developing a national HRH registry that supplies data on certified healthcare professionals for monitoring and forecasting, human capital planning, and development. The National Coordinator[[29]](#footnote-30) carries out human resources accounting and analysis for HRH. Healthcare workers are certified following their participation in the training and/or additional competencies every five years. The Personnel Management Service and the Head of the Medical Organization confirm the results of continuous professional development of the staff as per centrally adopted procedures and criteria[[30]](#footnote-31). Also, the MoH defines the rules for additional and informal education, such as seminars or workshops, online sessions, and training of health professionals, qualification requirements of institutions, including National Scientific Center of Phthisiopulmonology (NSCP), organizing and implementing such training sessions, along with the results’ recognition system.  Overall, Kazakhstan has more than 248,000 certified health professionals, broken down into 72,877 for doctors and 175,705 nurses/paramedical workers. According to the most recent MoH data, the country has 3.96 physicians per 1,000 of its population, compared to the 3.3 OECD average. The density of paramedical workers, including nurses, made up 9.55 per 1,000 population compared to 9.1 OECD data. The nurse-to-doctor ratio forms 2.4:1. Despite the increase in health workers production, there is a marked difference in health workforce distribution between urban and rural areas: 5.68 physicians per 1,000 population are in cities compared with 1.61 in rural health care facilities. Nearly 83% of all doctors are concentrated in the city’s clinics. To address physicians gap, the country has introduced a compulsory three-year service in public healthcare facilities through funds allocated from the republican and local budgets. In parallel, the government implements the measures to strengthen the value placed on healthcare services by a set of interventions including an annual increase in wages, enhancing social support, and incentive schemes to attract young specialists to deploy in rural areas. In 2018, the ratio of the average physician earnings to the average salary in the economy made up 0.93:1 compared to 3:1 value of the same indicator in the OECD countries.  The greatest deficit in regions is observed in the specialties, including general medical practice (family medicine). The GP population ratio (normative) was revisited, and more than 1,629 additional GP practices were opened in 2019, serving up to 1,800 enrolled populations per practice. The average growth of GPs is estimated at 6%[[31]](#footnote-32) aligned to demographic changes and need to balance the number of assigned population. There are norms established for multidisciplinary doctors’ teams at the PHC level:   * 1,700 population per a GP (nurse to GP ratio: 3:1); * 10,000 population per social worker; * 10,000 population per a psychologist * 10,000 per 0.4 FTE of the territorial phthisiatrician   However, these norms are not strictly adhered to, particularly in regions with a shortage of PHC physicians.  More than 23% of TB specialists are close to retirement, while the inflow of young physicians/graduates into the phthisiology field has drastically decreased. Strengthening of human resources for TB control is among the priorities of the draft 2022-2026 Comprehensive Plan on Respiratory Health, which envisages different policy options including education opportunities, integration of phthisiology into broader medical disciplines such as pulmonology, retraining of PHC staff to get extra skills in TB control, the introduction of the M&E Specialist’ position into the staffing schedule, and financial incentives to retain young specialists in the TB Service.  **Tuberculosis context**  **TB epidemic**  Kazakhstan has classified by the WHO as a country with the highest TB notification of new and relapse cases in the European Region[[32]](#footnote-33) and as one of 30 high MDR-TB burden countries in the world with estimated 22 new RR/MDR-TB cases per 100,000 population in 2019[[33]](#footnote-34).  The country efforts in TB control are directed at achieving the commitments made within the frameworks of the Sustainable Development Goals (SDG) and High-Level Meeting on Tuberculosis of the 73rd Session of the United Nations General Assembly (UNGA) in accelerating progress towards attaining the targets of the WHO strategy for the elimination of tuberculosis. Kazakhstan is among the countries, which already achieved the 2020 WHO End TB strategy milestones. Thus, in 2020, there was registered a decline of the incidence rate (new and relapsed) by 36.3% compared with 2015 statistics. The country has reached a steady and sharp decrease in the death rate: over the same period the decline in mortality was 53.7% (Figure 1). Whereas for 2020, the End TB Strategy milestones have been set at a 35% reduction in TB deaths and a 20% decrease in incidence rate. The case fatality decline was caused by disease transmission reduction and treatment successes, showing good progress towards TB key targets set at the TB session of UNGA, by achieving 54.2% of 5-year nationalized treatment target level in 2020 (Figure 2). The coverage of RR/MDR-TB and children with treatment were 58.9% and 56.7% correspondingly (Figure 3). The country indicators exceed the global results achieved[[34]](#footnote-35) in 2018-2020, particularly regarding the number of children and RR/MDR-TB cases covered by treatment schemes (Figure 4). The accomplishments so far will be taken as foundation to exert concerted effort in achieving more demanding milestones.   |  |  | | --- | --- | | **Figure 1. WHO End TB Strategy: Kazakhstan 2020 milestones** | **Figure 2. UN high-level meeting on TB: Treatment targets (all ages)** | |  |  | | **Figure 3. UN high-level meeting on TB: Treatment targets (children 0-14 years)** | **Figure 4. UN high-level meeting on TB: RR/MDR-TB (all ages)** | |  |  |   *Source*: National TB Program  The achievement of the goals in TB preventive treatment, though being in line with the globally reached results, yet remains low. In 2018-2022, the TB preventive therapy coverage of all cases and ages made up 29.7% of the target level set for the country, comparing with 29% of the global result achieved in the same period (Figure 5).Preventive treatment rates for children under 5 and for those over 5 years old formed 24.2% and 24.9%, correspondingly, from the five-year nationalized target level (Figures 6&7).Though, the attainment of the PLHIV preventive treatment target was somewhat higher (54.6%) as shown in Figure 8**.** Consequently, in the mid-term, implementing measures for TB preventive treatment in high-risk groups and the control of cases with RR/MDR-TB are among the main directions the NTP efforts should focus on.   |  |  | | --- | --- | | **Figure 5. TB Preventive Therapy (TPT), all cases.** | **Figure 6. TPT results for under-five Child contacts** | |  |  | | **Figure 7. TPT results in contacts > 5 years** | **Figure 8. TPT results in PLHIV** | |  |  |   *Source*: National TB Program.  According to the latest WHO estimates for Kazakhstan, the incidence of TB (new and relapses) was 69 cases per 100,000 population[[35]](#footnote-36), or in absolute numbers 13,000 (8,400–19,000) patients in 2020. Over the past decade, the indicator has decreased by more than twice from 158 cases per 100,000 in 2008 (Figure 9).Referring to the same estimates, TB mortality remains at a relatively low level. The death rate due to tuberculosis was 3.2 among HIV-negative people and 0.68 in PLHIV per 100,000 population (Figure 10)[[36]](#footnote-37).While at the same time, the estimated number of RR-TB cases in 2019 made up 4,100 patients[[37]](#footnote-38).  From the National TB Registry, the total number of registered new and relapsed cases in the civilian and penitentiary sectors was 9,603 in 2020. Compared to 2019, it was declined by 20.6%. The average annual decrease registered in the past five years made up 9.4%, and the cases were reduced from 14,345 (80.6 cases per 100,000 population) in 2016 to 9,603 cases (51 per 100,000 population) in 2020 (Figure 11). Reported sharp decline in TB cases in 2020 was triggered by disruptions of TB services caused by the coronavirus pandemic to be detailed in paragraphs below.   |  |  | | --- | --- | | **Figure 9. WHO estimates of TB incidence in Kazakhstan, 2000 - 2020** | **Figure 10. WHO estimates of HIV-negative TB mortality in Kazakhstan, 2000 - 2020** | |  |  |   *Source*: WHO data  **Figure 11. Case notification and estimated TB incidence rates, Kazakhstan, 2000-2019**    *Source:* World Health Organization, Global Health Observatory data repository; Incidence.  There are geographical variations observed in the TB case notification rate (new cases and relapses) in the civil sector. It was lower than the national average in three cities of republican significance and four oblasts, and higher in the remaining ten oblasts, notably fluctuating between 31.1 in Shymkent and 87.4 in Atyrau oblast per 100,000 population (Figure 12).  In 2020 TB cases, no significant sex prevalence to a male-to-female ratio was observed; the prevalence percentage among men made up 50.9 Tuberculosis has mostly affected economically active population with highest number of cases recorded at 25-64 age groups (Figure 13).  **Figure 12. TB notification by regions in Kazakhstan, 2019-2020**  *Source:* National TB Program. *Data refers to civilian sector only*.  **Figure 13: Proportion of notified TB cases by age group and sex (absolute numbers), 2020**  *Source:* National TB Program.  Over the past 10 years, both TB incidence (new cases and relapses) and TB mortality have shown the marked downward trends (Figure 14).  **Figure 14: Annual TB notification and mortality rates in Kazakhstan, 2009 - 2020**  *Source:* WHO, Global Health Observatory data repository and National TB Program statistics.  **TB in children**  The epidemic data on notified pediatric tuberculosis cases has also shown a declining trend over the past ten years, with an average annual 5.2% reduction, from 34.1 in 2010 to 8.6 in 2020 per 100,000 population. A similar trend was detected for cases of MDR-TB in children; TB notification rate has decreased from 3.5 in 2010 to 1.3 in 2020 per 100,000 population. Compared to the 0-14 age group, more TB cases were seen in children aged 15-17 years. In 2020, when the lockdown and related restrictions in response to COVID-19 was imposed, worrying reduction was observed in TB notifications compared to previous year data (Figures 15-18).   |  |  | | --- | --- | | **Figure 15. Notification of new TB cases in general population (civilian sector) and in children (0-17 years) per 100,000 population, Kazakhstan, 2010-2020** | **Figure 16. Notification of new TB cases in children by age groups, per 100,000 population, Kazakhstan, 2010-2020** | |  |  | | **Figure 17. Notification of the MDR-TB cases in general population (civilian sector) and in children (0-17 years) per 100,000 population, Kazakhstan, 2010-2020** | **Figure 18. Notification of the MDR-TB cases in children by age groups per 100,000 population, Kazakhstan, 2010-2020** | |  |  |   However, during the first nine months of 2021, linked with health services restoration, there was an increase in the number of notified cases by 13.5% (33 patients belonged to the 0-14 age group and 28 cases were among adolescents aged 15-17 years) or 6.8 cases per 100,000 population (Figure 19).  **Figure 19. TB notification rate in children by age groups in Kazakhstan, 2017-2020 and 9 months of 2021**  The significant decrease in the number of TB cases registered in 2020 (Table 1) can be attributable to numerous factors:   * the expected decrease resulted from TB measures carried out in the country; * coronavirus infection preventive and control measures widely practiced in 2020, might have positive impact by reducing  airborne disease transmission, including TB spread; * impact of disruptions to essential health services, including TB services; * unfavorable impact of restrictive measures in healthcare-seeking behavior of population; * re-purposing of PHC and TB Service capacities to respond to COVID-19.   **Table 1.** **Notified TB cases, civilian sector, Kazakhstan, 2018-2020, Kazakhstan**   |  |  |  |  | | --- | --- | --- | --- | |  | 2018 | 2019 | 2020 | | Pulmonary TB | **12,030** | **11,300** | **8,665** | | New cases | **7,727** | **7,328** | **5,824** | | Bacteriologically confirmed | 6,616 | 5,635 | 4,702 | | Clinically confirmed | 1,111 | 1,693 | 1,122 | | Relapses | **3,790** | **3,525** | **2,456** | | Bacteriologically confirmed | 3,539 | 3,038 | 1,770 | | Clinically confirmed | 251 | 487 | 686 | | Recurrent cases except relapses | **513** | **447** | **385** | | Bacteriologically confirmed | 441 | 350 | 139 | | Clinically confirmed | 72 | 97 | 246 | | Extrapulmonary cases | **1,230** | **1,253** | **957** | | Bacteriologically confirmed | 387 | 466 | 344 | | Clinically confirmed | 843 | 787 | 613 | | All TB cases | **13,260** | **12,553** | **9,622** |   Source: National TB Program.  **Multidrug-resistant tuberculosis (MDR-TB)**  Reiterating what is mentioned above, Kazakhstan is among the priority countries in the world with the highest-burden of RR/MDR-TB. Based on 2020 NTP’ statistics, the proportion of RR/MDR-TB among new TB cases was 26.3% and among previously treated- 53.1% (Figure 20), which are greater than the same indicators reported at the global level (3.3% and 18%, correspondingly) and at the WHO European Region (17% and 52%, correspondingly) in 2019.  Drug-resistant TB is a serious threat to public health in Kazakhstan. In 2020, there were 3,114 bacteriologically confirmed cases of RR/MDR-TB and 1,193 cases with pre- and XDR-TB, compared with WHO' estimated 4,100 cases in 2019 for the country. Though RR-TB incidence had declined with an average annual level of 7% from 5,817 cases (32.9 per 100,000 population) in 2016 to 3,114 (16.7 per 100,000 population) in 2020, RR-TB prevalence in the country remained at 45-49% of all registered TB patients over the past years (Figures 20&21).   |  |  | | --- | --- | | **Figure 20. Rates of the RR/MDR-TB among new and previously treated TB cases, Kazakhstan, 2009-2020** | **Figure 21. RR/MDR-TB notification rate and absolute numbers, civilian sector, Kazakhstan, 2016–2020** | |  |  | | *Source*: National TB Program. | *Source*: WHO global TB database, 2016–2020. |   **Key and vulnerable population groups to tuberculosis**  In Kazakhstan, the list of key and vulnerable populations and TB examination frequency are determined by the MoH order[[38]](#footnote-39) that defines the groups at high risk for TB, who are eligible for active case finding (Table 2).  **Tablle 2.The list of key and vulnerable population groups eligible for systematic TB screening**     |  |  | | --- | --- | |  |  | | High risk population  (annual CXR) | Close and household contacts, regardless of bacterial excretion in TB patients.  Persons registered with chronic obstructive pulmonary diseases, diabetes mellitus, alcoholism, drug addiction, HIV/AIDS and those under immunosuppressive therapy.  Persons with residual effects in the lungs of any etiology.  Persons released from places of detention. | | Groups for mandatory screening  (annual or semi-annual CXR) | Personnel of healthcare facilities and medico-social organizations.  Students.  Adolescents aged 15-17 years.  Women in their postdelivery period, prior discharge from the maternity hospital.  The contingent of persons of inpatient medical and social institutions and neuropsychiatric dispensaries  Persons under investigation and convicted.  Military age population, employees of internal affairs, military personnel.  Employees of preschool organizations, schools, lyceums and gymnasiums, higher and secondary specialized educational institutions.  Persons, arriving in Kazakhstan for permanent or temporary residence, including labor migrants. |   *Source:* MoH order No. 214 dated November 30, 2020.  Considering the potential benefits, risk of harm of the fluorographic screening, and the coverage and cost aspects of the program, the country has identified the need to evaluate the approaches used to determine groups with a very high risk of disease development or severe consequences of delayed TB diagnosis in light of the gradual decrease of tuberculosis burden. It applied the WHO Screen TB tool[[39]](#footnote-40) and prioritized population groups for systematic screening. The available data allowed generating estimates of the size and costs of the screening programs specific to the target groups and diagnostic algorithm adopted. Calculating the screening yields, nine groups[[40]](#footnote-41) (Table 3) were determined with reported rates of tuberculosis exceeding the country average estimated by the WHO. The six groups such as PLHIV, drug users, those who have residual effects in the lungs, former prisoners, people with registered alcohol use disorders, and their contacts, had more than two-fold risk ratio. In the remaining populations, the probability of TB detection did not exceed the same indicator for the general population, demonstrating that the screening in these groups is not epidemiologically justified.  **Table 3.** **Risk ratios of TB in high-risk population groups, notified during mandatory screenings, Kazakhstan, 2019**   |  |  |  | | --- | --- | --- | | **Target group** | **Cases per 100,000 population** | **Risk ratio** | | General population (WHO estimate, 2019) | 98.0 | 1 | | 1. PLHIV on dispenser care. | 1,271.3 | 13.0 | | 1. Drug addicted on dispenser care. | 618.3 | 6.3 | | 1. Persons with residual effects in the lungs of any etiology. | 456.0 | 4.7 | | 1. Former prisoners. | 446.6 | 4.6 | | 1. Persons with alcohol use disorders on dispenser care. | 406.8 | 4.2 | | 1. Persons with hystory of close contacts with a TB patient regardless of it's bacterial excretion status. | 348.6 | 3.6 | | 1. Individuals receiving immunosuppressive therapy. | 129.8 | 1.3 | | 1. Patients with diabetes melitus under dispenser care. | 128.7 | 1.3 | | 1. Persons seeking permanent residence in Kazakhstan. | 110.2 | 1.1 |   Its worth mentioning, that with the support of the WHO EURO, the US-funded ETICA project, and a group of international and local consultants, the country is preparing a new national guide on TB systematic screening and preventive treatment. It will be in line with the latest WHO recommendations planned to be finalized during the first quarter of 2022. The national guideline will reflect the findings of the Screen TB tool, by prioritizing populations for TB screening programs, and specify the frequency of screenings.  The active TB detection in key and vulnerable populations is discussed in sections below, underlining the role of NGO sector in tuberculosis control.  **People in detention**  Globally, prisoners are at higher risk of contracting TB and HIV compared to the general population based on reported incidence data. Kazakhstan has leaped forward on the prison index, moving from the third-ranked country in the world in terms of per capita prisoners’ number and dropping to 78th place in 2017. The total prison population made up 34,000 in 2020 or reduced by nearly twice compared with 2002 data. The TB incidence in penitentiary system has accounted for 147 per 100,000 population (108 patients) in 2020 compared with 941.1 per 100,000 population (1,554 patients) in 2012 (Figure 22). Over the same period, the death rate from tuberculosis decreased from 94 per 100,000 population to 20 per 100,000 population. The burden of MDR-TB in the penitentiary system declined from 599 patients in 2013 to 181 in 2020 (Figure 23). However, the MDR-TB prevalence among new TB notifications in 2020 was prevailed (62.3%).  The services to manage and follow-up patients on TB treatment in the penitentiary and civil healthcare systems are detailed in the section *TB Control in Penitentiary System.*   |  |  | | --- | --- | | **Figure 22. TB notification and mortality rates in penitentiary sector, Kazakhstan, 2010-2020** | **Figure 23. Number (abs.) of TB cases registered in penitentiary sector, Kazakhstan, 2012-2020** | |  |  |   *Source*: Committee of the criminally-executive system at the Ministry of Internal Affairs.  **People living with HIV (PLHIV)**  In 2020, 3,343 citizens of Kazakhstan were newly infected with HIV, or 17.9 people per 100,000 population. The annual increase in HIV incidence was registered over the past ten years, but not in 2020, possibly owing to disruption of testing services during lockdowns as a reason. Tuberculosis is the most common co-infection in PLHIV and the leading cause of death among HIV patients. The peak of TB/HIV co-infection detection was observed in 2016, amounting to 7.2% of the total number of detected HIV cases. Over the past five years, the co-infection prevalence in case notifications was declined. At the end of 2020, among 3,343 new HIV cases, 134 people were reported to be with TB/HIV co-infection (4.0%) (Figure 24).  **Figure 24. HIV notification and TB / HIV co-infection rates, Kazakhstan, 2011-2020**  *Source:* Kazakh Scientific Center of Dermatology and Infectious Diseases.  **Migrants**  The major migration trends in Kazakhstan include labor migration from countries of Central Asia; immigration; internal migration, mainly resettlement of the population from rural areas, small and medium-sized cities to the meptropolis.[[41]](#footnote-42) The national and international legal instruments shape the social and health protection of migrants in the country. Kazakhstan is a signatory to the 1951 Refugee Convention and its Protocol[[42]](#footnote-43) and party to most human rights treaties[[43]](#footnote-44), women’s rights, children’s rights, disabled and migrants’ rights, as well as to agreements on international goals regarding education, health, and poverty eradication. The country also shares the objectives of the Universal Declaration of Human Rights that forms the context of its legal system. In 2018, it adopted the Declaration of the United Nations High-Level Meeting on Tuberculosis. The signatory to several regional international instruments, including the Treaty on the Eurasian Economic Union, CIS Agreements and bilateral agreements in the field of labor migration, guarantee access of migrants and their family members to social protection and social security schemes. Domestic instruments, including Constitution of RK, Laws[[44]](#footnote-45), Code on health and healthcare system, and respective orders of the MoH, ensure the same rights as citizens have to oralmans, refugees, as well as foreigners and stateless persons permanently residing in the country in accessing the volume of free medical care. For temporarily residing population groups, a guaranteed volume of free medical care is limited to the treatment of diseases that pose a health risk to others, including tuberculosis. Foreigners and non-residents, who are permanently residing in the country and returnees, enjoy similar rights and bear the same obligations as citizens of the RK in accessing the services in the system of CSHI.  A range of projects has been implemented in migration health through the NGO network. The interventions aimed to facilitate migrants and refugees' better access to healthcare services, including TB service, and promote their rights to health, prevent communicable and NCD diseases and cross border infection transmission. Poor living conditions, low educational background, restrictive laws and policies, low awareness of services available and registration requirements, and inadequate access to care make migrants vulnerable to pulmonary TB. The number of new cases of tuberculosis detected in foreign-born persons made up 118 in nine months of 2021 and 178 in 2020 compared to 187 in 2019.  **TB Response: Progress, Challenges and Opportunities**  The Ministry of Health of the RK bears primary responsibility for TB response and recognizes tuberculosis as a public health priority. The national TB program implementation is coordinated by the National Scientific Center of Phthisiopulmonology. In past years, national measures to combat tuberculosis have been determined by the Comprehensive Plan to Control Tuberculosis in the Republic of Kazakhstan for 2014-2020. This plan was built on the progress made in the national tuberculosis control programs since 1998, aligned with the WHO Tuberculosis Strategy, and focused on strategic interventions to reduce the burden of tuberculosis and on organization of the patient-centered care. The specific interventions were grouped around the following objectives:   * Reforming TB Services in the civil and penitentiary sectors with the expansion of outpatient and hospital-replacing care for TB and M/XDR-TB patients. * Improving access to advanced technologies effective for diagnosis and treatment of TB and M/XDR-TB, as well as improving preventive measures, including those for the penitentiary sector and migrants. * Strengthening infection prevention and control system, monitoring and evaluation of TB measures, including those in the penitentiary sector. * Strengthening interagency and intersectoral collaboration in TB prevention and control.   In 2020, the work has commenced developing of a new Strategic Plan for Tuberculosis Control for 2021-2025. However, in the document development process, the country has shifted an emphasis towards the elaboration of a 2022-2026 Comprehensive Plan on Respiratory Health with a component included on TB Control (hereafter, Comprehensive Plan).  The main directions of the Comprehensive Plan are presented in Figure 25.  **Figure 25. Directions of the draft 2022-2026 Comprehensive Plan on Respiratory Health**  The Comprehensive Plan aims to further implement the WHO End TB Strategy in Kazakhstan, improve the quality and access to available pulmonary care and thoracic surgery. It is built around four objectives:   * Enhence the quality of introduced new advanced technologies for diagnosis, treatment of tuberculosis, and strengthening preventive measures. * Improve the quality and availability of pulmonary care for the population of the Republic of Kazakhstan by introducing modern methods in diagnosis and treatment of respiratory diseases. * Strengthen infection prevention and control system, monitoring and evaluation for TB and respiratory diseases. * Develop thoracic surgery, provide high-quality diagnostics of respiratory diseases, and ensure access to surgical treatment.   Being in the last stage of development, the draft Comprehensive Plan is expected to be approved by the government early in 2022.  **TB Service reorganization and rationalization**  Kazakhstan has started the vertical and horizontal integration and rationalization of TB service since 2014 by restructuring the hospital network, reducing the number of unnecessary hospitalization and the average length of stay (ALOS), transfer of TB specialists to PHC, adapting the provision of services at the policlinic and ambulatory level, and developing care delivery standards for multi-tiered structure of TB control system. This has resulted in the closure of district TB Centers from 91 in 2014 to 19 legal units in 2020, total hospital beds reduction by nearly 55.2% (from 11,060 in 2014 to 4,955 beds in 2020), and opening and expanding the list of TB cabinets at PHC facilities. The average length of stay of patients in hospitals has decreased in recent years; however, it continues to be relatively high. The ALOS was 87 days for all categories of TB patients in 2020, compared with 101 days in 2014. The average length of stay varied among patients’ diagnostic groups. In 2020, it was 65 days for DS-TB patients with bacterial excretion compared to 87 days in 2014, and 110 days for MDR-TB, compared to 132 days in 2014. Nearly all savings of the TB service optimization accounted for 18.2 billion tenges were reprogrammed for improved infection control measures, purchasing laboratory consumables, training of staff, strengthening monitoring and evaluation capacities, and risk communication and community engagement activities.  The data shows that the level of hospitalization yet remained high. For TB beds' further optimization and forecasting, the GF/PIU within the frame of the current GF TB grant requested external technical support[[45]](#footnote-46). Applying epidemiological and hospital data and assumptions[[46]](#footnote-47) in the model, scenarios were developed, and bed forecasting was performed for 2021-2025. Based on the model's outputs, the reduction of the TB beds is anticipated from 2,420 beds in 2021 to 1,883 by the end of 2023 and to 1,397 by the end of 2025. In the scenario with full deployment of shorter regimens for drug-resistant TB patients, only 925 beds would be needed. The scenarios' suggested recommendations have to be analyzed and validated at the NTP and the MoH level, as the TB Service’ bed capacity assessment should reflect the further developments in pulmonology services reorganization and additional functions given to the TB Service to ensure the respiratory health for the entire population, following the objectives of the draft Comprehensive Plan.  In parallel to horizontal integration, a new patient-oriented TB care model was introduced by integrating TB services in affordable and accessible primary healthcare and involvement of civil society organizations to address socio-economic determinants of TB and cover the medical and non-medical services’ gap at the community level.  In the last decade, with the support of donors, mainly the Global Fund, by increasing the role of primary health care and TB specialists at the ambulatory level, and developing more robust patient support systems the model of TB care delivery was reorganized. The roles of communities and civil society were increased, the advocacy and mobilization enhanced and a mechanism was adopted for patients' effective participation in decision-making processes. Moreover, the core functions of the TB program were improved, including effective coordination, monitoring, and evaluation; strengthened laboratory service, rapid molecular diagnostics methods application scaled up, the introduction of new TB drugs and regimens and DST for repurposed and new drugs, the rollout of video-supported treatment, and revisiting strategies aiming to improve adherence to treatment and addressing socioeconomic determinants of TB.  **Current system of TB services delivery**  The TB medical care is included in the basic package of free services and delivered within the frame of the state-guaranteed package of free medical care. The TB control system follows a multi-tiered structure, incorporating care at tertiary, secondary, primary, and community levels. Case notification is carried out per the MoH order No. 214 issued in November 2020 and the national clinical protocol approved in 2019. Patients with tuberculosis are mainly identified through passive case detection when affected individuals seek medical care in health clinics because of having symptoms. The staff in rural and urban PHC clinics detects and examines patients with presumptive TB according to the adopted screening/diagnostic algorithms (GeneXpert testing and radiography). The Xpert MTB/RIF was the initial diagnostic test for most suspects, with 96% of new and relapse TB cases being screened at the time of diagnosis in 2020.  The PHC physicians are responsible for active TB case finding through radiological screening programs of high-risk population groups and annual mass fluorography screening by targeting wide range of individuals. The total number of fluorography tests performed forms about seven to eight million annually. During nine months of 2021, 6.11 million fluorographic investigations were organized, out of which 5.5 million were conducted among people from high-risk groups, compared with 5.68 million total tests done during the same period in 2020, and 5.23 million of these investigations were among the high-risk groups forming approximately 92% of all tests. The examinations helped to detect two cases with pulmonary TB per 1,000 investigations conducted among high-risk groups in nine months 2021 (1,109 patients) compared with 1.8 cases per 1,000 studies (957 patients), at the same period of 2020. The screening rate in the general population formed 0.6 per 1,000 studies (3,435 for nine months of 2020 and 3,456 for the same period in 2021). Mobile fluorographic system is usually used for screening programs in remote communities, large enterprises, commercial markets, and prisons.  **Contacts tracing**  Contact tracing is conducted at the district level by PHC personnel in cooperation with a phthisiopulmonologist and the epidemiologist among family contacts, including children referred from the PHC level. The contacts’ examination is performed following the MoH order No 214 and adopted national guidelines[[47]](#footnote-48). The range of tests depends on the age of contacts and includes tuberculin tests, immunological methods (on a more limited scale), and X-ray studies (Figure 26).  The data on contacts’ investigation shows steady high coverage (90%) by TB screening programs. Though, the prevalence of tuberculosis among household contacts was reported to be low (312.9 in 2019; 291 in 2020; 271 in nine months of 2020 per 100,000 contacts).  It is worth mentioning constraints of the screening program organization, including challenges in involving hard-to-reach population groups (e.g., homeless, undocumented migrants) or those from remote areas, since the size of these groups is not well known, limiting coverage analysis and program targeting. For the population to be eligible for the basic package of PHC services, they have to be enrolled with the facility based on identity cards. Also, the enrollment data serve as the base for the facility to be reimbursed for the care delivered. For addressing these gaps, the role of civil society organizations working with hardest-to-reach and marginalized population groups, including undocumented migrants and homeless people is increasing. The crucial role in securing the paradigm shift to CSO-led response is becoming apparent.  **Figure 26. Contacts tracing**  HIV- positive  Other risk groups3  Home contact  Symptoms 2  One of the symptom: cough or fever, or weight loss, or night sweats1  Yes  Examine for active TB  No  Active TB excluded  Preventive treatment contraindicated4  No  Yes  >5 years  < 5 years  Skin tests or IGRA  Positive or unavailable  Negative  Positive  Negative or unavailable  GXR6  No  Yes  Indicate preventive treatment5  Preventive treatment postponed  Monitor active TB as needed, even in patients  who completed preventive treatment  The CSOs have become actively involved in screening activities for high-risk and hard-to-reach populations. Since 2003, the implementation of the KNCV’ project has begun in the penitentiary sector in four regions. In 2015, the project HOPE began implementing interventions to control TB among migrants in eight country regions through USAID funds allocated for 2015-2017 and Global Fund support for consequent years. However, the activities targeted certain key population groups were piloted in selected regions.  The large-scale NGOs’ participation in the response began in September 2017 as part of the GF project within the frame of the GF’ new funding model for 2017-2019. As sub-recipients of small grants for TB control in vulnerable groups such as people who use drugs (PWUD), PLHIV, alcohol abusers, homeless people, former prisoners, initially selected ten NGOs were involved. Later, in 2019, the PR signed contracts with four and in 2020 with five other organizations, forming a total of 19 NGOs, to implement the project interventions until 2022. The key and vulnerable population groups were expanded from five to seven by adding external migrants and poor households. The NGO engagement in expansion of TB control activities at the community level have contributed to TB burden reduction through an increase in the number of beneficiaries covered by the cascade of TB preventive and treatment services and TB notifications for new and relapse cases among vulnerable and marginalized population groups (Table 4).  **Table 4. Cascade of screening services realized by NGO, Kazakhstan, 2018 –2020, and nine months of 2021**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 2018 | 2019 | 2020 | 9m.2021 | | People informed | 32,257 | 45,086 | 53,361 | 62,201 | | People screened (% from informed) | 6,291 (19.5%) | 10,013 (22%) |  |  | | People escorted to PHC (% of screened) | 2,217 (35%) | 3,006 (30%) | 6,787  (12.7% from informed) | 9,304  (15% from informed) | | Tested for TB (% of screened) | 1,923 (30.5%) | 2,971 (29.6%) | 3,569  (52% from escorted) | 4,875  (52% from escorted) | | TB diagnosed (% of tested) | 263 (13.6%) | 294 (9.8%) | 335 (9.4%) | 546 (11.2%) | | Share of TB cases notified in regions targeted by activities | N/A | N/A | 7.14% | 10.1% | | Number of contacts referred to examinations | 486 | 513 | 675 | 1,136 |   **TB laboratory network**  The network of TB laboratories in Kazakhstan has undergone significant optimization resulted in the closure of laboratories performing mainly culture investigations and DST on solid media, a sharp reduction in the number of microscopy laboratories, and an increase in molecular diagnostics systems. The current laboratory network includes the National Reference Laboratory (NRL), regional and city-level 19 bacteriological laboratories, including one placed in the penitentiary system, 119 Xpert MTB/RIF testing sites, and 245 laboratories performing smear microscopy (Table 5 and Figure 27).  **Table 5. Structure of laboratory network and methods used, as per January 2021**   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Region / sector** | **Number of TB diagnostic facilities** | **Number of facilities performing** | | | | | | | | | | | **Smear microscopy** | **Xpert MTB/RIF** | **Solid culture (e.g. LJ)** | | | **Liquid culture (MGIT)** | | | **LineProbeAssays (LPA)** | | | **Culture** | **DST to FLDs** | **DST to SLDs** | **Culture** | **DST to SLDs** | **DST to FLDs** | **GenoType MTBDR-Plus** | **GenoType MTBDR-sl** | | Civilian sector | 19 | 244 | 118 | 19 | 0 | 0 | 19 | 19 | 19 | 16 | 16 | | Penitentiary sector | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | | **Total** | **20** | **245** | **119** | **20** | **0** | **0** | **20** | **20** | **20** | **17** | **17** |   **Figure 27. Geographic distribution of TB diagnostic equipment’s, by regions of RK, 2021.**  C:\Users\Victor\Desktop\TB lab network KAZ.PNG  The diagnostic algorithm has been repeatedly revised over the past years linked with the introduction and expansion of molecular methods for rapid diagnosis of tuberculosis at the regional and district levels, aligned with the WHO recommendations. This allows the gradual replacement of smear microscopy by GeneXpert assay as initial diagnostic test for TB suspects.  The introduction of rapid molecular diagnostics (GeneXpert technology) in Kazakhstan started in 2012 with the support of various donors. By the end of 2017, 56 GeneXpert devices were operating in the country, mainly at the NSCP and regional TB Centers’ levels and in the penitentiary sector. In 2018, the NTP and the Stop TB Partnership assessed the country's needs for the GeneXpert tool to ensure universal access of individuals with presumptive TB to molecular diagnostic testing as the primary method for diagnosing pulmonary TB. As a result of the assessment, the need in GeneXpert instruments in Kazakhstan was estimated at 166 in total (civilian sector only, excluding the NRL and AIDS Centers). With the support the GF and USAID, additional GeneXpert machines were procured and installed in civil sector' health facilities, improving access to the service and minimizing the average distance for sputum samples transportation from rayons to oblast/ inter-district GeneXpert laboratories. The widespread use of Xpert MTB/RIF to detect pulmonary tuberculosis and rifampicin resistance has improved diagnostics and shortened the time between detection and treatment of the MDR-TB.  Currently, the Xpert laboratory network includes 119 laboratories with 126 GeneXpert instruments (310 active modules) (except those at the NRL): 94 machines are placed at the PHC level, 28 - in the TB facilities, one in the AIDS Prevention Center, and three in the penitentiary system. This has resulted in a steady increase in GeneXpert MTB/RIF tests performed from 14,500 in 2013 to 78,723 in 2020. The total number of GeneXpert MTB/RIF tests grew in 2020. And, the molecular diagnostic testing coverage of estimated TB suspects was enhanced from 68% in 2018 to 89% in 2020 (Figure 28).  **Figure 28. Coverage of individuals suspected of having TB with Xpert tests in Kazakhstan, 2018- 9 months of 2021**  Though the total number of GeneXpert MTB/RIF tests grew in 2020 despite the pandemic, at present certain testing limitations non-related to COVID-19 are caused by the necessity to transport sputum to regional and inter-district laboratories, where GeneXpert systems are placed. The transportation of sputum samples is performed on average twice a week, and less frequently during the wintertime, as weather conditions create difficulties in regular delivery of specimens. From the GF C19RM supplementary funds, the Principle Recipient (PR) intends to procure 20 units of 10-color module of GeneXpert machine in four-module configuration for bacteriological laboratories. The planned procurement is aligned with the WHO latest recommendations, assessment carried out by the WHO regional Green Light Committee's mission that highlighted the need to consider the countrywide introduction of Xpert XDR technology, and national protocols and algorithms for screening persons with suspected tuberculosis. According to the NTP assessment data, there are sites that have the average distance for sputum samples transportation from the rayons to oblast/inter-district’ GeneXpert laboratories exceeding 100 km. In addressing the access issue, 20 units of the available 6-color module equipment from bacteriological laboratories will be transferred to the selected peripheral district facilities.  From the laboratory data, more than 94% of pulmonary bacteriologically confirmed cases had the results of DST to rifampicin; and about 90% of RR-TB cases had DST to SLD. The proportion of fluoroquinolone-resistant cases among those, with available DST to SLD was 11% and 22% among RR-TB new and relapse cases, correspondingly. However, there is no representative data on resistance to new and repurposed TB drugs, as the DST to Linezolid (Lzd) and Clofazimine (Cfz) have been introduced since 2020, and DST to Bdq - since 2021. The DST to Delamanid (Dlm) has not been initiated yet due to absence of regular supply with pure substance. Moreover, there are needs identified for additional training for the laboratory specialists in 2022 and adjustments to the NRBT system, as yet the TB Register does not allow registration of these results[[48]](#footnote-49).  The wide variety of diagnostic tests for TB performed by laboratories from civilian sector of Kazakhstan is presented in Table 6 below.  **Table 6. Types and quantity of diagnostic tests performed in civilian sector, Kazakhstan, 2016-2020**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **2016** | **2017** | **2018** | **2019** | **2020** | | Direct smear microscopy | 501,688 | 535,360 | 419,840 | 378,952 | 321,468 | | Solid culture | 164,973 | 167,875 | 190,219 | 223,507 | 181,887 | | DST to FLD on solid culture | 12,888 | 10,175 | 6,555 | 2,027 | 279 | | DST to SLD on solid culture | 16,781 | 14,784 | 9,043 | 2,851 | 713 | | Liquid culture (MGIT) | 47,072 | 47,526 | 49,368 | 54,026 | 53,845 | | DST FLD on liquid culture (MGIT) | 17,837 | 18,525 | 16,690 | 19,026 | 16,416 | | DST SLD on liquid culture (MGIT) | 7,984 | 9,554 | 9,874 | 10,622 | 11,071 | | LPA MTBDR-Plus | 3,812 | 3,211 | 3,900 | 4,364 | 3,807 | | LPA MTBDR-sl | 1,521 | 1,756 | 2,602 | 3,117 | 3,004 |   *Source:* National TB Program.  The country has an established system of internal and external quality control for molecular and phenotypic DST with SRL in Gauting, Germany. In 2020 the NRL successfully passed external quality assurance (EQA) of DST for first line anti-TB drugs, levofloxacin, moxifloxacin, amikacin, linezolid, and MTBDRplus/SL. The NTP plans to initiate the EQA for DST to Cfz, Bdq, and Dlm, when the pure substances for new drugs become available. Currently, the USAID-funded project- Eliminating Tuberculosis in Central Asia (ETICA) supports the country to strengthen the laboratory system, including quality control and prepares NRL for ISO accreditation by acknowledging 85% readiness of the NRL in September 2021.  *Whole-genome sequencing (WGS)*  The GF/PIU and USAID/ETICA projects support the introduction of WGS in the country. Particularly, the necessary equipment was procured and installed, the relevant trainings for laboratory staff performed, including those conducted on the basis of SRL Gauting in Germany, and first investigations have been released recently.  **Treatment outcomes**  The treatment results were analyzed among all cases of TB during 2016-2019. The proportion of successfully treated cases among DS and DR-TB patients is relatively high in Kazakhstan (Figures 29-32). The success rate for new and relapse drug-susceptible TB cases are maintained at 90-91% during 2017-2019. At the same time, the DR-TB treatment shows good results. For the 2019 cohort (the latest annual RR/MDR-TB cohort that was evaluated for final treatment outcomes), 94.5% of cases on STR and 78.2% of patients on longer regimens were successfully treated.  Given the high and increasing burden of resistance to second-line anti-TB drugs, the NTP, with the support of the USAID and GF, has taken prompt actions to ensure the administration of new drug regimens and implement evidence-based interventions for intensive support and follow-up of DR-TB patients on treatment. The use of the new drug regimens together with Bedaquiline (Bdq) and Dlm started in 2016 under the End TB Project and continued under the GF grants in civilian and penitentiary sectors. Since 2019 country has procured these new drugs (Bdq and Dlm) from government resources using international platforms such as GDF.   |  |  | | --- | --- | | **Figure 29. Treatment outcomes of the new cases and relapse TB cases in Kazakhstan, 2016-2019** | **Figure 30. Treatment outcomes of retreated TB cases (other than relapses) in Kazakhstan, 2016-2019** | |  |  | | **Figure 31. Treatment outcomes of RR/MDR-TB cases on STR, Kazakhstan, 2018-2019.** | **Figure 32. Treatment outcomes of RR/MDR-TB cases on longer regimens, Kazakhstan, 2016-2018.** | |  |  |   **Operational research**  The country participates in the Operational Research (OR), which includes the administration of modified shorter all-oral treatment regimen for rifampicin-resistant tuberculosis (mSTR), initiated in 2019 by the WHO/Europe. By October 2021, a total of 170 RR/MDR-TB patients have been included in treatment under the WHO study protocol. In addition, within the frame of the GF grant for OR, a cohort of 163 have started the treatment under two protocols (Partners in Health, and WHO).  The NTP expects that inclusion of patients in OR will continue in 2022, and additional resources will be requested through the GF funds for 2023-2025, as the WHO recommendation for the programmatic use of modified fully oral STR might not come earlier than in 2025. The use of new drugs and new regimens under the OR requires robust local systems for patient monitoring, drug supply management, and pharmacovigilance to prevent severe adverse events and developing resistance to new anti-TB medication.  **Latent TB Infection (LTBI) preventive treatment**  According to the TB Standard[[49]](#footnote-50) and the LTBI national clinical protocol[[50]](#footnote-51), the preventive treatment for children, adolescents, and adults, regardless of their HIV status, is prescribed based on index-case drug sensitivity results and treated by mono-drugs or combination of two first-line anti-tuberculosis drugs. If the known source of TB infection has drug suseptible TB, the following regimens are recommended: (i) mono-therapy with isoniazid for six or nine months; (ii) a four-month course with daily rifampicin intake; (iii) a three-month course with daily intake of rifampicin and isoniazid; (iv) three-month course with the weekly intake of rifapentine and isoniazid for children from 2 years of age and adults; and (v) a one-month course with taking daily rifapentine and isoniazid for children ≥13 years of age and adults. However, rifapentine-based short-course treatment can be initiated following the registration of the medicine in Kazakhstan. These regulatory documents also determine the possible use of preventive therapy for contacts of RR/MDR-TB patients by prescribing Lfx to which the index case is proven drug susceptible. The TB prophylaxis starts only after receiving positive test results for the recombinant tuberculosis allergen (Diaskintest). And, if levofloxacin or moxifloxacin (Lfx or Mfx) is reccomended, it can be given daily for six months.  Since 2020, a project has been implemented in Almaty within the frame of the current GF grant, studying the prevalence of latent TB infection and the effectiveness of preventive treatment among contacts of known patients with susceptible and MDR/XDR-TB. In the third quarter of 2021, preventive treatment was initiated among 39 children and adolescents and 38 adults with a three-month regimen in a combination of rifampicin and isoniazid. Also, preventive treatment with levofloxacin is prescribed to four children and adolescents and 51 adults, having contacts to MDR-TB patients with preserved sensitivity to fluoroquinolone. The treatment of contacts with a regimen containing rifapentine and isoniazid has began in November 2021, when rifapentine became available (under OR) in the country through the GDF poolled procurement mechanism.  **People-centered model of care**  Considering local characteristics of TB epidemic, healthcare organization, and care delivery models, the TB service financing approach, the investment package covering cost-effective interventions was prepared and advised[[51]](#footnote-52) to countries in Eastern and Central Asian region to meet End TB milestones and targets. The package includes cost-effective interventions/strategies aiming to expand TB services at the PHC level and modernize TB inpatient capacity, scale up the use of rapid molecular diagnostics, revisit strategies aiming to improve adherence to treatment, address social determinants through integrated public health programs and enhance people-centered care.  The adaptation of people-centered model of care is supported by a number of innovative measures, including incentives for both patients on ambulatory care and service providers, adoption of TB care outpatient delivery models, peer-to-peer support, community-based interventions, and introduction of digital technologies. The main models of outpatient TB care delivery, organized in the country are listed below with some variations observed in the regions:   * TB cabinets as an organizationally part of PHC policlinics; * TB cabinets at the PHC organizationally belong to the TB Center; * Outpatient TB departments at TB Centers; * Outreach services for key and hard-to-reach population groups.   The patient-centered models of TB care need to be aligned with the TB services’ financing approaches. To promote and improve ambulatory-policlinic’ coordination of TB care, the bundled payment or CT for a TB patient was introduced in the country in 2018. Since then, the CT has been aligned to regional differences and is currently in the revision stage for minimizing possible risks. This payment model creates an incentive to move services to outpatient settings, thereby reducing cost and maximizing existing resources without disrupting the health workforce.  The TB Centers beds optimization efforts have resulting also in the adoption of hospital replacement techniques, e.g., hospital-at-home model, nursing care, and care organization through the mobile groups. In 2020, 47.3% of patients on ambulatory treatment have received through video-supported treatment model (VST), 45.7% - at the PHC facilities, 3.2% at home, and 2.6% under mobile teams' supervision, and 1.1% in the day hospitals. For 73.3% of patients without bacterial excretion, the treatment was initiated at the PHC level, and patients with bacterial excretion after a short hospitalization (2-4 weeks) were transferred for ambulatory treatment after sputum conversion.  Incentives are conducive to good coordination of care. In Kazakhstan, the governments provide financial and material incentives to TB patients to adhere to treatment. Though there are regional variations observed, the total assistance level steadily increased from 1.1% of the total TB Center budget in 2013 to 3.5% in 2017 and 4.4% in 2020. In 2020, the amount allocated for patient social support amounted to KZT1,278.8 million tenge, or approximately three million US dollars. During the nine months of 2021, the social support spending exceeded the 2020 level and made up KZT1,321.1 million.  *Role of local civil society organizations (CSO) in TB care, civilian sector*  The involvement of CSO in TB programs has addressed the gaps in medical and support services at the community level and has contributed significantly to building the patient-centered service delivery model. Their main activities to ensure adherence to treatment of TB patients receiving therapy at the PHC level included:   * informing/counseling to enhance medication adherence; * organization of meetings of the support groups; * peer-to-peer counseling and educating family members about the problems a TB patient might have during TB treatment and possible solutions to enhance family support; * risk assessment of non-adherence to treatment and an individual support plan development; * referring/escorting to social services available at the community; * referring beneficiaries to get legal advice; * advocacy for increased accessibility of resources, services and drugs based on information collected from patients with tuberculosis on the quality of medical services, disruptions in the provision of benefits, shortages of drugs and personal expenses through the «OneImpact Kazakhstan» mobile application; * awareness-raising activities to reduce stigma and discrimination towards TB patients.   Based on facts collected on stigma and discrimination experiences, those 2,138 TB patients likely to interrupt the treatment were selected for NGO support resulted in successful treatment outcomes for 2,027 patients in 2020. The NGO's effectiveness in reducing treatment interruption and increasing the treatment success rate was 95%. Moreover, the NGOs have actively followed up 288 TB patients in 2020 and 349 patients in nine months of 2021, who interrupted treatment and helped them return to care. In nine months of 2021, the NGOs' adherence and social support services were given to 1,490 patients with active TB, and the treatment interruption was reported only in 15 patients.  Another essential element of the new people-centered model in TB care is the introduction of video-supported treatment. The use of accessible e-platforms such as Skype, WhatsApp, Viber has begun to use since 2017 for video accompaniment in the cure of TB at the ambulatory level. The results showed significantly higher adherence rates, higher acceptability, and lower treatment costs compared to the model when patients receive treatment at the PHC facilities. The use of the VST has been expanded during the pandemic caused by healthcare services delivery disruption due to measures imposed to respond to COVID-19 and healthcare services reorganization, and aimed to bridge the gap between healthcare providers and patients.  **TB Control in Penitentiary System**  The penitentiary system in Kazakhstan includes 48 correctional institutions, 16 pre-trial detention centers, and 16 penal colonies. Medical assistance to prisoners and remand prisoners is provided in the medical units of these institutions as well in general hospitals with 490 beds, TB Centers with 810 beds, and a psychiatric hospital with 50 beds. The measures to control TB in the penitentiary system is guided by the Comprehensive Plan and implemented following the Ministry of Internal Affairs (MoIA)'s order[[52]](#footnote-53) in close cooperation with the National Scientific Center for Phthisiopulmonology, some international partners, and CSOs.  Active TB screening is conducted using x-ray for all prisoners upon admission to the system, then regularly, twice a year. Tuberculosis screening and diagnostics are performed following national protocols, including Xpert MTB/Rif as an initial test, culture investigations and DST, in the bacteriological laboratory at the penitentiary system as well as in the civil sector' laboratories, whenever necessary. In 2020, the coverage of presumptive TB cases by molecular genetic testing in the penitentiary system has increased from 57.3% in 2018 to 94.0%.  All medications for drug-susceptible forms of tuberculosis are purchased from the budgetary funds and second-line regimens for treatment of RR/MDR-TB patients– through the GF grant. Also, the GF/PIU supports the penitentiary system by procuring some products for bacteriological investigation of TB in prisons.  Treatment of RR/MDR-TB in the penitentiary system with new and repurposed drugs began in 2018. Forty-eight out of 49 MDR-TB patients enrolled in therapy with new drugs completed it successfully. The treatment success rate was high for patients with both susceptible and drug-resistant forms of the disease (Figures 33&34).  *Role of CSO in TB care, penitentiary sector*  Currently, CSO are involved in prisons' pre-and post-release patient management systems to ensure continuity of care, prevent treatment interruptions, and provide psychological and social assistance. Out of 153 TB patients released from correctional facilities to the civilian system during anti-tuberculosis treatment in 2019, six were lost to follow-up. In 2020, two patients were lost to follow-up from 99 patients released during anti-tuberculosis treatment.   |  |  | | --- | --- | | **Figures 33. Treatment success rate among prisoners, new SS positive cases, Kazakhstan 2013-2020** | **Figures 34. Treatment success rate among prisoners, MDR-TB cases, Kazakhstan, 2013-2020** | |  |  |   *Structural changes*  Based on the coutry plans[[53]](#footnote-54), the medical service of the penitentiary system will be transitioned to the health sector under the MoH in 2022-2023. This will proceeded by adaption of respective legislative acts to ensure a phased hand over of the functions from the Committee of the criminally-executive system at the Ministry of Internal Affairs (CCES) to the MoH. And, then the transfer of medical institutions from the penitentiary system to the health sector will follow.  **TB/HIV co-infection**  Kazakhstan is among countries subscribed to the commitments of the Political Declaration on the Fast Track to accelerate the fight against HIV and to end the AIDS epidemic by 2030. The national AIDS response is guided by an Action Plan that has been aligned to global UNAIDS and WHO policies. The National Health Programme “Densaulyk” states that “conditions for effective implementation of the international recommendations to fight HIV, including UNAIDS Strategy 90-90-90 have been created with the ambitious goal to eradicate HIV/AIDS”. The country has seen steady progress towards the 90-90-90 targets.  In 2020, 79% of PLHIV knew their status; 73% of those who knew their status received sustained ARV therapy, and 84% had viral suppression. The coverage of the general population by HIV testing was 14%. Nearly 0.6% of the total tests were performed in key populations. The number of HIV tests performed in 2020 by 17 diagnostic laboratories at Regional AIDS Centers made up 3,052,677, and there were 3,342 individuals (0.11%) with confirmed HIV-positive by immunoblot assay. About 98.3% of TB patients on ARV treatment were tested for HIV in 2020 compared with 88.8% in 2018. According to the Kazakh Scientific Center of Dermatology and Infectious Diseases (KNCDID), the socio-demographic portrait of a patient living with HIV/TB co-infection in 2020 is an unemployed man over the age of 50 living in rural areas with an unidentified route of transmission HIV infection.  Despite the impacts of COVID-19 quarantine measures and lockdowns, the ART coverage in 2020 increased from 68% in 2019 to 73% in 2020. Also, the effectiveness of anti-retroviral treatment (ART) has reached the highest level of 84%. The ART coverage of registered patients with TB/HIV co-infection formed 96.4% (592 individuals) in 2020 compared to 90.1% in 2017, 87.2% in 2016 and 65.3% in 2015. The treatment success for new and relapses with drug-sensitive TB/HIV co-infection was 73.1% in the 2019 patients cohort compared with 66.8% in the 2018 cohort and 75.2% in the 2017 cohort. The analysis of treatment outcomes for HIV-infected patients with MDR-TB reported treatment success of 68.5% in 2017.  Following the national protocol, HIV-infected patients undergo annual screening for pulmonary tuberculosis by X-ray examination methods forming a 70% coverage level in 2020. From the total number of registered patients with HIV infection, 56% were examined by fluorography and 14% by radiology (X-rays) testing resulted in detection of 56 cases of active tuberculosis (0.6%). The coverage of PLHIV with preventive TB therapy decreased from 63% in 2017 to 46% in 2020, remaining at a low level.  **Tuberculosis monitoring and evaluation system**  The TB response-related indicators are collected regularly through the country-led platform for monitoring. The M&E plans are integrated into the MoH’ overall monitoring framework. It is also accompanied by a comprehensive national health information system with well-functioning data sources and adopted approaches to address the data gaps and quality of information. The NSCP have clear roles and responsibilities in data collection and analysis, and regular reporting to the MoH respective units through established channels of communication and information systems. The approach for monitoring of interventions proposed through this funding request is well fit into the NTP current monitoring systems, without the need to establish parallel mechanisms. The main principles and requirements for the TB Service’ M&E, along with instruments, are elaborated in the Manual[[54]](#footnote-55) adopted recently.  The NTP monitoring and evaluation Unit operates in the structure of the Organizational and Methodological Department at the NSCP. The coordination of the NTP components implementation, legal and regulatory framework development, clinical guidelines elaboration, TB measures performance, monitoring visits conduction and technical support, TB Service data collection and analysis, TB drugs, reagents, and supplies centralized procurement, reporting, and coordination of international missions (e.g., WHO, GDF, rGLC) are among main tasks of the M&E Unit. Similar units or groups are operating at the regional TB Centers for M&E activities conduction within respective regions, and the reporting line is established between the levels.  *National TB Register*  The NRBT improves the completeness and timeliness of the country's tuberculosis surveillance system. It contains records of all patients diagnosed with TB and eligible for TB treatment, including personal and demographic data, gender, socio-economic status, geography, family contacts information, data risk factors and co-morbidities, results of bacteriological investigations, treatment-related data, including ART treatment and cotrimoxazole prophylaxis. Procedures are established to improve the entered data quality, both automatic during data entry and after follow-up visits.  With the frequent emergence of new recommendations from WHO and technical partners, updating the NRBT system regularly and having sustainable technical support becomes necessary. Currently, these services are financed from the NSCP budget and donors' assistance. From a mid-term perspective, the NTP will focus on revisiting cases definitions, treatment results, laboratory modules in connection with the large-scale introduction of new and repurposed drugs, adding pharmacovigilance data, and automatic generation of anti-tuberculosis drug' orders.  *Central and regional M&E Teams*  The data are collecting through various channels involving routine reporting of diagnosed and treated cases. In addition, the central M&E teams from four to five specialists are conducting supervision visits to health care facilities, institutions of the penitentiary system, and NGOs for monitoring the NTP activities, strengthening partnership will local government, verification of the quality of reported data, addressing data gaps, and registering challenges. During these visits, the on-site consultations are provided to regional M&E teams and PHC staff, and two-way feedback is ensured. Meetings and discussions with stakeholders and beneficiaries allow reviewing the monitoring information.  To adjust to quarantine restrictions imposed by the COVID-19 epidemic, the capacity of the NTP has been strengthened under the current GF grants for effective distance monitoring and inclusion of remote visits into the M&E system. Currently, the monitoring mechanism envisages at least two distant appointments of the central M&E team with the regional M&E teams and annual supervisory visits in each oblast and cities of republican significance. In its turn, the regional M&E teams do monitoring at the healthcare facilities in the region. The monitoring indicators are designed around the main domains on staffing, laboratory, contacts investigation and check-ups, TB detection, treatment, infection prevention and control, intersectoral cooperation, NGO-led services, and ACSM.  *External M&E mechanisms*  There are also external mechanisms for the monitoring and support. Due to COVID-19 travel restrictions, the regional Green Light Committee (rGLC) regular mission for the WHO European Region and GDF was carried out remotely in August 2020. It aimed to assist the country's TB control’ plan implementation, including its rifampicin-resistant tuberculosis (RR-TB) component. The mission recommendations address three main challenges the NTP currently faces: (i) accelerating the pace of introduction of short all-oral regimens for treatment of RR/MDR-TB; (ii) introduction of new definitions of pre-and XDR-TB cases along with the need to update the electronic surveillance system; and (iii) the smooth transition of the medical service of penitentiary system to the health sector. Particularly, the rGLC mission recommends to:   * Consider countrywide introduction of Xpert XDR technology. * Complete the process of introducing sequencing into the practice of the NSCP. * Improve the algorithm for diagnosing TB with mono-resistance to H in order to ensure earlier treatment with appropriate treatment regimen. * Initiate EQA for DST to Cfz, Bdq and Dlm (when introduced). * Extend and expand the cohort of patients enrolled to the all oral shorter treatment regimens for drug-resistant tuberculosis. * Consider the possibility of introducing BPaL for treatment of drug-resistant tuberculosis; * Ensure that all components necessary for implementation of 2021 WHO recommended new definitions of XDR-TB are in place, such as: * quality assured DST for new and repurposed drugs is available countrywide, * TB registry is updated to include the fields for all new and reprogrammed drugs; * the national guidelines are updated to include revised definitions; * the relevant health care staff is trained to use new definitions, and * update national TB RR/MDR-TB guidelines and related documents with new WHO recommendations: WHO Consolidated Guidelines and Handbook on Tuberculosis, Module 4: Treatment - Drug-Resistant Tuberculosis Treatment (2020).   The proposal for the implementation of some of these recommendations is reflected in the funding request' respective sections.  **Pharmacovigilance system and active TB drug-safety monitoring and management**  The government's commitment to ensuring quality, safety, and effective care is supported by strategic documents and legislative acts on medicines and medical devices. A particular chapter on pharmacovigilance is foreseen in the Code on health and health care system. The regulatory framework endorses the main requirements of pharmacovigilance, including key stakeholders and their roles, tools for data recording, as well as an effective information management system and collaboration with international organizations specialized on pharmacovigilance.  The pharmacovigilance term in the national regulation has a comprehensive meaning, foreseeing monitoring the medicine safety, efficacy, medication error, abuse or misuse of medicine. Drugs safety monitoring along with its circulation pathway and actors involved at various stages such as manufacturers pharmacies, marketing authorization holders, healthcare workers and patients are enforced by the current regulatory framework. The Rules[[55]](#footnote-56) recently adopted have secure medicine safety' monitoring function at the health facilities by stressing the need for a particular staff in each healthcare setting responsible for pharmacovigilance.  A key partner for the NTP on pharmacovigilance is the National Center for Expertise of Medicine and Medical Devices (NCEMMD), a public entity responsible for monitoring the safety of medicine and medical devices, including management of the information system. The NCEMMD collaborates with the WHO in updating the global database VigiAccess, VigiBase, by reporting potential side effects of medical products.    The MoH and NTP are approached holistically towards introducing new and re-purposed treatment regimens for DR-TB. One of the critical prerequisites was the establishment of the active medicine monitoring system (aDSM). The initial capacities, knowledge, and procedures for implementing the aDSM were formed within the partners’ operational research initiatives. However, the general regulation on pharmacovigilance foresees the definition regarding the active monitoring of the medicine's safety that is considered basically for the requirements for active monitoring by pharmaceutical manufacturers and marketing authorization holders, in case of registration of medicine under special conditions. Therefore, the aDSM for TB is deeply regulated by guidelines developed as part of the rules on DR-TB management. Moreover, the aDSM component is envisaged in the management of TB at the PHC. It provides the definitions, highlights the tasks, algorithm for clinical and information management of the side effects under the active mode of TB drugs safety monitoring.  The nationwide introduction of new and re-purposed TB medicines requires enhanced measures of adverse events. Towards this objective, a set of interventions have been undertaken, including (i) unification of data reporting and forms for side effects recording irrespective of TB medicines registration status, from the facility level to the NCEMMD; (ii) improving data on clinical and laboratory monitoring of adverse drug events, by updating the unified health information system; (iii) provision of e-learning modules and capacity building at all levels of care. To ensure active TB drug-safety monitoring and management at the regional and district levels and mitigate the medication risks, the prescription and revision of the treatment regimens with new TB drugs is coordinated by the Central Medical Advisory Committee (CMAC) established at the NSCP. Also, the aDMS’ components have become an integral part of the NTP' overall M&E system. The perspectives of enhancing the pharmacovigilance and aDMS are reflected in the new Comprehensive Plan for 2022-2026.  **Impact of the COVID-19 pandemic on TB control in Kazakhstan**  Kazakhstan was among the first countries followed China in implementing widespread containment measures against the COVID-19 outbreak. The government quickly proceeded to set up institutional arrangements needed for an adequate response. The Interdepartmental Commission with sub-national representation was established under the President on 27 January 2020 for national-level planning and coordination. On 29 January 2020, the Commission endorsed the "Action Plan to Prevent the Emergence and Spread of Coronavirus Infection in the Territory of the Republic of Kazakhstan." For this Plan, the Government allocated contingency reserves totaled KZT17 billion (US$39.5 million) for urgent needs such as procuring medications, critical medical supplies, and equipment; setting up special wards to boost hospitalization and intensive care capacity; and establishing testing laboratories. Also, Republican Headquarters, headed by the Minister of Health (MoH), was established on 30 January 2020, and charged with additional powers to adopt and revisit preventive measures in COVID-19 response to lessons learned and new challenges in the months ahead. Decisions on when to lift or introduce a set of measures are balanced by epidemiological evidence, public health advice, and the impact the lockdowns had on the economy of the country and people's health.  First COVID-19 cases were detected in Kazakhstan on 13 March 2020. As of 14 November 2021, the country has reported 956,499 confirmed infection with total of 12,419 deaths, and total recovery of 914,098 (95.6%)[[56]](#footnote-57). Infection fatality ratio forms 1.3%. More than one-third of all COVID-19 cases are registered in Nur-Sultan and Almaty cities. Oblasts with the high number of confirmed cumulative cases are Karaganda, Atyrau, Almaty, Pavlodar, East Kazakhstan, Akmola, and West Kazakhstan. Circulation of new coronavirus strains drove the increase in transmission, reaching the maximum number of 7,899 new cases on 07 August 2021. Since then, the country is on downswing of the wave of cases with the rolling 7-day average of new infections dipped to the lowest level of 1,159 on 13 November 2021[[57]](#footnote-58).  To stabilize the epidemiological situation, reduce mortality and hospitalizations, Kazakhstan prepared the vaccination plan and launched its vaccination efforts on 01 February 2021. There were four vaccines approved for the use: Gamaleya Sputnik V and Light, QazVac and Sinovac-Coronavac. Based on the recent data of Interdepartmental Commission on COVID-19, the country has successfully vaccinated 8,533,457 people with the first dose and 7,811,435 people[[58]](#footnote-59) with the second dose forming nearly 41% of fully vaccinated general population. On 10 November 2021 first shipment of the Comirnaty BioNTech/Pfizer vaccine was delivered to the country, and the vaccination of children aged 12 to 18 years, pregnant at 16 to 37 weeks of the pregnancy, as well as for breastfeeding women have started.[[59]](#footnote-60)  The pandemic has caused disruptions to the entire healthcare system, including the TB service, by threatening to reverse recent progress reported towards national TB targets. The TB registration decreased significantly by about 23%[[60]](#footnote-61) for both indicators: TB notification and RR/MDR-TB cases, relative to the average annual decrease of 8-10% seen in the last five years. Compared to the WHO-estimated number of TB patients in the country, which was 13,000 in 2019, there is a difference of 3,000 patients detected in 2020. In 2020, it was recorded merely 5% fewer deaths than in 2019, whereas the average annual decrease registered in the past five years was greater and exceeded 10%.  Though in Kazakhstan the decrease in TB notification in 2020 was not that dramatic as it seen in other countries of the EECA region; however it is difficult to say, what part of TB notification rate reduction in 2020 was caused by TB services disruptions due to lockdowns and preventive measures imposed, including improved infection prevention and control (IPC) practices to stop COVID-19 transmission. All these activities had a definite impact also on TB transmission. At the same time, the restrictive measures adopted had a negative influence on TB suspects’ health-care seeking behavior at the PHC and TB Service levels. Many PHC and TB Centers were actively involved in service provision to the patients with coronavirus infection, and the significant human and laboratory resources were repurposed for COVID-19 response. Therefore, more time is needed to assess the evolution of TB notification and understand the full impact the coronavirus pandemic had on TB epidemiology in the country.  The observed decline in uptake in diagnostic services in the first eight months of 2020 has been gradually restored linked with lifted restrictive measures and enhanced services provided to persons with suspected tuberculosis. As shown in Figures 35&36, TB detection has improved by the end of 2020. The average monthly number of new and relapse TB cases notified in the last quarter of 2020 was about 850 cases. This tendency has continued in the first half of 2021, with an average number of 807 patients notified per month, with a maximum of 1,001 TB cases reported in April 2021.   |  |  | | --- | --- | | **Figure 35. The number of TB cases (new and relapses) notified in Kazakhstan in 2016-2020, and by months in 2020[[61]](#footnote-62)** | **Figure 36. The number of TB cases (new and relapses) notified in Kazakhstan by months in 2021[[62]](#footnote-63)** |   A clear link was noted between the imposed quarantine measures and uptake in medical services, showing a decrease in numbers of TB suspects tested in mid of 2020 and a steady monthly increase in post-lockdown ‘phases (Q4.2020), continued in nine months of the 2021 (Figures 37&38).  At the same time, the increase in the incidence of tuberculosis in children in some regions, and a slight increase in the number of registered advanced TB cases, indicate that the activities were not sufficient in scale and volume among contacts and population groups less likely to seek healthcare services, resulted from restrictive measures imposed and TB Service participation in COVID-19 response. In early 2020, the Service has repurposed its hospital capacity and deployed COVID-19 isolated wards with 3,197 beds (62% of total TB beds) for acute and critical care. The number of hospitalized with coronavirus infection grown up to 21,427, with more than 98% of all patients transitioned to a successful discharge. Treatment was provided also to 214 patients with TB/COVID-19 co-infection, including 94 COVID-19 patients who were diagnosed with tuberculosis after admission. The presence of co-infections was associated with poor health outcomes, resulted in nearly 10% of deaths from total number of these admissions. While establishing COVID-19 treatment wards, the approximately 27% of its staff (323 physicians, 1,026 middle level medical personnel and 1,031 auxiliary personnel) were reassigned for every-day emergency functions. Eight bacteriological laboratories obtained temporary permissions for doing COVID-19 testing on the Xpert equipment using SARS-CoV-2 cartridges supplied through the GFATM and USAID funding. By the end of September 2021, there were 15,865 tests performed for 15,585 persons, with the test's positivity rate reached 32.8%.   |  |  | | --- | --- | | **Figure 37. The number of suspects investigated by Xpert MTB/RIF technology, by months, abs, 2020- 9m.2021, Kazakhstan** | **Figure 38. The number of tests Xpert MTB/RIF performed by months, abs, 2020-9m.2021, Kazakhstan** | |  |  |     In 2021, in response to the deteriorated epidemiological situation, the TB Service deployed 2,720 beds, and 1,760 healthcare workers have been provided care to COVID-19 patients. In preparation for COVID-19 patients, TB Centers have experienced increased needs for PPE medical supplies and medical equipment, which were supplied through donors funding mechanism, especially at the beginning of the pandemic, and financed from domestic resources.  While building essential infrastructure and healthcare workforce capacity for COVID-19 services in the country at both PHC and TB Centers’ level, the NTP reflecting on the situation, has adjusted its programs and adopted innovative ways to connect patients to effective treatment. The diagnostic algorithm for suspected TB cases was revisited and adopted, allowing those being evaluated for COVID-19 to be tested for TB if the symptoms, course of illness and X-ray findings suggest so. Most counseling services were shifted to distance/online format. By freeing up beds for patients with coronavirus disease, many TB patients were transferred to ambulatory care. Transport closure and limited people’s ability to healthcare services accelerated the use of digital treatment technologies, and innovative care models have bridged the gap between healthcare providers and patients. Video supported therapy for TB was offered to approximately 47% of patients receiving care at the PHC in 2020. About 8% of TB patients received home-based treatment through “hospital at home” or “mobile teams” models. Proper communication with TB patients was ensured using virtual means of communication. Smartphones and WhatsApp applications were applied to monitor patients’ health and control treatment; Skype, ZOOM, telemedicine devices at the MoH/NSCP were used to consult patients and define treatment approaches. In 2020, also most of the M&E groups’ activities, training, and consultations to regional teams have been switched to the online mode. In parallel, the M&E capacity at the national TB Program was strengthened, framework refined, and tools developed, as well as additional staff hired at the central NSCP level.  In the first months after introducing lockdowns, the NGOs have limited services to key and vulnerable groups, including stateless people, drug users, homeless people, former prisoners, people affected by HIV and TB. They moved to distance service provision mode due to a shortage of PPE and because the coronavirus exposure might present a health risk to its workers as most outreach personnel are PLHIV or TB recovered patients. Shortly, the NGOs resumed their activities with the key populations, gradually returning to the pre-lockdown level at the end of 2020, as it was presented above. To comply with infection prevention and control measures, the PPE were procured for both the staff and beneficiaries, and IT equipment was delivered in support to the online work and client databases maintenance.  The main challenges, needs and financing gaps of TB Service in Kazakhstan resulted as influence of the COVID-19 pandemic in country are summarized below:   * Decline in uptake in diagnostic services for TB suspects due to quarantine restrictions, fear of being infected with COVID-19 in the health facilities, re-purposing PHC and TB Centers for COVID-19 services, and rearrangement of patient’s pathways. * The disproportionate impact of the pandemic on key population groups further reduced access to the services for KPs. * TB Centers participated in COVID-19 response faced additional costs in PPE, medicines and medical equipment. * Need to revisit algorithm for evaluating TB suspects and its adaptation to the COVID-19 detection measures. * Strengthening activities among TB contacts in sites of TB transmission. * Revisit NGOs services delivery models to the KPs during strict quarantine restrictions. Identified need for geographic expansion of NGO activities to target more beneficiaries. Ensure safe work environment especially for the front-line workers and KPs with high risk of getting coronavirus disease, by supplying PPE both for the NGO staff and clients. * Addressing needs in IT equipment linked with the shift of certain services to online mode and improving quality of delivery. * Need to scale up ACSM activities to be oriented on both, the general population and key populations through bi-directional TB and COVID-19 awareness raising efforts.   Most of the COVID-19 mitigation efforts of the NTP are addressed through the current programs, financed from budgetary funds and external sources such as on-going TB GF grant, on-going C19RM 2020 and 2021 awards, and USAID/ETICA project.  **Priory actions to accelerated TB Response**  Based on above analysis, the flowing priorities of national TB response are identified for 2023-2025:   * Enhancing population screening for TB, with the focus on contacts, high-risk groups, and hard-to-reach populations, to catch up on missed diagnoses, in limiting long-term setback to TB care efforts, resulted from COVID-19 response. * Intensification of efforts directed towards the implementation of the latest WHO and technical partners' recommendations regarding the use of molecular genetic methods for the rapid diagnosis of pre-and XDR-TB cases and DST to new and repurposed anti-TB drugs, as well as the expansion of the use of fully oral modified short-treatment regimens for RR/MDR-TB and the introduction of a BPaL treatment regimen for XDR-TB patients. * Developing and implementing national recommendations for diagnosis and treatment of latent tuberculosis infection following the latest WHO recommendations, aiming to expand the coverage and conduct a preventive treatment using alternative treatment regimens that differ in composition and duration. * Further strengthening the role of CSOs in patient-centered TB programs at the community level, with the focus on high-risk and hard-to-reach population groups. Introduction of new payment approach for financing the NGO-led interventions, ensuring their financial stability, and enhancing the NGOs capacity. * Ensuring ongoing technical support to the NTP for smooth functioning and updating the National TB Registry to new recommendations of the WHO and technical partners.   **Human rights, gender and age-related barriers and inequities in access to services**  Kazakhstan is reforming TB care and moving towards a more coordinated people-centered care model tailored to the needs of the most vulnerable and hard-to-reach populations through services integration, enabling financing mechanisms, and using community-based organizations' support. Comprehensive human rights, gender, and legal assessment were not carried out in the country that targeted all key population groups; however, several assessments were already completed and some projects implemented addressing inequalities in access to services, which are summarized below.  The recent study**[[63]](#footnote-64)** analyzed the country’s situation with regard to access to TB prevention and treatment services in the context of the legal environment, gender, and communities. The implementing CSO engaged internal migrants and PLHIV in qualitative information collection relevant to their settings and revealed several barriers these key population groups face. The results showed that, despite the existence of regulations that do not allow discrimination in any form, discrimination yet might happen. Migrant participants shared their accounts of how their TB diagnosis and treatments resulted in safeguarding their jobs and housing. Lack of job security led to a delay with diagnosis. Diagnostic procedures at the PHC centers required spending a disproportionately long time. The chances of finding work after treatment of tuberculosis were quite limited. They expressed worries about how TB stigma might lead to their isolation and hesitated to disclose their TB status. As to PLHIV, the delays with the accurate diagnosis was linked with the lack of awareness among PHC staff about HIV/TB co-infection management. People living with HIV experienced the most barriers linked to treatment adherence and continuation, including lack of social support services and the treatment of side effects. Both key populations cited a lack of a people-centered approach, which could offer more convenient models of DOT delivery.  According to the same study women, those from key populations were more often stigmatized and discriminated. They may delay diagnosis because of a lack of childcare or quit the treatment due to pressure from their husbands, partners, and family. Men, in general, tend to delay with TB diagnosis or try to self-medicate due to a lack of job security. Moreover, which is more often among men, alcohol or drug dependencies may lead to TB treatment adherence challenges.  The assessment findings also highlighted issues related to enrollment in a PHC facility. There are officially approved procedures in the country for population’s attachment to the PHC center based on the identity document, entitling them to the state-guaranteed volume of free medical care. The regional health departments support refugees by defining the healthcare provider, and ensuring that refugees and asylum seekers are registered and have access to services. Per bilateral agreements signed with CIS countries, legal migrants have access to the full spectrum of emergency and primary care. The situation of undocumented migrants and their family members requiring healthcare services at the ambulatory-policlinic level is being addressed at the community level; however challenges remain.  There was a limited awareness about the availability of social support schemes among respondents and the PHC staff usually does not provide patients with such information. Those patients, who attempted accessing social support, found the process very bureaucratic. The absence of one of the many required documents might be ground for support refusal. According to the same study, feelings of shame, fear and guilt caused by self-stigma are key barriers to seeking care and lead to their delayed diagnosis. Due to the time and travel for facility-based DOT, patients reported running risks of losing their jobs, being expelled from a university, or having family problems.  Although the rollout of VST in Kazakhstan was initiated early in June 2020 to reflect on the situation with COVID-19, the video-support treatment options already were available before. Transport closure and limited people’s ability to healthcare services accelerated the use of digital treatment technologies. The VOT was offered to approximately 43% of TB patients receiving care at the PHC in 2020. About 10% of TB patients received home-based treatment through “hospital at home” or “mobile teams” models. Proper communication with TB patients was ensured using virtual means of communication. Smartphones and WhatsApp applications were applied to monitor patients’ health and control treatment; Skype, zoom, telemedicine devices at the MoH/NSCP were used to consult patients and define treatment approaches.  In the same study, based on TB affected population’ perception, family physicians in most cases were not adequately trained to manage patients with suspected TB as the respondents reported that they have to make significant efforts to be diagnosed. Also, TB patients mentioned a lack of management of adverse events of TB therapy at the primary care level.  The results of another research[[64]](#footnote-65), conducted in Almaty in 2021, complements previous assessment study findings. It quantified the level of stigma for key population groups and was combined with a desk review, qualitative and quantitative assessments. Based on quantitative data, women are less likely than men to report any typical TB symptoms. They more often did not suspect that they might be sick with tuberculosis and were occasionally diagnosed. Women are more vulnerable to TB during pregnancy and after childbirth. For those living with HIV and representing key populations, this risk is even higher due to the increased level of stigma and discrimination. It can be more difficult for women to access TB services in families with gender stereotypes. Gender analysis also showed that the provision of TB services predominantly uses a gender-neutral approach; however, based on in-depth interviews with service providers, the different needs of women and men in healthcare services might need further attention.  A comprehensive sociological study[[65]](#footnote-66) conducted by the Center for the Study of Public Opinion and the Kazakh Medical University’ (KMU) High School of Public Health reaffirms findings from previous studies underlining the effect of self-stigma in accessing the services. The operational research[[66]](#footnote-67) by MAD Consulting studied the reasons for late diagnosis and treatment initiation, and highlighted the main findings including stigmatization of patients by society and medical personnel at the PHC centers, low priority on their own health, the diagnostic complexity, fear or worries related to the possibility of job loss and livelihood due to illness.  It is worth mentioning the pilot study[[67]](#footnote-68) in selected healthcare organizations in Almaty that assessed stigma at the providers and patient levels, adopted and implemented the package of so-called blended learning and policy change interventions to improve the knowledge, attitudes and working conditions of healthcare staff, to foster empathy and patient-centered TB care- “the Allies Approach to TB stigma reduction” developed by KNCF Tuberculosis Foundation. The results show a significant decrease in the average score for fear-based stigma at providers’ level and more compassion to patients, arousing great interest among healthcare authorities for possible scale up.  A number of measures have been taken by the NTP to reduce barriers to access to diagnosis and treatment for presumptive and active TB patients and reduce stigma, including barriers to medication adherence. Improvements were made in the legal and regulatory framework: e.g., the new Code of on people's health and the health care system adopted in July 2020, made local executive bodies responsible for organizing social support for TB patients. Most patients who receive outpatient treatment on a regular basis receive cash benefits, food packages, and travel passes. In addition, integrated social, legal, medical community-based interventions are designed for people in difficult life situations. Moreover, the incentive structures of PHC payment systems, performance measures, and the required volume of financing for ancillary medications used to minimize side effects of anti-tuberculosis medication, and facility-level procedures are in the process of review and refining by the Finance Team established at the NTP. Furthermore, stigma is addressed through training programs for PHC staff, during monitoring visits of M&E groups, and NGO-led services targeting vulnerable and hard-to-reach population groups and asserting their rights to health; through challenges remain. |

Given the country context, size of the Global Fund’s allocation, latest available data, and guidance in the allocation letter:

b) Summarize the **approach used for the prioritization** of modules and interventions (or in the case of Payment for Results, the performance indicators and/or milestones).

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| On 12 December 2019, Kazakhstan received its Allocation Letter from the GF on amounts allotted for HIV, TB, and sustainable systems for health. At the meeting held on 31 January 2020, the Country Coordinating Mechanism (CCM) proposed to allocate USD 8,040,997 for the TB component based on a data-driven analysis of programmatic gaps and funding needs in maintaining essential programming. In the third quarter of 2021, the CCM called on the country-level stakeholders for their effective participation by bringing their views and priorities into planning, decisions on interventions, and application design. It placed the announcement in the republican newspaper "Kazakhstanskaya Pravda" and on the websites of CCM Secretariat and the NSCP on 01 October 2021, bringing the attention of health workers and the phthisiatric community NGOs and partners to proposal development initiation process. To inform funding request design, the CCM shepherded the multi-partner consultation process to introduce the guidance, gather perspectives, and get support for interventions. The process engaged individuals affected by TB to share their needs and concerns from national responses and government organizations and local and international NGOs to present proposals and ideas on the GF's recommended funding interventions. Different types of engagement were combined, including WhatsApp groups, online and offline meetings, and roundtables.  In its turn, the National TB Program held series of consultations with regional TB Centers, CCES, local and international partners, NGOs on funding request requirements and applications development process as well as defined and reconcile the main thematic objectives and application focus requirements specified in the allocation letter. A set of instructions and data collection tools were prepared and shared with applicants helping to identify gaps, define priority areas and rationale for investment. For better resource leverage and to construct the funding landscape table, the international organizations operating in Kazakhstan were contacted to support with information on their contribution levels to the national TB response and highlight areas of future support.  The prioritization process was transparent and consultative and based on funding criteria and indentified priorities capped by the amount allocated to the TB component, the country co-financing commitments, available resource capacity and timing limitations. The key principles laid out in the prioritization approach were that the interventions should be based on the country's needs, guided by the Comprehensive Plan, the program’ technical reviews and the recent WHO recommendations. Also, they should maximize the current national TB response and the interventions worth their costs. Data from partners, technical and beneficiary groups were collected following a form, requesting (i) description of interventions along with the rationale; (ii) the effect of this intervention/key activities on key affected populations and/or health systems; (iii) expected results and (iv) budget breakdown. Furthermore, the discussions around strategic issues of the development of Phthisiopulmonology Service in Kazakhstan were conducted during the plenary sessions and group discussions of the International Conference held on 28-29 October 2021. The recommendations voiced for concreate initiatives were taken into account in activities prioritization exercise.  Compiling the list of interventions submitted by the applicants and NSCP technical group for further prioritization, the CCM/TWG packed them together to be aligned with the modules listed in the GF Funding Request Performance Framework. The higher priority was given to services and goods that would more likely benefit the key population and vulnerable groups, from the equity consideration, to interventions aiming to restore and accelerate TB services, and those having better prospects for being sustained. For interventions distribution between the base allocation and above allocation requests, the priorities among programmatic objectives were established taking into consideration the WHO and International partners recommendations[[68]](#footnote-69), the responses from TWG experts and planned spending level in 2023-2025. The selected activities were vetted among all participated parties, and ranked based on feedback received.  For those interventions, which were not included in the base allocation portion of the funding request, the working group prioritized them under PAAR taking into account the criteria such as having potential for impact on improved diagnosis and management of tuberculosis and in public health surveillance, support the gradual transition from the GF to domestic funding, sustaining the gains and aiming to improve the quality of TB services. The priority of interventions was rated based on 1-4 scale: low, below the average, average, and having high importace.  From Table 17, the module on *Multidrug-resistant TB* accounts for the largest share of the funding request base allocation portion. It is focused on case detection and diagnosis, treatment, and engaging all healthcare providers in TB control. The interventions are aimed to (i) maintain the high coverage with rapid molecular diagnostics at the peripheral services delivery level; (ii) ensure high-quality WHO-recommended diagnostics at the reference laboratories; (iii) extend WHO-recommended treatment regimens for RR/MDR-TB, and introduce BPaL treatment regimens for pre- and XDR-TB patients within the frame of the operational researches to generate evidence for programmatic use; and (iv) strengthen the capacities of the health system and care providers to respond to DR-TB challenges in the country. The second spending category is the module on *TB care and prevention* that will assist Kazakhstan in the establishment of sufficient LTBI treatment and diagnostic capacities, harmonize the approaches used in LTBI patients management with the recent technical Partner’s recommendations and address the barriers and challenges. The module also envisages activities to increase the role of SCO in the TB control, enhance the national Stop TB Partnership, pilot new funding arrangments and instruments for improved financial and program performance of the NGOs in TB control, which can be applied under the social contracting mechanism. Under the *RSSH,* module the supportive supervisory and M&E systems will be strengthened at central, regional and district’ levels to oversee the program's implementation, including innovative people-oriented interventions. The activities envisaged will streamline the TB surveillance through enhanced NRBT synchronized with the core portals of the unified health information system and support operational research. The details on prioritised interventions, rationale beyond, and expected outcomes are presented under the respective section.  The new GF TB grant will have an important contribution towards achieving the national goals and advancing the realization of the country's international commitments and priority actions aligned to the political declaration of the high-level meeting of the General Assembly on the fight against tuberculosis.[[69]](#footnote-70)  **Table 17 Budget breakdown by components and interventions**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | **Total in US$** | | | | | **Interventions** | **Base allocation** | | **PAAR** | | | **Module 1. Multidrug-resistant tuberculosis** | **3,619,103** | **45.0%** | **1,584,150** | **41.6%** | | MDR-TB detection and diagnosis | 2,098,867 | 26.1% | 1,255,099 | 32.9% | | MDR-TB treatment | 757,436 | 9.4% | 196,579 | 5.2% | | Engaging all care providers | 762,799 | 9.5% | 132,473 | 3.5% | | **Module 2. TB care and prevention** | **2,935,746** | **36.5%** | **2,064,432** | **54.2%** | | Treatment | 0 | 0.0% | 358,579 | 9.4% | | Prevention | 1,647,405 | 20.5% | 340,746 | 8.9% | | Community TB care delivery | 1,288,341 | 16.0% | 1,365,108 | 35.8% | | **Module 3. RSSH: Health management information systems and M&E** | **537,245** | **6.7%** | **161,775** | **4.2%** | | Program and data quality | 156,016 | 1.9% | 0 | 0.0% | | Routine reporting | 101,938 | 1.3% | 0 | 0.0% | | Analysis, evaluations, reviews and transparency | 279,291 | 3.5% | 161,775 | 4.2% |   Some key events are highlighted below in chronological order. The consultations were documented, and minutes made available on the CCM website www.ccmkz.kz.  On 31 January 2020, the CCM meeting was held on program split.  On 18 June 2021, the CCM meeting was held on working group establishment and defining terms for submitting the funding request on 18 June 2021.  On 24 September 2021, a CCM meeting meeting was conducted with participation of the Technical Working Group (TWG), and the GF Teams to agree on the action plan for the preparation of the GF TB Funding Request for 2023-2025.  On 01 October 2021, the announcement calling for proposals to be included in the GF Funding Request for TB component was published in the republican newspaper "Kazakhstanskaya Pravda" and on the websites of the CCM Secretariat and the NSCF.  On 12-15 and 25 October, and 22 and 24 November, several technical working group meetings were held at the NSCP to define priority intervention, grouping, and budgeting.  On 28-29 October, international coneference was held on Strategic Issues of Further Development of Phthisiopulmonology in the Republic of Kazakhstan.  On 29 November 2021, the expanded TWG meeting was held to discuss priority interventions proposed by applicants for inclusion in the GF funding request.  On 03 December 2021, Country Dialogue was held for preparation of new funding request for the TB component, with broad participation, including CCM and non-CCM members, government and non-government, NGOs, international organizations, and key populations. |

1. Fill in **one table for each disease component**, and an additional table for integrated or cross-cutting programming, such as TB/HIV or Resilient and Sustainable Systems for Health (RSSH) modules, to describe the areas prioritized for this funding request.

|  |  |
| --- | --- |
| Component | Tuberculosis |
| Module/interventions | **Module: Multidrug-resistant tuberculosis (MDR-TB)**  *Intervention: Case detection and diagnosis: MDR-TB*  Activities:   * + 1. Procurement of Xpert MTB/XDR kits   The grant funds will be used to purchase Xpert MTB/XDR assay cartridges for the rapid detection of tuberculosis with resistance to fluoroquinolones and other second-line drugs at the regional TB laboratories. Annually, 4,000 Xpert MTB/XDR cartridges will be purchased during the three-year grant implementation period, making up nearly 50-55% of the required volume of fluoroquinolone susceptibility testing. The remaining needs will be covered through procurement of the tests for LPA equipment from the local budget allocations. The Xpert MTB/XDR cartridges will be solicited through the Stop TB Partnership's GDF platform. The budget line is foreseen for the product and logistic costs for reagents delivery to and within the country.   * + 1. Monitoring of GeneXpert technology implementation at the district level   A national consultant (part-time) will be hired for the grant period to ensure the proper implementation of GeneXpert technology at the district level. The scope of work will include: (i) support to effective rollout and functionality of the GeneXpert technology at the peripheral (district) TB service delivery level; (ii) collection and analysis of quarterly reports from regions on performance; (iii) feedback provision on the results of the analysis to NTP, regional TB Centers, and regional laboratories; (iv) provision of technical support to district-level centers in GeneXpert technology implementation; (v) overseeing the implementation of the new diagnostic algorithm. The first-year cost of monitoring visits to the GeneXpert sites aiming to examine the quality of the performed tests and accuracy of the records produced and support the local team in implementing the new technology is included in the application budget.   * + 1. After-sale service, maintenance, calibration and repairs for GeneXpert instruments   Through GDF pooled procurement mechanism, the country plans to purchase 3-years extended warranty package for a total of 128 pieces of GeneXpert equipment: 31 GeneXpert systems in a 4-module configuration and 97 two-module Xpert machines. The standard GDF package covers Xpert check kits: calibration cartridges and module or computer replacement; maintenance and minor repairs expenses beyond the warranty period. Other services not included in the warranty package, such as costs for engineer visits in territories for modules replacement, were added to the budget under the assumption driven from the past practices that approximately 7% of the modules will need to be replaced annually. In addition, following Supra-national TB reference laboratory (SNRL) recommendations, the buffer stock of the modules, estimated at 10% from the available number, will be created at the NRL and renewed annually at a rate of 5%. Creating the Xpert modules' buffer at the NRL level is necessary to prevent the system interruption, as replacing the non-functional modules takes a long time. It was spent around two months during the past years due to the country's regulation for re-export of goods.   * + 1. Procurement of pure substance for DST to SLD   In line with the revised WHO recommendations for DR-TB management, the project will procure pure substances for DST to SLD at reference laboratories using MGIT 960 equipment, including for repurposed drugs. The GF support will cover 100% of countrywide needs in 2025 of the grant at once, and the government will ensure full takeover starting from 2026.   * + 1. *Isolation of strains in liquid culture and DST (automated MGIT) investigations* (please refer to the PAAR template for description).     2. *Storage of the M. Tuberculosis strains in proper conditions (*please refer to the PAAR template for description).     3. Sequencing of Mycobacterium tuberculosis complex     4. Maintenance and servicing of WGS laboratory equipment   For the activities (1.1.7&1.1.8), it is planned to procure (i) reagents and consumables for implementation of the WGS investigations at the NRL and (ii) 3-years extended warranty package for WGS equipment. Nearly 600 tests are expected to conduct in each Year 1 and Year 2 of the grant under base allocation portion. The expenses related to 300 tests in the last year of the grant are budgeted under the PAAR. The open tender will be announced for procurement of reagents and tests. And, the equipment’ supplier will assure the warranty package, as the company has the exclusivity in Kazakhstan for the servise. In year 2025, 50% of the tests and reagents will be procured through the domestic sources and the government will guarantee full takeover since 2026.  *Intervention: Treatment: MDR-TB*  Activities:   * + 1. Extension of the Operational Research on modified shorter all-oral treatment regimens for RR-TB to new regions   The funds are requested to expand the cohort of RR/MDR-TB patients who will begin treatment with fully oral modified shorter treatment regimen.  It is assumed that 1,800 patients will be enrolled in the OR in 2023-2025. The grant will finance the support of the technical team to be involved in the operational research, including patients’ treatment monitoring and follow-up appointments after 12 months of treatment, also covering those included in the study at the end of 2021 and in 2022, visits and administrative expenses. For mSTR treatment expansion under operational research conditions, the NSCP will sign a sub-contract with the Partners in Health in Kazakhstan. The PIH had been implemented the OR under the End TB Project since 2016. Moreover, the organization has participated in the WHO EURO regional operational research on the inclusion of modified short-term regimens for the treatment of rifampicin-resistant tuberculosis with fully oral drugs and the OR under the current GF grant since 2019. The cost of anti-tuberculosis drugs and treatment of patients in hospital and outpatient facilities will be paid through the local funds.   * + 1. Operational Research on BPaL treatment regimen for pre- and XDR-TB patients in pilot regions   The grant funds will be used to pilot the BPaL scheme for 70 patients with pre- and XDR-TB in three country regions. It will finance the support to the technical team involved in OR, technical assistance from external experts, the costs of staff training, patients’ treatment monitoring and follow-up appointments after 12 months of treatment, conducting aDSM, visits, and administrative costs. The principal recipient will sign a sub-contract with the KNCV representation in Kazakhstan, which since 2020 has begun preparatory activities to inform new recommendations regarding the use of BPaL for patients with drug-resistant TB for the introduction of the BPaL regimen in nationwide practices. The procurement of all drugs used in a new treatment option for patients enrolled will be made through the GDF platform at preferential prices.   * + 1. *Operational Research on treatment regimen for MDR-TB patients coinfected with Hepatitis “C” in pilot regions* (please refer to the PAAR template for description).   *Intervention: Engaging all care providers*  Activities:   * + 1. Support to the Working Group on health system strengthening for TB control   The multisectoral working group, established under the previous grant, will be further supported to perform high-level advocacy and enhance the political commitment for effective governance and sustainable financing of TB interventions, including strengthening and coordinating, multisectoral involvement and communities’ engagement. The new grant will allocate funds to support the development and/or revision of the relevant regulations and guidelines, including a guide for community-based organizations, in line with the WHO and technical Pratners’ recommendations and available best practices. Four performance-based consultancies in each first and second years of the grant will be implemented. The GF regulation on incentives payments has been taken into consideration. Also, the project will finance the costs of TWG meetings and the visits of experts to regions.   * + 1. NTP program coordination meetings   The project will support annual coordination meetings of the NTP with broader participation of the decsions-makers from governmental agencies, including MoH, MoF, and the CCES, health care providers and those involved in TB and HIV control, representative of academia, CSO, and other non-state actors. Pooling information, presenting challenges and barriers in NTP components implementation, sharing the lessons learned and good practices, and coordinating further activities will contribute towards achieving milestones and targets of the Comprehensive Plan. During the grant implementation period, it is expected to conduct one meeting annually.   * + 1. TB round tables at central and regional levels for high-level decision makers   The project will continue the conduction of training sessions and round tables at the central level with local governments, partners, public and private providers participation. It will hold a close discussion on topics related to the implementation of the components of the Comprehensive Plan, patient-centered TB care delivery and organizational and payment models, DR-TB case management, establishing functional local partnerships to end TB, mobilizing additional and alternative sources of funding for priority TB interventions, including social contracting, business community support and results achieved towards the country targets established by the UNGA High-Level Meeting on TB. During the grant implementation period, it is expected to conduct one meeting annually.   * + 1. Ensuring EQA of the NRL and RRL   The funds requested will support the implementation of external quality control of bacteriological investigations in the NRL and RRL. As part of the EQA, the preparation and delivery of pannels from SNRL in Gauting for assessing the quality of mycobacterial culture results produced by the NRL will be carried out. Moreover, support will be given to prepare quality assurance panels at the NRL to control cultural investigations in the RRL. The expanded quality assurance efforts of the NRL and RRL will be assisted during the entire period of the GF TB grant project.   * + 1. *External technical assistance in revision and development of the laboratory TB guidelines* (please refer to the PAAR template for description).     2. *Supervision visits of the SNRL team* (please refer to the PAAR template for description).     3. Assistance in the establishment of national Team for coordination and management of TB drugs supply system at the central level   The GF support is requested to establish a national team at the central level to coordinate and manage TB medicine supply mechanism. Two full-time consultants will be hired for that purpose; one will take Drug Supply Management Coordinator’s functions. The National Team will manage a wide range of regulatory and operational issues, including regular tracking of general policies and regulatory documents by assessing the possible impact on anti-TB drugs supply, advocacy, and development of the evidence for introduction of drugs in the annually updated National Drug Formulary, addressing issues related to the availability of TB medicines in regions, obtaining permissions from the public authorities for importing and reallocation of medicines, coordinate with regional coordinators, departments and partners on anti-TB drugs management activities, monthly evaluation of the reports on TB drugs circulation in regions. Furthermore, the National Team will provide distance capacity-building support to the regional team and in trouble-shooting for anti-TB drugs supply management. In the third year of the grant implementation, the country will ensure a full takeover of TB medicine supply management team’ funding.   * + 1. National consultant for strengthening coordination of TB drugs safety monitoring at the national level   To coordinate monitoring activities related to the safety and efficacy of new TB regimens, it is proposed to support financing a separate function on the management to pharmacovigilance system, including aDSM, within the NTP. The approval of new and repurposed anti-TB drugs for the treatment of DR-TB and the introduction of these medicines into the general practice as recommended by the WHO requires a well-functioning system of aDSM. One of the key components to safeguard the sustainability of the aDSM for DR-TB patients as part of the pharmacovigilance system is the effective coordination mechanism established at the central level. This position will be funded during the first two years of the GF grant and be transitioned to public funding mechanism during 2025.   * + 1. IT Programmer for digitalization of the TB drugs forcasting as part of the National TB Registry’ electronic module on drugs   In order to ensure a holistic approach, quality, and traceability of anti-TB drug needs identification and forecasting, the FG support is requested to hire an IT programmer consultant who will provide technical support to the national TB drug coordination and management team in digitalization of the TB drugs forecasting as part of the NRBT’ electronic module on drugs. The consultant will develop terms of reference (TOR) in collaboration with the national drug supply management team for the development of an electronic module on TB drugs forecasting and formulation of the order, procurement planning, based on the architecture of business processes embedded in the QuanTB tool, which will be adjusted and supplemented following the requirements of the national program and regulations adopted by the country on the provision of medicines, procurement, and financing. Also, the consultant will be responsible for revision of indicators for the drug supply management, analysis and forcasting. The support is envisaged for the first year of the grant implementation.   * + 1. Technical assistance: revision and update of the regulation related to active drug safety monitoring and management   In order to create a holistic frame for the extension of the monitoring of the safety and efficacy of new TB drugs and treatment regimens beyond the operation research conditions, technical assistance will be provided to the NTP to revise and update the regulatory framework on aDSM and drug supply management. A team formed from an external expert and a local consultant will be financed in the third year of the grant.   * + 1. Workshop on anti-TB drugs procurement order development   Development of the annual order for procurement of the anti-TB drugs from the state resources requires updates and improvements of the knowledge and skills of the regional Drug Supply Management Coordinators. The project will provide support for the organization of the three-days workshops ended with the development and approval of the annual procurement order for anti-TB drugs, with the participation of the representatives from regions, the penitentiary sector, and the central level. As the needs forecasting is the teamwork, the first day of the training will be attended by the Central Medical Advisory Committees and M&E teams from regions to agree on all indicators, make TB medicines forecasting and develop annual regional orders. During the secong and third days, the regional Drug Supply Management Coordinators and the representatives of the NTP at the central level will attend the event. On the third day of the workshop, each region will prove their forecasts for annual TB medicines order that the central level should coordinate further with the social health insurance fund. The workshop will be conducted at the NSCP level; three such events will be organized during the grant period.   * + 1. Support to the Center for Clinical Mentoring and Advanced Training   The project sources are requested to continue supporting the Center for Clinical Mentoring and Advanced Training (CFCMAT) at the NSCP initiated during the current grant. The CFCMC is engaged in providing distance learning education in TB and lung diseases’ clinical management for different categories of medical providers, including postgraduate students, in conducting zoom webinars, meetings, and the RR/MDR-TB Consilium sessions. The grant will finance the CFCMAT' activities, including wages of consultants (Coordinator, IT Specialist, Accountant), development of the new eLearning modules, and translation of the main modules prepared in the current grant from Russian into the Kazakh language. Furthermore, the online training of the 650 ToT students will be conducted, who will promote and implement the e-learning concept at the regional level, the participation of the Medical MDR-TB Consilium referents in the external training. Also, the funds are allocated for the maintenance of the e-learning platform for the entire grant period.   * + 1. Capacity building of the laboratory staff envolved in bacteriological diagnosis of tuberculosis   To ensure appropriate management and activity of the TB bacteriological laboratories following the revisited DS/DR-TB guides, and implementation of the new recommended technologies; the project will support the organization of training courses for the laboratory staff, including those from the penitentiary sector. In total, five courses are planned during the entire grant implementation period.   * + 1. Capacity building in DS/DR tuberculosis management   In order to ensure appropriate management support to the implementation of revised DS/DR-TB guides, the project will provide support to the organization of training courses for the health care managers of TB Centers, the general practices, and health administrators from the penitentiary system. Training sessions will be conducted at the central level totaled to five courses during the entire grant implementation period.   * + 1. Training on aDSM: capacity-building strengthening in management of active monitoring of safety and efficacy of new TB medicines and treatment regimens   The introduction of aDSM is essential and linked to expanding the use of new anti-TB drugs and treatment regimens. The training courses will be designed to update and improve the knowledge of the specialists in charge of pharmacovigilance and the heads of the regional CMACs. Also, the training program will cover the management of the information system for recording data related to the aDSM and integration of modules in the unified health information system. The three-day training will be conducted at the central level. In total, four such courses will be organized during the first and second years of the grant implementation, two courses annually.   * + 1. Training to strengthen the capacity of the regional teams in institutionalization of the digitalized module for DM forecasting and formulation of the TB annual medicine demand of the regional levels   To grant funds will be used to assist the NTP in defining the needs in TB drugs and forecasting exercises for developing the annual procurement plans based on the output of the electronic module. The last will be integrated into the NRBT. It is planned that the Drug Supply Management Coordinators at the central and regional levels and respective staff from the penitentiary system will be trained to develop skills in the use of the electronic tool. Training will be conducted at the central level; two courses will be organized in the first two years of the grant implementation. The national experts will conduct the first course in collaboration with the GDF specialists, specializing in the management of TB medicines procurement. The expenditures related to the training facilitation and logistics linked to the travel of an international consultant will be covered from the GDF funds.   * + 1. The NTP’ and NRL’ personnel participation in international trainings   The participation of the core staff at the NTP and NRL in international training courses with relevant content related to the introduction and expansion of the use of new regimens, diagnosis, and treatment of LTBI and DS/DR-TB management, is planned to be supported by the funding request. The budget covers spending on the annual training of four persons at the WHO training centers of Latvia and Belarus over the grant duration.   * + 1. Participation of the national team’ members coordinating and managing TB drugs supply in the international training course   The associated costs of participation of the national team members coordinating and managing TB drugs supply in the international training courses and conferences or meetings discussing TB drugs management and procurement issues will be supported from the grant fund. It is assumed the annual two-person participation during the first two years of the grant project.   * + 1. Attendance of international meetings and conferences abroad   Support is covered the participation cost of the NTP core staff in international conferences and meetings abroad with the relevant content. During the grant life, three-person participation is expected once a year.   * + 1. *National TB conference* (please refer to the PAAR template for description). |
| Priority populations | * People with active TB, patients with drug-resistant TB, and their families. * Children with active TB, patients with drug-resistant TB, and their families. * Patients with pre- and XDR-TB. * Heads of the regional health departments and representatives of the local governments. * Heads of the Regional TB Centers. * Medical staff of the TB Service. * The NRL and RRL personnel. * The TB Drugs Supply Management Coordinators. * Medical personnel from the PHC facilities * Respresentatives from community-based organizations. |
| Barriers and inequities | * Lack of access to rapid diagnostic tools for pre- and XDR-TB leads to increase time to accurate confirmatory diagnosis and appropriate treatment initiation. Presently, drug-specific sensitivity testing for fluoroquinolones lasts for at least two days from the time of sputum delivery to bacteriological laboratories using LPA technology or is performed within three weeks using cultures on liquid media (MGIT 960). * Limited access to DST to new and repurposed drugs (Bdq, Dlm, Cfz, Lzd) pose additional challenges in selection of promt and adequate treatment regimens and in the introduction of the new treatment regimens or combinations that shortening treatment duration. * Lack of access to new drugs and treatment regimens, especially for XDR-TB patients, reduces treatment success, and can lead to poor treatment outcomes for this category of patients. * TB drugs provision is a complex procedure involving multiple mandatory steps to be accomplished by various actors at regional and central levels. In recent years, it has become more complicated with the introduction of new technologies and treatment options, focusing on individualized treatment regimens, following revisited recommendations from WHO and other technical partners. * The inclusion of new and repurposed TB drugs in the list of essential medicines and their introduction into the general prescribing practice for patients with DR-TB, following the latest WHO recommendations, assumes a well-functioning system in place for aDSM. The implementation of the Comprehensive Plan components at the national level contains responsibilities, including those related to pharmacovigilance, which are not yet well reflected in the current NTP coordination system. * Well-organized coordination of TB Service activities at the central and regional levels is necessary for effective program management, timely decision-making, correct and effective management of TB cases and the introduction of modern methods of diagnosis, treatment and case management. * The introduction of advanced technologies, new drugs, and treatment regimens, new models of people-cantered care, involvement of public and private sectors and community-based organizations in collaborative work towards TB prevention, diagnosis, care, and control, requires constant education with application of new approaches and information technologies and platforms for teaching and learning. |
| Rationale | **Preserving good coverage of the rapid and effective diagnosis of tuberculosis and rifampicin resistance, and the introduction of rapid diagnosis of resistance to fluoroquinolones.**  As presented in section 1.1 above on “*country context*”, over the past years, with the support of technical partners and donors, Kazakhstan, following the WHO recommendation, has expanded access to rapid molecular assays, in particular to GeneXpert technology at the district and regional levels, as the initial test to diagnose TB in suspects and resistance to rifampicin. The molecular diagnostic testing coverage of estimated TB suspects have been increased and more than 95% of all detected cases during this year, including new and relapses, have the results of the GeneXpert test.  From the GF C19RM supplementary funds, the PR intends to procure units of the 10-color module of the GeneXpert machine for detecting extensively drug-resistant tuberculosis and identifying cases of resistance to fluoroquinolones within a few hours for the prompt and appropriate treatment prescription. Furthermore, aiming to address the access issues and speed up obtaining the test results for the timely treatment initiation, 20 units of the available 6-color module equipment from bacteriological laboratories will be transferred to the selected peripheral district PHC facilities. These are the sites that have the average distance for sputum samples transportation from the rayons to oblast/inter-district’ GeneXpert laboratories exceeding 100 km.  The effective functioning of the GeneXpert laboratories network at different levels is determined, among the other things, by the timely procurement and supply of the required reagents, provision of appropriate equipment maintenance services, the creation of an in-country stockpile for quick replacement of modules, the constant monitoring of the performance of GeneXpert laboratories, as well as the provision of technical assistance to the health workers at the district level and improving the knowledge improvement of the laboratory personnel.  It is worth mentioning that since 2019, the country's needs in Xpert MTB/Rif cartridges have been financed from the government budget. All new machines purchased from USAID and GF funds have a standard 5-year warranty period. The Xpert machines procured before 2019 passed a full check and are covered by post-warranty service. The monitoring of the GeneXpert laboratory network and the training and retraining of laboratory personnel are performed from the GF, NTP, and the ETICA project budget allocations.  A smooth transition from the donor's support to domestic financing of GeneXpert maintenance and laboratory network monitoring services will occur over the next four years, with the full transition by the end of the grant period. Furthermore, after the inclusion of Xpert MTB/XDR cartridges for rapid testing of resistance to second-line drugs in the list of medicines and medical devices to be procured through the system of the single drug distributor, the procurement will be made from budgetary funds.  **Ensure access to phenotypic DST to 2nd line drugs.**  Rapid and full DST to SLDs is key to scale-up new treatment regimens for DR-TB, including modified all-oral shorter regimens, having potential impact on treatment success. The country has established and is maintaining a good network of laboratories on phenotypic analysis and DST to first and SLD drugs. Nearly 94% of bacteriologically confirmed pulmonary cases had the results of DST to rifampicin; and about 90% of RR-TB cases had DST to SLD. Country have been introduced in the diagnostic algorithm the DST to Linezolid (Lzd) and Clofazimine (Cfz) since 2020, and DST to Bdq - since 2021. The DST method for Delamanid (Dlm) will be launched in 2022.  Currently, the country is transferring from the solid medium for culture investigation to detect the causative agent of tuberculosis and determine its drug sensitivity in liquid medium, including during RR/MDR-TB treatment monitoring. This transition allows faster confirmation of the diagnosis, including sensitivity to anti-tuberculosis drugs and prompt initiation of treatment based on DST results, especially for patients with pre- and XDR-TB, enabling timely therapy adjustment for better outcomes.  The procurement of reagents and tests for culture investigations and DST to first-line drugs is done from the public resources, and for sensitivity analysis to second-line drugs, both from government budgets’ and the GF’ allocations. By the end of the new GF TB grant, the country will be fully responsible for spending on phenotypic DST method for second-line drugs.  Kazakhstan has an established system of internal and external quality control for molecular and phenotypic DST with SNRL Gauting in Germany. In 2020 the NRL successfully passed external quality assurance of DST for first line anti-TB drugs, levofloxacin, moxifloxacin, amikacin, linezolid, and MTBDRplus/SL. The NTP plans to initiate EQA for DST to Cfz, Bdq, and Dlm, when the pure substances for new drugs become available. Currently, the USAID-funded ETICA project has supported the country to strengthen the laboratory system, including quality control, and prepare for ISO accreditation of the NRL, acknowledging 85% readiness for the NRL in September 2021. The continuation of EQA related efforts, both at the NRL and RRL levels, are essential in guaranteeing quality services of bacteriological laboratories.  **Implementation of whole-genome sequencing.**  The emergence and spread of MTB strains with multiple resistance to anti-TB drugs is a serious concern for the country, given that Kazakhstan is among the countries with a high burden of MDR-TB. Modern methods of detecting resistance genotypes from clinical isolates help speed up the diagnosis and initiation of anti-TB therapy, increasing the patient's chances of recovery and reducing the likelihood of infection transmission in the population.  Next-generation sequencing has excellent potential as a leading alternative that addresses limitations of the existing phenotypic DST method currently used for diagnosing DR-TB in reference laboratories. From the current grant funds, the country purchased a whole-genome sequencing system for the NRL in 2020. The supplier carried out the initial training of specialists in the NRL during the first quarter of 2021, followed by additional training organized by the USAID ETICA project on using the system and interpreting results. Early in March 2021, the first investigations were carried out at the NRL and the results of 26 sequencing were sent to SNRL Gauting for bioinformatics analysis in Fastq.qz format.  The introduction of new drugs and treatment regimens for patients with pre- and XDR-TB will require an expansion of WGS research to adequately manage cases with this resistance spectrum.  **Extension of coverage of the WHO-recommended new drugs and regimens under operational researches currently underway.**  Given the high burden of resistance to anti-TB drugs, including to SLD, the NTP, with the support of the USAID and GF, has taken prompt actions to ensure the administration of new drug regimens and implement evidence-based interventions for intensive support and follow-up of DR-TB patients on treatment.  The new drug regimens for DR-TB, together with Bedaquiline and Delamanid, has started in 2016 under the End TB Project and continued under the GF grants in civilian and penitentiary sectors. Since 2019 country has started procuring new drugs (Bdq and Dlm) from government resources through GDF pooled procurement mechanism. Also, the country participates in the operational research on the inclusion of short-term full-oral regimens for the treatment of rifampicin-resistant tuberculosis, initiated in 2019 by the WHO/Europe, with 170 RR/MDR-TB patients enrolled in the study that continued until October 2021. In addition, within the frame of the GF grant for OR, a cohort of 163 have started the treatment under two protocols (PHI, and WHO). The NTP expects that inclusion of patients in OR will continue in 2022, and additional resources are requested through the GF funds for 2023-2025, as the WHO recommendation for the programmatic use of modified oral STR might not come earlier than in 2025.    The strategy and objectives for the continuation of the OR on use of modified, all-oral shorter regimen are to:   1. preserve the progress achieved to date; 2. share the experience accumulated with the use of mSTR for treatment of RR/MDR-TB patients in the pilot regions; 3. eliminate key barriers to accessing modern and effective treatment; 4. address information gaps regarding the effectiveness and efficiency of mSTR; 5. use the OR data to improve NTP effectiveness and efficiency; 6. adopt the national policy allowing use of the mSTR programmatically, informed by generated country evidence on treatment outcomes.   Though the decrease in the absolute number of MDR-TB is recorded, the pre- and XDR-TB cases have increased in the past years. Despite the introduction of new (Bdq, Dlm) and the use of repurposed drugs in the treatment of drug-resistant tuberculosis, the treatment of pre- and XDR-TB yet remains a challenge, as there is often a lack of effective schemes and higher is the risk for non-adherence to long-term treatments (for approximately 20 months). As an alternative to long-term therapy, the WHO recommends a novel BPaL regimen for extensively drug-resistant TB. The treatment initiation began under operational research conditions to collect more country-specific data on regimen effectiveness and safety to be used to develop recommendations for programmatic application. The use of the BPaL regimen that shown its effectiveness in the Nix-TB3 study (98% of treatment success), will enable patients with pre-XDR-TB to receive effective treatment within a shorter period of six up to nine months and, in general, will improve the epidemiological situation in the country. Since 2020, the NSCP with support of KNCV has started preparation for implementation of BPaL regimen in Kazakhstan.  Within the frame of technical support to NSCP, the implementation plan was developed, and operational research protocol elaborated, negotiation with pretomanid' manufacturer- Viatres- on the drug registration and supply has been completed. An analysis of the legal-regulatory framework and consultations with the MoH, the National Center of Expertise of Medicines and Medical Devices, and the National Research Center for Health Development named Salidat Kairbekova were carried out. According to the manufacturer, registration of the pretomanid in Kazakhstan is expected in the first quarter of 2022.  **Сoordination and management of TB medicine supply, and aDSM.**  The new drugs and regimens under the OR require robust systems for patient monitoring, drugs management, and pharmacovigilance to prevent severe adverse events and resistance to new anti-TB medicines.  The TB drugs provision is a complex procedure involving multiple mandatory steps to be accomplished by various actors at regional and central levels. In recent years, it has become more complicated with the introduction of new technologies and treatment options, focusing on individualized treatment regimens, following revisited recommendations from the WHO and other technical partners.  Accordingly, all these developments require improved coordination of the processes, including the issues of monitoring of the availability of anti-TB drugs in the market and registration, revising the National Drugs Formulary and medicines list within the volume of free medical care and in a system of CSHI. Additionally, extra procurement and redistribution of anti-TB drugs among regions might be needed to mitigate possible risks with the medicines' supply. The essential functions in the drug supply chain are the needs assessment, forecasting, and the order's formation for drug purchases and distribution, which are the responsibility of the regional TB Centers. Recent amendments[[70]](#footnote-71) in the legal and regulatory frameworks increase the requirements for preparing and approving an application for the procurement of anti-TB drugs, including the need to have the written approval of consolidated orders from regions at the central NSCP level. Also, improved coordination and leadership at the central level is required for medicines redistrubution between regional TB Centers with involvement of the SHIF.  The drug supply chain digitalization in recent years catalyzes the digitalization of processes in the provision of anti-TB drugs and requires the expansion of the Drug Supply Management Coordinator's functions. Monitoring the provision and rational use of anti-TB drugs through monthly and quarterly analysis of regional reports remains the central level responsibility.  The provision of active monitoring of the safety of anti-TB drugs is a special requirement for the management of DR-TB treatment, as new anti-TB drugs do not yet have a complete safety profile. Also, new and repurposed drugs included in the first two groups of anti-TB drugs for priority use in DR-TB patients therapy are under “off-label” prescribing. Moreover, the inclusion of new and repurposed anti-TB drugs in treatment regimens for programmatic use suggests that there should be a robust system in place for active drug safety monitoring. A key component of the sustainability of aDSM system, including pharmacovigilance, is the proper management at the NTP' central level. The commitment of the MoH to improve monitoring of the safety and efficacy of medicines and medical devices is confirmed by the rules[[71]](#footnote-72) for pharmacovigilance and monitoring of the safety, quality and effectiveness of medical devices, which establish the requirements for assigning a specialist responsible for the monitoring of adverse reactions in healthcare organizations. These functions are not reflected in the current funding of NTP activities and expected to be supported through the GF fund with full takeover by the country financing mechanism.  **Development and maintenance of the e-Learning platform to strengthen the capacities of health workers and community-based organizations in TB control**  Full-fledged operation of continuing education in tuberculosis requires introducing new approaches, performing updates, improving existing organizational models, and training activities to strengthen competencies and knowledge of healthcare workers involved in TB control, enabling early detection and appropriate care.  To prepare high-quality human resources for health, especially during the period of enhanced quarantine measures, it is necessary to have accessible, reliable education technologies with the ability to update programs and training materials with an emphasis on mastering practical skills and the latest knowledge on various topics.  The modern world requires reliable sources of information, interactive communication in the online space to fulfill the intended goals and objectives successfully, and the attraction of competitive employees with self-education and cascade learning skills. Without these components, the sustainability and quality of realization of plans are at risk since the personnel and their professional level are essential in any field of activity.  Digitalization of the healthcare environment in Kazakhstan is one of the priority objectives of the government. The development of innovative medical services is envisaged in the country's health strategic plan and reflected in the Comprehensive Plan for developing the phthisiopulmonological service for 2022 - 2026. It is equally important the introduction of innovative methods for capacity building for healthcare workers. Digital adoption had taken a quantum leap during the COVID-19 pandemic, when, for objective reasons, access to timely consultations of medical workers and the exchange of information for both patients and medical staff were significantly hampered.  The current GF grant project supported the establishment of an e-learning platform and equipped the NSCP's Center for Clinical Mentoring and Advanced Training. Fifteen online training modules have been prepared, and the training sessions organised. By mid-November 2021, 298 students completed online training on eight topics. Moreover, during 2020-2021, 280 online meetings of the NSCP' Central Consilium were held, providing evidence-based clinical advice and discussing issues related to the management of MDR-TB and other difficult-to-treat TB cases, prescribing treatment schemes for XDR-TB patients, regimens modifications due to observed resistance to drugs or side effects of therapy, and interesting clinical cases for participants' competencies further development.  Over the coming years, additional funds will be needed to develop online training modules reflecting the new WHO recommendations, the translation of core modules into the Kazakh language and the preparation of ToT for the subsequent expansion of distance learning and mentoring activities at the regional level before the NSCP will take complete responsibility to finance the learning center from the internal resources.  **Increased coordination of the NTP and enhanced partnership**  The Comprehensive Plan and current NTP recognize the critical role of addressing the socio-economic determinants of TB and the need to cover the service gaps at the community level and make the system sustainable towards achieving its goals and objectives. These are cross-cutting issues requiring special attention for reinforced inter and intra sectoral approaches.  The proposed activities aim to increase coordination among key stakeholders, relevant government bodies, civil society and the national platform on drugs procurement and management. By supplementing the CCM efforts through enhanced complementarity of TB control and care activities implemented by regional TB Centers, primary healthcare network, NGOs and affected and high-risk communities, will harmonize the national TB response, including uniformity of TB care. The NTP will continue focusing on awareness and knowledge creation and policy advice actions on its areas of comparative advantage and will seek stakeholders and partners’ support through enhanced partnership on areas in which it has limited comparative benefit. In this context, an enabling environment will be maintained and further strengthened through regular interaction with all actors, including private and business communities and and public sector, promoting TB control initiatives at district, regional and national levels.  To reach out to populations with multiple risks and vulnerabilities, NTP will also be linked to other national programs, including HIV response, NGOs working with the UN agencies on migration and refugees issues, and local governments implementing community-based integrated programs. In addressing human rights, stigma, gender, and other equity issues, special efforts will be directed by engaging concerned departments and agencies in planned activities. |
| Expected Outcome | * Providing access to GeneXpert XDR will significantly minimize the barriers to accessing rapid and reliable diagnosis and help phthisiatricians quickly select the most appropriate individualized treatment or adjust the regimens for pre- and XDR-TB patients. * Ensuring universal coverage by quality DST will allow promt and appropriate treatment initiation based on the drug resistance profile, including effective implementation of modified shorter treatment regimens for DR-TB based on DST for new and repurposed drugs resistance. * Expanding the access to new anti-TB drugs and treatment regimens can help patients with extensively drug-resistant TB and make treatment shorter and less toxic. * From the estimated number of patients who present with symptoms suggestive of TB, 95% will be covered with GeneXpert testing. * More than 95% of the bacteriological confirmed RR/MDR-TB patients will undergo phenotypic and genotypic diagnostic investigations on resistance to fluoroquinolones. * The coverage by mSTR will be expanded, and 1,800 RR/MDR-TB patients treatment will receive with fully oral modified shorter regimens, following the WHO EURO OR’ protocol. * Seventy pre- and XDR-TB patients have received the BPaL treatment regimen under OR. * 650 trainers will be prepared using e-Learning platform. * Coordination and management of TB medicine supply, and aDSM activities of the NTP will be strengthened. * Knowledge increase of the medical personel from the TB Service and PHC facilities on implementation of the latest WHO recommendations regarding the introduction of a Nucleic Acid Amplification Test (NAAT) for TB, new drugs and regimens for RR/MDR-TB patients, operation of people centered models of TB care, and the role of community organizations in TB control. * Improved TB drugs supply management capacities at regional and central levels; and electronic module is integrated into the national TB Registry. |

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| Component | Tuberculosis |
| Module/interventions | **Module: TB care and prevention**  *Intervention: Treatment (TB care and prevention)*  Activities:   * + 1. *4-month regimen therapy of drug-susceptible pulmonary TB (operational research)* (please refer to the PAAR template for description).   *Intervention: Prevention (TB care and prevention)*  Activities:   * + 1. Support to the Working Group on LTBI in diagnosis and treatment strengthening   The working group will be established and supported to perform, coordinate, and supervise the latent TB infection diagnosis and treatment activities following the adopted national clinical guide on LTBI diagnostics and treatment developed based on the WHO's 2021 recommendations. The new grant will allocate funding to support the logistics for the TWG meetings. During the first year of the grant implementation, meetings will be organized quarterly by limiting the number to once every six months during the second and third years. To discuss the progress made, challenges and lessons learned informing the future steps and the achievements in meeting the nationalized UN High-Level Meeting’ targets and ways forward, a round table will be organized in the second year of the grant at the central level.   * + 1. Technical Assistance in LTBI: National Consultant in support to strengthen coordination, realization and monitoring of the LTBI diagnosis and treatment activities   The funds will support hiring a local consultant at the central level to: (i) guarantee coordination with regional LTBI focal points; (ii) support regions in estimation and forecasting needs in reagents, consumables, and drugs for TB preventive treatment; (iii) maintain communication with an external consultant on LTBI; (iv) provide quarterly analysis on the LTBI indicators; and (v) evaluate annually the progress made towards national targets; and (vi) update the respective national documents on LTBI activities implementation. This function will be funded during the full project life.   * + 1. Technical Assistance in LTBI: International Consultant (IC) in support in to LTBI diagnosis and treatment activities implementation   The GF support is requested to contract an external consultant to provide online support to the NTP and the local consultant to implement the WHO latest recommendations on managing latent tuberculosis infection. Also, a five-day mission of IC is planned to monitor the implementation of the LTBI diagnosis, conduct training on TB preventive treatment (TPT) for the personnel from regions, and advise on recommendations to enhance LTBI country response. The support is envisaged for the first year of the grant implementation.   * + 1. ToT and on-line training sessions on LTBI diagnosis and treatment   To strengthen the HRH capacities, the grant funds will assist training-of-trainers (ToT) sessions that will be organized by the NSCP for the regional and cities TB Centers’ staff in the application of updated LTBI diagnosis and treatment guide. The trainers will further conduct cascade trainings for the personnel in their respective regions. It s planned to conduct a ToT event at the central and 17 ToT sessions at regional levels during the first year of the grant. Furthermore, during the first year of the grant, two new 40 hours of training modules related to LTBI management will be elaborated for the NSCP’s e-Learning platform in Russian and Kazakh, and 400 students will receive online training during the second year of the grant implementation.   * + 1. ELISA systems procurement   Eighteen sets of ELISA systems will be purchased from the requested funds to strengthen the diagnostic capacities of the regional TB Centers in LTBI diagnostics, enabling performing the IGRA tests at the regional level.   * + 1. Procurement of the QuantiFERON-TB Gold Plus (QFT-PLUS) tests   The procurement of the QuantiFERON-TB Gold Plus (QFT-PLUS) tests kit through the GDF platform is expected for testing approximately 20% of contacts of the TB patients using ELISA equipment. This forms 5,000-6,000 people annually from the estimated 26,000-30,000 contacts of TB patients. The tests procurement is scheduled for the first two years under the base allocation portion and the PAAR budget for the last year of the project. The country will ensure take-over of the procurement for years to be followed from the local funds.   * + 1. Procurement of drugs for TB preventive treatment   The country is planning to introduce new short regimens for the TPT. The support of the GF grant is requested for procurement of the pediatric dispersible fix-dose-combination for RH, and Isoniazid and Rifapentine for the administration of TB preventive treatment for children and adults following the latest WHO LTBI preventive treatment guideline. The procurement will be made annually through the GDF procurement channel during the first two years of the grant from the base allocation portion and under the PAAR budget in the last year of the project.  We expect to cover annually with TPT 500 pediatric patients with child-friendly formulations of TB drugs; and around 2,300 children, adolescents, and adults undergo therapy with Rifapentine-based regimen.  *Intervention: Community TB care delivery*  Activities:   * + 1. NGO grants program   The new funding approach will be piloted in contracting with 19 NGOs in the first year the GF grant implementation from base allocation portion and using the funds from PAAR budget for piloting in 12 NGOs in the second and six NGOs for the third years, by transitioning to financing from the local governments for the consequent years.  The NGO grants program will be implemented in all regions of the country and will include a comprehensive range of interventions focusing on: (i) rolling out of innovative people- and patient-centered approaches for improving case detection, treatment adherence, contact tracing and prevention in disadvantaged communities; (ii) support to TB and DR-TB case finding, case management and prevention in high-risk and vulnerable population groups: PLHIV, IDUs, people with registered alcohol use disorders, migrants, ex-prisoners, and homeless people; and (iii) addressing legal barriers to care, human rights, gender, stigma and other factors limiting access to services.  Details on social order are provided in section 1.1. a) *Country Context*.   * + 1. Training for NGOs in TB and DR-TB control   The NTP will organize training sessions for the NGO’ staff with the participation of other Partners, by focusing on priority TB related issues in the key population groups, new approaches for patient support, and the roles of civil society and local actors in strengthening adherence to therapy and other types of support during ambulatory TB treatment. Also, the training curricula will reflect patient-centered approaches and models of care. The GF support is requested to cover two courses in the first year and one course per year during the remaining period of the grant project.   * + 1. In-country NGOs experience exchange visits   During the first two years of the project, two-experience exchange visits will be arranged for peer review and experience sharing by covering also costs of ten participants in each visit.   * + 1. NGOs program coordination meetings   The GF sources are requested to support two-days annual meetings on NGOs program coordination with regional NGOs participation. The meetings' agenda will include the progress review, plan of actions addressing the challenges, and experience exchange by NGOs involved in TB control.   * + 1. Monitoring of NGO grants program implementation   Monitoring visits to the small grants' project sites across the country will be conducted by the PR’ staff to assess the implementation process, quality of services, and users' satisfaction and identify implementation challenges to decide on measures addressing these challenges.  It is expected to conduct one visit to every NGO annually under the base allocation portion in the first year of the project, and the expenses related to visits for the second and third years will be financed from PAAR budget allocations.   * + 1. National Stop-TB Partnership (NSTP)   The GF funds will be allocated to strengthen the National Stop-TB Partnership Kazakhstan through (i) support to the NSTP Secretariat by covering labor cost for two coordinators and office-related spending during grant implementation period; (ii) technical assistance, by covering the labor costs of an external and a local consultant who will assist the local staff in developing the road-map of during the first year of the grant implementation; (iii) conduction of two-day annual coordination meetings on progress and achievements, challenges and decide on the way forward; (iv) support to conduction of advocacy meetings (workshops, round tables, etc.) with key decision-makers on social contracting and commitment of public authorities to scale-up this mechanism. Seventeen meetings will be organized during the first year of the grant project, eight meetings in the second year and six in the last year in selected regions; (v) support to the organization of two exchange visits to the countries in the region that have functional national partnerships and/or implement other best practices related to CSO and community engagement during the first two years of the project.   * + 1. *The extension of the use of the OneImpact Kazakhstan application covering the entire country and integration of the VST module* (please refer to the PAAR template for description)*.* |
| Priority populations | * Children with LTBI, had contacts with index TB cases (DS and DR). * Adolescents with LTBI, had contacts with index TB cases (DS and DR). * Adult people with lTBI, had contacts with index TB cases (DS and DR). * PLHIV. * Healthcare workers envolved in TB control, including personnel at TB Centers and PHC facilities. * RRL personnel. * People from KAP: PLHIV, IDUs, people with registered alcohol use disorders, migrants, prisoners, ex-prisoners, and homeless people. * NGOs personnel. |
| Barriers and inequities | * Inadequate coverage by contract tracing, except priority groups: home contacts (family members, close relatives), prisoners, PLHIV. * Insufficient preventive treatment for LTBI among the adults and individuals from high-risk and hard-to-reach population groups. * Limited PTP for LTBI among contacts of MDR-TB index case. * Insufficient coordination and synchronization of the activities among PHC sector, TB and AIDS Centers and Epidemiological Service and NGOs in the region, in organizing the detection and preventive treatment of LTBI in accordance with the normative-regulatory framework. * Active TB case finding activities by the PHC among KAP is insufficient because of the key barriers to and inequities in accessing essential TB services faced by key populations, due to stigma and discrimination by health care staff and other providers and lack of motivation to seek and complete screening and diagnosis. * Barriers in provision patient-centered care and follow-up and inequities in accessing essential TB services faced by key populations, due to complex and lengthy treatment and service setup requiring substantial time and additional expenditures by patients and households. * Substantial limitations in accessing appropriate care, stigma and discrimination, and other barriers for the most neglected and marginalized groups such as the homeless and people with alcohol dependence. |
| Rationale | **LTBI diagnosis and treatment**  The TB preventive treatment is among key interventions recommended by the WHO to achieve the End TB Strategy targets, as upheld by the UN High Level Meeting on TB in September 2018. It fits within a larger framework of preventive actions envisaged by Pillars 1 and 2 of the End TB Strategy, rangin from screening for active TB, infection control, prevention and care of HIV and other co-morbidities and health risks, to universal healthcare, social protection and poverty alleviation.  “The WHO guidelines on LTBI consider the probability of progression to active TB disease in specific risk groups, the epidemiology and burden of TB, and the likelihood of a broad public health impact. It covers critical steps in the programmatic management of TPT and follow the cascade of preventive care: identification of populations at risk (PLHIV as part of the HIV care package, household contacts and others), ruling out active TB disease, testing for LTBI, providing treatment, and monitoring adverse events, adherence and completion of treatment. Prevention of active TB disease by TB preventive treatment is a critical component of the WHO End TB Strategy and efforts to eliminate TB. The programmatic management of TB preventive treatment involves a comprehensive package of interventions: identifying and testing those individuals who should be tested, delivering effective, safe treatment in such a way that the majority of those starting a treatment regimen will complete it with no or minimal risk of adverse events, and monitoring and evaluation of the process”.  As stated in section 1.1 above on *country context*, Kazakhstan’s achievement of the goals in TB preventive treatment, though being in line with the globally reached results, yet remains low. In 2018-2022, the TB preventive therapy coverage of all cases and ages made up 29.7% of the target level set for the country. Preventive treatment rates for children under five and those over five years old formed 24.2% and 24.9%, respectively, from the five-year nationalized target level. However, the attainment of the PLHIV preventive treatment target was somewhat higher (54.6%). Consequently, in the mid-term, implementing measures for LTBI diagnosis and TB preventive treatment in high-risk groups are among the main directions of the NTP efforts.  With the support of the WHO EURO, the US-funded ETICA project, and a group of international and local consultants, the country is preparing a new national guideline on TB systematic screening and TPT. It will be in line with the latest WHO’ recommendations, which is planned to be finalized during the first quarter of 2022. The national guideline will reflect the findings of the Screen TB tool, by prioritizing population groups for TB screening programs, and specify the frequency of screenings. The introduction of the new shorter preventive treatment regimen will strengthen the adherence and acceptability of the TPT, especially among adults were the refusal rate is high, and the possibility to start the TPT in key populations in need for such treatment.  **NGOs involvement in TB community-based programs**  Supportive services are desgned and proposed to address the specific needs of communities to be implementated by community-based organizations. Special consideration regarding the services provision is given to high-risk groups because of their social, economic or biological factors that require actions beyond helping them to access healthcare services and benefit from available social assistance schemes. The supportive services in general also help tackle stigma and discrimination at the community level.  From Kazakhstan's experience, the involvement of CSO in TB control has addressed the gaps in medical and supportive services at the community level and has contributed significantly to building the patient-centered service delivery model to cover key and hard-to-reach population groups by a required set of services. The NGO-led services aiming to enhence adherence to treatment of TB patients receiving ambulatory therapy include: (i) informing/counseling to enhance medication adherence; (ii) organization of meetings of the support groups; (iii) peer-to-peer counseling and educating family members about the problems a TB patient might have during TB treatment and possible solutions to enhance family support; (iv) risk assessment of non-adherence to treatment and an individual support plan development; (v) referring/escorting to social services available at the community; (vi) referring beneficiaries to get legal advice; (vii) advocacy for increased accessibility of resources, services and drugs based on information collected from patients with tuberculosis on the quality of medical services, disruptions in the provision of benefits, shortages of drugs and personal expenses through the «OneImpact Kazakhstan» mobile application; and (viii) awareness-raising activities to reduce stigma and discrimination towards TB patients.    The NGO-led screening in key population groups is a component of active case finding, allowing breaking the chain of transmission, as many representatives of these groups might not have been identified and diagnosed if to rely on passive case finding only. Screening services delivered by NGOs also reduce patients' costs that might incur during TB diagnosis. During the first 18 months of the current GF grant from Jan 2020 till June 2021, 19 NGOs have received funding for 15 months of operation and reached over 94,000 key population and their clients by supportive services. This allows detecting 681 new TB cases or about 579 cases per 100,000 over 12 month period, which compares favorably with the country's TB incidence rate of 52 per 100,000 in 2020, suggesting a ten-fold case-finding advantage of NGOs in key and hard-to-reach population groups. Further, during the same period, the NGOs provided treatment support to 3,170 clients or prorated to nearly 2,500 beneficiaries in 12 months. This roughly accounts for 25% of the country’s total treatment cases in 2020 (about 10,000 cases were on treatment in 2020). Of the 3,170 clients supported by the NGOs, 96% missed no more than three doses per month under the care of these NGOs[[72]](#footnote-73).  **Piloting NGOs new funding arrangement**  The costing methodology and instrument developed within the frame of the project[[73]](#footnote-74) aimed to standardize the package of community-based support services to improve TB outcomes will be applied to shift to a more transparent service package tariff-based payment of NGOs. The selection of services and methodology in costing will be adapted to the region's needs and specific circumstances. Availability of a resource tracking mechanism and the costing tool will inform on funding arrangements and can be used both by the local governments and NGOs in their advocacy efforts for expanding funding under the social order on TB. |
| Expected Outcome | * Strengthened coordination and management of LTBI. * Approximately 5,000 people are tested annually using QFT-Plus tests. * New TPT regimens for LTBI are adopted in practices. * Around 2,300 persons annually receive TPT with Rifapentine treatment regimens. * Eighteen face-to-face training sessions on LTBI have been conducted in all country regions; enhanced knowledge and competencies of medical staff from regions engaged in LTBI control. * Nearly 400 trainers underwent e-Learning ToT training sessions on LTBI and developed necessary capacities in regions for the cascade training of respective personnel. * Knowledge and competencies of medical staff in LTBI control on application of the WHO recent recommendations in diagnosis and treatment of the LTBI have been enhanced. * New funding arrangement for NGOs for the package of community-based support services to improve TB outcomes was piloted, and the costing instrument was handed over to regional government and NGOs. * Minimum 10% of the annually notified TB cases in the country are contributed by the NGOs through community referral mechanism adopted. |

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| Component | Tuberculosis |
| Module/interventions | **Module: RSSH: Health management information systems and M&**E  *Intervention: Program and data quality*  Activities:   * + 1. NTP supervision and M&E visits   The grant will support regular supportive supervision and M&E visits at the central level to regions to oversee the program's implementation, including innovative people-oriented interventions. Each of fourteen oblasts and three cities of republican significance will be visited once a year during the first two years of the grant implementation. Supplementary visits, including regional supervision within oblasts, will be covered from domestic resources. In 2025 only PIU/NSCP M&E visits are envisaged and be supported from the grant funds. NTP will make the complete takeover of the activity for the consequent years.   * + 1. Extension of the remote M&E activities at the regional level   In 2020-2021, to adjust to quarantine restrictions imposed by the epidemic, the capacity of the NTP has been strengthened under the current GF grants for effective distance monitoring and inclusion of remote visits into the M&E system. Currently, the monitoring system envisages at least two distant appointments of the central M&E team with the regional M&E teams and annual supervisory visits in each oblast and the cities of republican significance. The grant funds will be used to conduct training courses for the personnel responsible for M&E activities at the oblast level to expand the use of remote M&E visits in district healthcare facilities. It is expected to conduct two training courses in the first year of the grant and one in each second and third year.  *Intervention: Routine reporting*  Activities:   * + 1. National consultant in maintaining National TB Registry   The grant funds will be used to support the activities of the national consultant in the NRBT maintenance by the end date of the grant. The scope of work will cover (i) analysis and reports preparation on indicators by regions and sectors; (ii) making recommendations for streamlining the NRBT system and participating in electronic registration and reporting forms revisions exercise; (iii) synchronization with other databases within the health care system; and (iv) interactions with national and international partners on issues related to updating and maintaining the database, data security, reporting to the WHO.   * + 1. Maintenance and updates of the National TB Register   With the frequent emergence of new recommendations from the WHO and technical partners, updating the NRBT system regularly and having sustainable technical support becomes necessary. For this purpose, an IT company will be contracted for the system update to function in line with the recent technical partners recommendations. From a mid-term perspective, the NTP will focus on revisiting cases definitions, treatment results, laboratory modules in connection with the large-scale introduction of new and repurposed drugs, adding pharmacovigilance data, and automatic generation of anti-tuberculosis drug' orders. The GF allocations will co-finance the expanded functions of the activities funded from the NSCP’ internal sources. The grant support is planned throughout the entire grant life cycle.  *Intervention: Analysis, evaluations, reviews and transparency*   * + 1. Support to the annual GLC/GDF mission   Annual payments to the GLC are included according to the TGF/WHO agreement and GF requirements for applicants. The realization of the annual rGLC/EURO and GDF mission in the country aimed on assessment and support to the NTP in implementation of the Program management of the DR-TB in Kazakhstan. One mission per year will be supported during grant life   * + 1. *Support to the WHO NTP mid-term assessment mission* (please refer to the PAAR template for description)     2. Operational researches in priority issues of TB management   The application envisages support to four OR studies in priority program areas related to TB case detection and management, as well as to the interventions in populations at risk. These are:   1. Impact of the COVID-19 pandemic on TB epidemiology and responce in Kazakhstan, from base allocation portion of the grant. This is a retrospective study, and analysis will be made using the available database. 2. Main characteristics of TB in children in Kazakhstan, a retrospective study, from base allocation portion of the gtrant. 3. Evaluation of the quality of treatment management of M/XDR-TB patients, including active monitoring of the safety of TB medicines and new regimens. The evaluation study will be finaced from base allocation portion of the grant. 4. Knowledge, attitudes, and practices (KAP) related to TB among the general population and high-risk groups. The KAP survey is planned for 2024 under PAAR budget.   NSCP, in collaboration with partners, will conduct the ORs. The findings of the studies will inform the decisions on TB management, addressing the needs of vulnerable and high-risk population groups, and transitioning from GF support. |
| Priority populations | * General population. * Patients with TB (DS and DR cases) and their families. * People with LTBI. * Populations at high risk of TB. * Healthcare workers envolved in TB control. * Decision-makers. |
| Barriers and inequities | * The frequently evolving recommendations of the WHO and technical partners challenge the NTP for making revisions in the country's legal and regulatory system, clinical guidelines, and SOPs. This, in its turn, requires knowledge and competencies building interventions among frontline workers to adjust their practices accordingly and establish or enhance an M&E mechanism. * The frequently evolving technical recommendations also compel reflection in the health information system, including NRBT, which increases the workload on personnel and requires additional resources, including financial. * Insufficient provision of full-time health workers for organizational and methodological departments and M&E groups and high staff turnover affect the quality of ongoing M&E activities and the need for continuous training of newly hired personnel, guaranteeing financial motivation and growth. * Conduction of operational research requires trained personnel and financial resources, which are not among the priorities of available internal funding, determining the increased role of donors in financing. |
| Rationale | **TB surveillance system strengthening**  Epidemiological surveillance of TB in the country is organized through a vertical system of standardized recording and reporting of TB cases at three different administrative levels: district, regional and republican levels, and in institutions of the penitentiary sector (pre-trial detention centers and colonies). The identification and registration of patients done by district and regional healthcare facilities. The epidemiological data are aggregated at regional and central levels, allowing to generate various reports.  In 2001, within the frame of the project led by the Centers for Disease Prevention and Control (CDC) and with the financial assistance of USAID, the National TB Registry was created in Kazakhstan. In 2007, all recording and reporting data were brought to international standards. In 2013, with the financial support of the Global Fund and the efforts of Medinform LLP, the electronic register was transferred to the online mode. All patient data contained in the old FoxPro-based database were fully transferred into real-time operation.  TB case registration and reporting include data on TB by clinical manifestation (pulmonary or extrapulmonary), results of sputum smear test and culture investigation, by type of case (new case or relapse, treatment failure, treatment after interruption and transferred case), by the category of treatment regimens they receive (Category I - new cases, Category IV - MDR/XDR-TB cases) and treatment outcomes as recommended by the WHO.  The NRBT's *Dispensary* module includes detailed personalized information on each TB patient in the country, including socio-demographic, diagnostic data, information on the prescribed treatment regimen, and its outcome. The *Laboratory* module collects and maintains individual records on performed lab and diagnostic tests. The *Drugs Supply Management* module produces reports for the use the data in the QuanTB tool, on missed doses, and many others.  The system allows to generate more than 100 personified and standardized reports for each disaggregation variable (by geography, sector, age group, and gender) and on all registered TB cases, treatment outcomes, risk groups, PLHIV, and DST. Today, the NRBT is integrated with three republican databases: "Registry on patients on follow-up treatment," "Enrollment Registry," and "Information System on Drugs Supply" for data exchange and sharing.  From a mid-term perspective, to address recent WHO recommendations, the NTP will focus on revisiting cases definitions, treatment results, laboratory modules in connection with the large-scale introduction of new and repurposed drugs, adding pharmacovigilance data, and refining reporting sub-system of the NRBT for automatic generation of anti-tuberculosis drug' orders.  **Enhancing supportive supervision and M&E system**  The M&E plays an essential role in the day-to-day management of the TB program in Kazakhstan and produces the information needed for strategic planning, NTP design, implementation, tracking the progress towards the programs objectives, evidence-based decision making regarding the required human and financial resources. In the context of the frequently evolving technical partners' recommendations, it becomes more critical to monitor the changes introduced and revisit and adjust programs or interventions accordingly by considering the regional specifics. The M&E activities are carried out following the monitoring guide[[74]](#footnote-75) adopted in 2019. To effectively use resources available in the program and obtain reliable data for managing TB response, the monitoring is performed:   * at the national level by NSCP through its M&E system and the MoH via the country-led platform for monitoring; * at the regional level by the M&E groups established at regional and district TB Centers; * at the PHC level- by the central and regional M&E groups, management of primary healthcare organizations and Territorial phthysiatricians (TPh).   There are also mechanisms adopted for external monitoring and evaluation of the NTP components by the technical partners.  The NTP monitoring and evaluation unit operates in the structure of the Organizational and Methodological Department (hereafter, orgmethod) at the NSCP. The coordination of the NTP components implementation, legal and regulatory framework development, clinical guidelines elaboration, TB measures performance, monitoring visits conduction and technical support, TB Service data collection and analysis, work with information systems, TB drugs, reagents, and supplies centralized procurement, reporting, and coordination of international missions (e.g., WHO, GDF, rGLC) are among the main tasks of the orgmethod. Similar departments are operating at the regional TB Centers for M&E activities conduction within respective regions, and the reporting line is established between the levels. The M&E experts from civilian and penitentiary TB services work in close collaboration with envolvement of staff from regional health departments and PHC facilities.  The orgmethod in TB centers at the national, regional, and district levels includes: (i) a group of specialists for activities linked with the NRBT, including Operators and Coordinators in Informatics, (ii) M&E groups typically comprises of specialists on clinical issues, laboratory diagnostics, drug management, accounting, and reporting, on issues of epidemiology and infection control.  Supervisory visits from the central to the oblast levels are carried out once a year, or more often if required. During the visit, the healthcare facilities in TB Service are monitored, with a mandatory visit to be conducted to at least two districts within the region. The provision of cascade of care to persons with presumtive TB, M&E activities, the NRBT management, involvement of NGOs and private providers, ACSM activities are targeted during the supervisory mission. Moreover, the central M&E group provides technical assistance to the medical personnel in regional healthcare facilites, identify training needs and perform advocacy meetings with the local administration.  At the regional level, supportive supervisory and monitoring visits of oblast' M&E teams to district healthcare facilities are carried out once a quarter to monitor the quality TB services provision by assessing it on compliance with the national guidelines as well as to provide local technical assistance to medical personnel, identify training needs and conduct advocacy meetings and events at the district level. At the PHC faciity level, the TPh do monthly supervision within their area of ​​responsibility.  To adjust to quarantine restrictions imposed by the COVID-19 epidemic, the capacity of the NTP has been strengthened under the current GF grants for effective distance monitoring and inclusion of remote visits into the M&E system. Thus, starting from March to December 2021, 26 remote central level supervisory vists were conducted following the "Instruction on the organization and conduction of monitoring and evaluation of activities to reduce tuberculosis' burden in the Republic of Kazakhstan at the central and regional levels, including remote visits". By easing restrictions, during April-November months, the NSCP has managed to conduct 16 offline monitoring visits by targeting all regions of the country.  The supervision and monitoring by central and regional M&E teams are core requirements of the NTP's management and have to be provided with trained personnel, supported by good/fair funding, and equipped with technical instruments, including guidelines developed in line with international standards and recommendations.  Conduction of operational and clinical researches will allow to (i) participate in global and regional projects for the introduction of new drugs, treatment regimens, and application of advanced diagnostic methods in LTBI control; (ii) foster the accumulation of experience on the efficacy and safety of new drugs and treatment regimens to create evidence for technical partners; (iii) promote access to new drugs, treatment regimens, and methods for TB and LTBI diagnostics; (iv) document the evidence and good practices for the NTP and MoH to be used in decision-making for improving the management of TB and DR-TB cases in the country.  Over the past years, the NTP has gained substantial experience in operational research conduction. Since 2016, the country has been involved in the End TB project, and in collaboration with Partners in Health, implemented fully oral regimens containing Bedaquiline and Delamanid in the treatment of DR-TB. During 2020-2021, Kazakhstan participates in a regional project (WHO Euro), introducing mSTR in patients with RR/MDR-TB. Also, during 2020-2021, from the funds of the Global Fund and with the technical support of international and local partners and the academy, studies were carried out on the «Effectiveness of using the Xpert MTB/RIF method in PHC network for the detection and rapid diagnosis of TB and MDR-TB in Kazakhstan; "Main obstacles and delays in the provision of services for the detection, accurate diagnosis, treatment of TB and DR-TB in Kazakhstan"; "2021 KAP Survey on Tuberculosis". The studies "DRS Survey 2021" and "Implementation of new approaches for diagnosis and treatment of LTBI" are underway.  The findings and results of these studies help NTPs to improve (i) management of TB interventions in the country, (ii) the quality of services provided to TB patients, and (iii) evidence-informed decision-making in TB Service. |
| Expected Outcome | * Streamlined TB information system that able to produce data for decision-making on response adjustment and ensure continuity of care. * Improved the quality of TB cases registration and reporting. * Improved research capacity in carrying out operational studies and surveys. * Enhanced supportive supervision and M&E system. |

1. Does any aspect of this funding request use a **Payment for Results** modality?

Yes   No

If **yes**, in the table below, indicate the relevant performance indicators and rationale for the choice of performance indicators and/or milestones.

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| **Performance indicator or milestone** | **Target** | | | | **Rationale for the indicator/milestone selection for Global Fund funding** | |
| **Baseline** | **Y1** | **Y2** | **Y3** |
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| Add rows if necessary |  |  |  |  |  | |
| **Total amount requested from the Global Fund** | | | | | |  |

Specify how the accuracy and reliability of the reported results will be ensured.

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| [Applicant response] |

1. **Opportunities for integration:** Explain how the proposed investments take into consideration:

* Needs across the three diseases and other related health programs;
* Links with the broader health systems to improve disease outcomes, efficiency and program sustainability.

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| Proposed TB interventions under both the base and above base allocation request will contribute substantially to health system strengthening through investments in laboratory infrastructure, capacity-building of healthcare workers, scaling up innovative service delivery strategies, including community-based integrated care, strengthening medicine procurement and supply management systems, quality of routine health information system and harmonization of providers’ payment approaches. In addition, the enhanced supportive supervision and monitoring of the NTP will help policy-makers, by generating data, to identify both associated system weaknesses and improvement areas related to broader structures of the healthcare system and  The TB services integration into PHC and community levels is underway, and there are a number of organizational and payment models currently practicing in regions with some variations. Through the established M&E and feedback provisions mechanisms the NTP is doing the assessments, identifying the opportunities and barriers in the provision of integrated services. It also looks on providers licensing system and conformity with sanitary rules, PHC workforce preparedness in managing TB, TB/HIV patients and LTBI, addresses the lack of information, availability of technical tools and equipment, defines patients optimal pathways and preparedness, strengthen the governance at the PHC, adapts integration to regional circumstances with the end goal of improved access and treatment outcomes. Moreover, the work is underway to better align the TB care organizational models at the PHC level with enabling financing, payment and staff reimbursement mechanisms, and intensify the supports available at the community level for vulnerable and hard-to-reach population groups. The funding request also provides a good opportunity to enhance further the link and synergies in TB, HIV and COVID-19 needs, and other related health programs.  At the **leadership and governance** level, the NTP will further strengthen its ties with regional government, health departments, and non-governmental organizations and busineses. The introduction of new financing approach of support services and providing NGOs with costing and budgeting tools will promote the advocacy efforts with the local governments in tackling TB and intensifying inter-agency cooperation at the community level, and deepening social mobilization. The collaboration will also be maximized at the central level, across public health programs promoting joint planning and share of programmatic strategies. At the intra-governmental level, the interventions will foster stronger cooperation between the national AIDS, TB and COVID responses, motivate national TB officials to work in a more collaborative manner in response to TB. The multisectoral working group, established under the previous grant, will be further supported to perform high-level advocacy and enhance the political commitment for effective governance of the health system and sustainable financing of TB interventions, including strengthening and coordinating the non-governmental sector involvement and financing. Also, the interventions will contribute to an enhanced legal and regulatory system and decision-making for safe and quality MDR-TB care.  **Health Finance:** costing of standardized TB services at the community level for key and vulnerable population groups and introduction of a fee for service payment system for NGOs will contribute to increased efficiency of the available support, create opportunity for better integration of TB/HIV/COVID-19 and non-medical services at the provider level, and promote the concept of the continuum of care for better health outcomes.  **Human resources for health:** for the capacity building perspective, in-service distance learning education on clinical management of TB and lung diseases will be further developed and integrated into continuous education system along with support activities. The knowledge gaps in TB and LTBI management among health providers will be addressed so that they will be able to play their full role in stewardship of TB control at the PHC. Moreover, capacity building efforts of the central and regional teams in drugs supply management, including institutionalization of the digitalized module for forecasting and formulation of the TB annual medicine demand of the regional levels will be further promoted.  **Health Management information system.** The tracking of improvements in results requires a robust measurement system. The TB recording and reporting system will be upgraded and harmonized within national health information systems for better data analysis and making full use of routine data for NTP performance improvement. Expanded eM&E activities to the regional and enhanced monitoring system by sharing quality information, including performance and program management, will assist the MoH in mapping health system deficiencies and opportunities.  **Community-based service delivery models:** Community system strengthening efforts will contribute to enhanced local health and social systems and service delivery and promote NGO-led services integration with state guaranteed special medical-social services for individuals and their families that are in difficult life situation, including key population groups based on needs identified. Build on the current achievements high level advocacy for social contracting will be intensified for predictable and secured financing. Moreover, the national stop TB partnership will be developed, further strengthening the role of civil society and affected population in TB response.  The country’s **health research capacity** will be further enhanced through the design and conduction of operational research studies in various areas, informing the NTP decisions in MDR-TB management, and addressing the needs of vulnerable and risk population groups in line with the new WHO guidance and facilitate the transition from the GF support to government funding by accumulating the evidence on treatment outcomes for decision-making allowing the use of new and short term DR-TB therapies programmatically.  **Health products management systems**: Procurement of TB drugs and other medical products is made through SK Pharmacy. Further work will be carried out to improve rules and procedures in drugs procurement management and supply as well as create sufficient capacities in drugs managements at the PHC facilities and TB Centers.  **Laboratory systems:** Scale-up of rapid molecular diagnostics, besides rapid detection of resistance to second-line drugs, will build up multiplexing diagnostic capacities and facilitate bidirectional screening and testing for TB and COVID-19, as well as integration of diagnostic services for HIV, hepatitis C and other infections, thus strengthening the **health system’s pandemic preparedness and response capabilities.** |

1. Summarize how the funding request complies with the **application focus requirements** specified in the allocation letter.

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| The funding request is aligned with the requirements specified in the allocation letter. It is focused on investing in improved TB case finding among vulnerable and hard-to-reach population groups, following the latest WHO recommendations. The measures aim to scale up the introduction of new entirely oral treatment regimens and new drugs for DR-TB and enhance people-centered care with a particular focus on key and vulnerable population groups while tackling human rights-related barriers to health and inequalities.  Sustainability will be ensured through the integration of interventions in the MoH policies and community-based health and social plans. Sustainable coordination and leadership framework of interaction with the NGO will emphasize its emerging role in addressing socio-economic determinants of TB, healthcare delivery gaps and weaknesses, community-based monitoring, and work around stigma. |

1. Explain how this funding request reflects **value for money**, including examples of improvement in value for money compared to the current allocation period. To respond, refer to the Instructions for the aspects of value for money that should be considered.

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| The GF TB funding request for 2023-2025 will integrate the proposed interventions into the national health systems, maximize synergies between domestic and external investments in the national TB response, and fill resource gaps critical for achieving TB epidemic control and eventually ending TB in Kazakhstan. In the funds' allocation, the priority was given to interventions impacting health outcomes and accelerating case detection and prompt treatment initiation. It also balances the use of the funds to advance the disease control country's efforts in meeting the global targets while building the NTP capacity and health systems to sustain achievements gained in the future.  **Economy.** In the budgeting phase, the reference prices for quality-assured medical products and supplies were obtained from both the wambо.org and GDF platforms, and the lowest sustainable price offers[[75]](#footnote-76) of the local suppliers depending on the procurement strategy to be applied, contributing to the value for money. As the reference, Kazakstan's Single Drug Distributor SK Pharmatsia's prices and data from the manufacturers and suppliers in the state registry were also considered in defining budgets for specific medical supplies. The country has applied the WHO’s and technical partners’ recommendations and tools in defining priority population groups for systematic screenings and key population groups to be targeted by NGO' cost-effective preventive measures, in developing and refining TB diagnostic and treatment algorithms linked with introduction and expansion of molecular methods for quality rapid TB diagnostics, the introduction of the BPaL regimen and expansion of the use of fully oral modified shorter regimens for DR-TB patients under the OR conditions, and preparing the NTP through the capacity strengthening efforts enabling the efficient implementation of these recommendations and gradual transition to financing from domestic resources. The planned education interventions will be designed using the WHO guidelines and refined domestic documents on DR-TB and LTBI cases management. Moreover, the adopted internal and external mechanisms for supportive supervision and monitoring will contribute to minimizing waste by comparing performance between care providers in TB control within a region and across the same care providers within the country. Furthermore, the grant **i**mplementation arrangements are designed to minimize operational waste and respond to programmatic risks and bottlenecks.  **Allocative efficiency.** The GF grant’ available resources are strategically allocated across the interventions, geographies, and population groups at higher risk of transmission to maximize the project impact. The key principles laid out in the prioritization approach were that the interventions should be based on the country's needs, guided by the Comprehensive Plan, the program’ technical reviews and the recent WHO and Stop TB recommendations in investing resources[[76]](#footnote-77) that will maximize the current national TB response, including (i) scaling up screening and testing programs to increase the number of notified cases and linkage to care; (ii) implementing rapid molecular diagnostics as the initial test for DS- and DR-TB at all levels of TB care delivery; (iii) scaling up the coverage and improving the quality of contact investigation, testing for TB infection and preventive therapy, with a special focus on adult household and other close contacts; (iv) maintaining sufficient funding for active case finding within certain risk groups through NGO support; (v) increasing the coverage and improving the quality of rapid culture and drug susceptibility testing investigations at referral laboratories; (vi) guaranteeing universal access to quality treatment of DR-TB, with a special emphasis on children and adolescents; (vii) strengthening the monitoring of people with TB on treatment, and the management of comorbidities, adverse events and pharmacovigilance; and (viii) fensuring fective M&E at all levels of TB care delivery system. The introduction of shorter TB treatment regimens and new and repurposed anti-TB drugs will improve treatment success and reduce the time to smear conversion. Specifying and standardizing interventions for key population groups to be financed through the Social Order and normative costing of measures will effectively and efficiently complement the program on the state guarantees. Moreover, the funding request has prioritized investment in strengthening health and community systems to address current barriers and challenges in accessing TB care.  **Technical efficiency.** The funding request plans for service delivery, optimized by choosing the most efficient models of patient-centered TB care and removing existing barriers that limit efficiency. The synergies in COVID-19 and TB needs towards deployment of measures, the enhanced link between HIV/ART and TB treatment will maximize impact for TB, HIV, and COVID-19 responses.  **Equity.** The GF funds will focus on activities and services for key and vulnerable groups of the population delivered by NGOs and the public health system and in programs addressing the human rights and gender-related barriers and vulnerabilities underlined in the section country context. The differentiated approach to key populations will continue tailoring program activities to their needs and to ensure quality and impact. The NGOs' current key population coverage' approach will be revisited, and the NGO staffing will be adjusted to the local epidemiological context, including which key populations have to be targeted and these groups’ size estimation data. Key populations' outreach and treatment support strategies will be refined as different key populations are in different life circumstances and have specific vulnerabilities limiting their access to TB services. The services will be standardized, costed, and contracted based on the fee-for-service approach. The hiring of outreach workers from the target key populations will be maximized, and their compensation scheme revisited.  There are enabling factors for enhanced efficiency. The improved payment mechanism, coupled with incentives for healthcare workers involved in TB control, will enable providers to maximize the efficiency of resource allocation and expenditure for improved quality of services. The effective contracting mechanisms for provision of TB services by NGOs might evolve into performance contracts with specific performance targets. Well-developed/refined clinical guidelines, clear description of the business process at different levels of TB care delivery, good performance reporting, and streamlined TB information system will contribute to improved allocative efficiency. Strengthened drug planning and budgeting and supply management, M&E capacities at the regional TB Centers level, and effective central coordination mechanisms are vital for efficient resource utilization. The PR’ e-distance based learning activities will be enhanced, minimizing logistical barriers and costs to education. |

## Matching Funds (if applicable)

This question should only be answered by applicants with designated matching funds, as indicated in the allocation letter.

Describe how the **programmatic and financial conditions**, as outlined in the allocation letter, have been met.

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| Not applicable |

# **Section 2: Operationalization and Implementation Arrangements**

To respond to the questions below, refer to the *Instructions* and an updated **Implementation Arrangement Map**[[77]](#footnote-78).

1. Describe how the proposed **implementation arrangements** will ensure efficient program delivery.

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| The grant's principal recipient is the National Scientific Center of Phthisiopulmonology, which will be responsible for overall project implementation, procurement of necessary equipment, and services. It will develop work plans to implement the grant and submit progress and financial performance reports to the CCM for review and approval, following the GF procedures. Also, the PR has clear roles and responsibilities in data collection and analysis and regular reporting to the MoH respective units through established channels of communication and information systems.  Two mechanisms are expected to apply for the procurement of health products: (i) open tendering that will be initiated following policies and procedures defined in the adopted Guide on procurement within the frame of the implementation of grants from the GF in the Republic of Kazakhstan; and (ii) and pooled procurement mechanism through wambo.org and partner GDF platform. Procurement of drugs for preventive treatment, IGRA supplies, pure substance for DST to SLD, Xpert MTB/XDR cartridges GeneXpert consumables, warranty service will be purchased through the pooled procurement mechanism. The remaining medical devices and services will be purchased through the open tendering, supported by the data collected at the pre-assessment phase, including the product price and logistic cost, lead time, technical characteristics, and conformity with the quality assurance requirements. Moreover, in selecting the procurement channels, lessons learned, and challenges faced in the supply of health products under the previous awards were considered. The country regulation has been reinforced at the coronavirus pandemic recovery phase regarding the importation of registered and non-registered products. However, the GF's approval will be obtained prior to the procurement. To invite local companies to participate, the tendering documentation for the health products procurement and the composition of the Tender Committee will be defined by the NSCP Director' Orders. The anticipated custom clearance and in-country logistic spending are foreseen in the application budget.    The GF-funded Project Implementation Unit at the NSCP will do procurement per GF's approved procedures and the PIU operation manual. The product distribution will be made based on the NSCP Director's Order and in accordance with the requests received from the beneficiary institutions. The NTP's health products can be stored at the NSCP warehouse for distribution to the sites as per the distribution plan. The accounting department at the PIU/GF will prepare all the necessary documents, and the logistics company hired under the current grants will deliver products procured at the specified addresses. The NCSP, as the PR, will conduct the monitoring of supply availability and delivery of health products to service delivery sites. Additionally, the regional health departments will do an inspection on the medical equipment exploitation through their regular monitoring mechanism.  There might be some custom clearance delay in releasing the goods imported from abroad due to complicated procedures. According to the Rules[[78]](#footnote-79) for the import of medicines and medical devices into the territory of the Republic of Kazakhstan, it is necessary to obtain an import permit. This procedure takes from 30 to 40 working days. However, the supplier can provide documents for the goods (certificate of origin, certificate of analysis, information on weight, etc.) after the goods have been produced and ready for shipment. In addition, after receiving permission to import into the country, the PIU/GF has to prepare letters to the MoH and the Ministry of Finance of the RK to exempt the goods from taxes and customs duties. Accordingly, upon the arrival of the goods in Kazakhstan, it may take from one to four months to complete customs clearance if the supplier does not provide documents for the goods on time. Meanwhile, the goods can be placed in the temporary storage of the customs control. Also, the importation of health products not registered in the country requires undergoing the process of reconciliation with the Committee on Medical Goods and Services and Pharmaceutical Control at the MoH for importing goods.  The GF TB funds will be transferred to a separate dollar account of the Principal Recipient. As required, the PR converts and transfers money in national currency (tenge) to their current accounts and pays implementing partners for service delivery. The new funding approach will be piloted in contracting with selected NGOs, and the funds will be disbursed to NGOs by signing new agreements. According to the PRs’ rule that applies to working with sub-recipients (SRs), the NGOs submit quarterly financial and programmatic reports, including achievements on indicators. The subsequent installment is paid only upon approval of the reports. For the operational research studies, the funds will be contracted out with KNCV and PIH. The competitive contracts will be awarded to local and international consults for services and tasks. The project will continue supporting the Center for Clinical Mentoring, and Advanced Training at the NSCP initiated during the current grant. Services are outsourced for the maintenance of IT equipment and software.  *For more details, please visit Annex “Implementation Arrangements Map.”* |

1. Describe the role that **community-based organizations** will play under the implementation arrangements.

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| The role of civil society organizations is essential for effective national TB response, which the government greatly acknowledges. Ninteen NGOs are currently supporting the NTPs through the GF projects. Building on positive experiences, the proposed interventions will continue tailoring program activities to the needs of the clients, and to ensure quality and impact.  The role of CBOs under the new grant is summarized below, and details on interventions and activities are presented in *Module: TB care and prevention:*   * Supplementing and complementing the central and local governments in health prevention and promotion by targeting vulnerable and hard-to-reach population groups and asserting their rights to health. * Contributing to early TB and TB/HIV coinfection case detection. * Providing psychosocial assistance to TB-affected key-population, improving adherence to treatment. * Partnership formation with the MoH and social sector, programs on TB, HIV, COVID-19, migration as well as local governments on the special social support efforts to achieve common aims and objectives and increase the possibility for delivery a broader range of activities under the social order the country defines for the NGOs. * Supporting local governments with the provision of specific social services to people and families in difficult life situations, including migrants and stateless by assisting them with legal documents preparation and referring (escorting clients) to healthcare. * Contributing to legislative and policy-making processes through existing mechanisms. * Building community linkages and exchange of experience with other NGOs. * Contributing to public monitoring. * Supplying with reliable information to draw on when designing/redesigning strategies and programs through feedback provision mechanisms established. * Dialogue with the KPs and vulnerable groups, and reflecting their interests.   Based on the epidemiological situation in key population groups, and key populations size estimates, the scope and volume of services, including outreach and treatment support strategies, will be adjusted to key population needs, standardised and costed. Availability of a resource tracking mechanism and the costing tool will inform on funding arrangments and can be used both by the local governments and NGOs in their advocacy efforts for expanding funding under the social order on TB. |

1. Is the Principal Recipient an **international institution** (for example, international NGO or UN agency)?

Yes  No

If **yes**, describe how the Principal Recipient’s responsibilities pertaining to the national disease response will eventually be **transferred to national entities**. Also, (i) outline the timeframe for transitioning these responsibilities, and (ii) explain how national capacities will be strengthened to lead the national disease response.

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| [Applicant response] |

1. Describe the **top three anticipated implementation risks** that might negatively affect: (i) the delivery of the program objectives supported by the Global Fund; and/or (ii) the broader health system. Then, describe the mitigation measures that address these risks.

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| **Key Implementation Risks** | **Corresponding Mitigation Measures** |
| The grant project may be forced to postpone or introduce necessary changes while facing new realities linked to COVID-19 virus evolution or emerging new health threats. This might also affect the key and vulnerable population, hamper TB service provision, overburden the healthcare system and redirect financial resources needed to absorb the cost of the GF grant-supported TB services, including fulfillment of co-financing commitments. | Mitigation measures will be based on proactive risk identification and management through regular scanning for risks across the GF/PIU programming to guarantee the effective results delivery strategy. This will allow quickly adapting the planned events to the rapidly changing context and minimizing the negative impact of emerging health threats on the project implementation. Also, it will help prevent generating spendings that will not contribute to the program's objectives. The lessons learned and strategies applied in the current grant will inform decisions. For example, the shift to virtual format has mitigated the impact of quarantine measures on activities delivery mode. It led to low absorption of funds and reprogramming savings into programmatic activities. In cases when project activities may be compromised by the coronavirus or other risky situations, these cases will be documented; alternative solutions identified, discussed, and agreed upon with the GF Teams. It is worth mentioning that both the PR and implementing partners are supported by sufficient capacity, strong management, and a proven good track record.  Kazakhstan continues building on the current progress to ensure better emergency preparedness to future health threats and use the accumulated experiences and capacities created for a more effective and efficient response. At the service-delivery level, the health care organizations and CSO involved in TB-response reassessed and adapted their programs within the restrictions posed by COVID-19, used networks of community groups, and mobilized resources to meet the basic needs of the most vulnerable population, including stateless people and poor families. Responding to new challenges and understanding the value of leveraging CSO to address the population's social needs, government agencies have actively developed and implemented mechanisms supporting and stimulating socially-oriented NGOs and have mobilized volunteers through these organizations. This shows the resilience of these programs and the commitment of government and civil society services even under challenging circumstances. Additionnaly, the country strategically uses the C19RM and supplemtary funds to adress the gaps, mitigate TB services disruption, accelerate the country efforts towards meeting nationalized targets and contribute to improved long-term resilience to possible risks. |
| Macroeconomic instability that might be caused by on-going pandemic, emergence of new strains and its impact on budget and financial commitments. | The expected pace of economic growth is 3.9% in 2022, with further growth to 5.2% in 2026, but significant downside risks yet remain due to uneven economic recovery across countries and higher debt-related risks to the global financial market. Projections in the Budget Law for 2022-2024 are made at a global oil price of US$60 per barrel (US$1 to 425 tenge rate), and estimated annual production volumes. The National Bank expects inflation to remain within the target range of 4.0-6.0% until the end of 2022, 4.0-5.0% in 2023-2024, and 3.0-4.0% in 2025-2026. To achieve the goals the country set in the mid-term, the National Bank plans to pursue a balanced monetary policy with an increased efficiency of the monetary transmission mechanism channels.  In general, the volatility of the tenge exchange rate remains high. On the one hand, this will lead to the emergence of undisbursed funds due to the exchange rate difference since local procurement is based on tenge. On the other hand, in the budget, purchase prices are fixed in tenge, and goods imported from abroad, sharply may rise in tenge. The workplan and budget adjustments through negotiation with the GF country team for reprogramming the activities might allow mitigating risks with the currency exchange rate fluctuation.  Significant price changes are observed in the high-demand medical goods market to be mitigated through competitive procurement. |
| Shortage of human resources for TB Control. | More than 23% of TB specialists are close to retirement, while the inflow of young physicians/graduates into the phthisiology field has drastically decreased. Strengthening of human resources for TB control is among the priorities of the draft 2022-2026 Comprehensive Plan on Respiratory Health, which envisages different policy options including education opportunities, integration of phthisiology into broader medical disciplines such as pulmonology, retraining of PHC staff to get extra skills in TB control, introducing financial incentive scheme to retain young specialists in the TB Service, and enhancing the infection prevention and control in TB Centers.  The shortage of HRH in TB control is compounded by staff attrition and insufficient workers' compensation. Only a minority of NGO’s outreach workers comes from key populations with a high turnover rate in an urban setting. To mitigate the staffing risks, the salary will be reviewed and adjusted regularly to reflect changes in living costs, adopting a strategy maximizing hiring outreach workers from key populations by adjusting their numbers based on the needs in a particular region and type of key population in lack of the support. |

1. Does the funding request envisage a **joint investment platform** with other institutions?

Yes  No

If **yes**, describe specific arrangements and modalities.

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| [Applicant response] |

# **Section 3: Co-Financing, Sustainability and Transition**

To respond to the questions below, refer to the *Instructions*, the domestic financing section of the allocation letter, the [Sustainability, Transition and Co-Financing Guidance Note](https://www.theglobalfund.org/media/5648/core_sustainabilityandtransition_guidancenote_en.pdf), **Funding Landscape Table(s)**, **Programmatic Gap Table(s)**, **Transition Workplan** and **Transition Readiness Assessment** (if available)[[79]](#footnote-80).

**3.1 Co-Financing**

1. Have **co-financing commitments** for the **current** allocation period been realized?

Yes No

If **yes**, attach supporting documentation demonstrating the extent to which co-financing commitments have been met.

If **no**, explain why and outline the impact of this situation on the program.

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| Despite the double hit of the pandemic, including the oil price shock in 2020, the recovery of Kazakhstan from the crisis is forecasted to be relatively robust. Overall GDP contracted by 2.5% in 2020 and increased by 2.3% in the second quarter of 2021. The projected pace of growth is 3.9% in 2022, with further growth to 5.2% in 2026[[80]](#footnote-81), but significant downside risks yet remain due to uneven economic recovery across countries and higher debt-related risks to the global financial market.  In 2020 the Government stepped in supported the MoH in addressing healthcare system challenges and infection-containing efforts. The investment’ growth in healthcare made up more than US$700 million which is 2.5-fold higher than in 2019.[[81]](#footnote-82)The funds were used to strengthen health infrastructure and equipment, provide hospitals with ventilators and oxygen supply, guarantee uninterrupted supply of medicines, expand molecular diagnostic capacity, and scale up transport medicine to bring services closer to rural and hard-to-reach population. Along with these supportive measures, to address the shocks pandemic had on the labor market, the MoH has implemented medical staff motivation schemes, including risk-based pay and allowances to healthcare workers. Since July 2019, doctors' salaries have increased twice, and it is expected to raise wages in the mid-term.  The first year of large-scale implementation of the compulsory social health insurance coincided with the COVID-19 pandemic and increased complexity of the challenges of the health system. However, despite the quarantine measures, the size of the population enrolled under the CSHI scheme made up 85%. The social health insurance fund has accomplished all necessary steps to be fully operational and effectively respond to the outbreak. The CSHI deductions and contributions were mobilized to guarantee population access to narrow specialist' consultations, high-tech diagnostic services, day-care and rehabilitation by injecting more than KZT550 billion into the healthcare system. This significantly increased the volume of services and made them accessible by patients irrespective of their insurance status  As other services impacted by COVID-19, the pandemic has also caused significant disruption to tuberculosis diagnosis and treatment services by threatening to reverse recent progress reported towards national TB targets (for details, please visit the section on country context). While building essential infrastructure and healthcare workforce capacity for COVID-19 services in the country at both PHC and TB Center's level, the NTP reflecting on the situation has adjusted its programs and adopted innovative ways to connect patients to effective treatment. The diagnostic algorithm for suspected TB cases was revisited and adopted, allowing those being evaluated for COVID-19 to be tested for TB if the symptoms, course of illness, and X-ray findings suggest so. Most counseling services were shifted to distance/online format. Transport closure and limited people's ability to healthcare services accelerated the use of digital treatment technologies, and innovative care models have bridged the gap between healthcare providers and patients. The drop in planned mid-year spending for the TB service was 5%, which soon has recovered by the end of 2020. The TB services are provided free of charge within the state-guaranteed package of free medical care.  The national investment in health overall and TB response specifically have increased annually. To address the growing needs generated by the pandemic, the 2020-2022 republican Budget Law was revised twice in 2020 and increased the budget spending level. Measuring the actual investments in 2018-2019 and projected spending in 2021-2022 against the commitment assumed by the Government of Kazakhstan for 2017-2019 allocation, the co-financing agreements have been met as presented in Table 18 below.  **Table 18. Government co-financing overview**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | **US$** | **2018** | **2019** | **2020** | **2021** | **2022** | | **Domestic funds** | **147.05 M** | **147.37 M** | **147.60 M** | **148.08 M** | **147.98 M** | | **Co-financing commitments** | **147.05 M** | **147.21 M** | **147.49 M** | **147.71 M** | **147.93 M** |   At exchange rate 1US$=342.08 tenges  The government investments have focused on:   * reforming and modernizing TB services, scaling up patient-centered new models of care; * prevention, including procurement of tuberculin, BCG vaccines, Diaskin tests; * diagnostics, scaling up new technologies, including cartridges, reagents, and supplies procurement for rapid molecular testing for TB and bacteriological diagnostics of the disease; * providing treatment, including medicines procurement for DS-TB, MDR/XDR-TB, and LTBI patients, as well as for TB drugs’ side effects therapy; * providing psychosocial support to TB patients; * providing follow-up care and rehabilitation services; * enhancing the role of NGO in TB control, scaling up ACSM activities, and strengthening monitoring and evaluation and feedback provision mechanisms; * servicing and maintenance of TB Centers. |

1. Do **co-financing commitments** for the **next** allocation period meet minimum requirements to fully access the co-financing incentive?

Yes  No

If details on commitments are available, attach supporting documentation demonstrating the extent to which co-financing commitments have been made.

If co-financing commitments do not meet minimum requirements, explain why.

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| The Government of the Republic of Kazakhstan has planned KZT158 billion for 2023-2025 to invest in the TB national response, which is KZT6.3 billion (US$15.1 million) or by 4.24% more than in the previous three years (Table 39).  **Figure 39. Government co-financing commitments**  The funds will be used to reform and rationalize the TB Service further, guarantee access to effective modern technologies for diagnosis and treatment approaches, strengthen aDSM, monitoring and evaluation and feedback provision systems as well as enhance community-based services. More specifically the Government finances:   * enhancing integrated into PHC TB care; * prevention, including procurement of tuberculin, BCG vaccines, Diaskin tests; * diagnostics, scaling up new technologies, including cartridges, reagents, and supplies procurement for rapid molecular testing for TB and bacteriological diagnostics of the disease; * providing treatment, including medicines procurement for DS-TB, MDR/XDR-TB, and LTBI patients, as well as for TB drugs’ side effects therapy; * providing psychosocial support to TB patients; * providing follow-up care and rehabilitation services; * enhancing the role of NGO in TB control, scaling up ACSM activities, and strengthening monitoring and evaluation and feedback provision mechanisms; * servicing and maintenance of TB Centers. |

1. Summarize the **programmatic areas** to be supported by domestic co-financing in the next allocation period. In particular:

i. The financing of key program costs of national disease plans and/or health systems;

ii. The planned uptake of interventions currently funded by the Global Fund.

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| The international assistance network in TB control in the country is limited and represented an annual average of 4.4% of the total spending on TB service in 2019-2021 for funding complementary and/or supplementary services.  In Kazakhstan, the medical care for tuberculosis is provided within the frame of the guaranteed volume of free medical care. The government investments are aligned with the co-financing incentive requirements for the 2020-2022 allocation and will be focused on enhancing Phthisiopulmonological Service; improving the availability of effective modern technologies for the diagnosis and treatment of TB and M/XDR-TB; psychosocial assistance to TB patients; procurement of anti-tuberculosis drugs, including new and repurposed medicines, and medical devices (e.g., cartridges for molecular methods in rapid diagnosis of tuberculosis); medicines for PTP; further addressing barriers in access to and streamlining the payment approaches for integrated TB services, including prevention; enhancing infection control systems; further strengthening the role of NGOs in TB control; and strengthening human resources and their capacities (Table 18).  **Table 18. Key programmatic areas to be supported by domestic co-financing in 2023-2025**   |  |  | | --- | --- | | **Priority areas** | **Domestic funding**  **(estimation)** | | Modernizing TB Service. Reforming through expansion of PHC services. | KZT7,819,393,779 | | Improving availability of effective modern technologies and medical devices for diagnosis, treatment and rehabilitation care.  Human resources for TB control strengthened capacities, including M&E. | KZT126,688,774,527 | | Psychosocial assistance to TB patients.  Strengthening role of NGOs in TB control. | KZT6,100,431,522 | | Procurement of anti-tuberculosis drugs, including new and repurposed medicines. LTBI treatment. Improving drug supply management and aDSM. | KZT17,407,331,473 | | **TOTAL** | **KZT158,015,931,301** |   For sustainable transition to the full funding from domestic resources for effective TB control, the authorities commit to gradual uptake of the activities as described in the country *Transition Plan* and *Appendix 1a* on the status update, including:   * Procurement and uninterrupted supply of new and repurposed TB drugs, rapid TB diagnostic tests for the penitentiary system through international mechanisms at preferential prices. * Maintenance of laboratory equipment and ventilation systems in bacteriological reference laboratories and high biological risk areas. * Training of PHC specialists in TB and DR-TB management, including penitentiary system staff, and representatives of the medical academies and universities, after adopting the latest technical partners' recommendations. * Maintenance and operation of the Center for Clinical Mentoring and Advanced Training at the NSCP using remote technologies to provide high-quality care and treatment services for TB and DR-TB patients after adopting the latest technical partners' recommendations in the training modules. * Maintenance of the national electronic TB information system, after amending the respective modules to be aligned with the WHO recommended cases definitions and reporting. * NGO-led interventions in the vulnerable and hard-to-reach population group after the services standardization, tools development, and the new funding mechanism piloting. * NTP M&E and aDSM activities after being strengthened and rationalized to align with technical partners' recommendations and costed. * Further TB Service rationalization and addressing barriers in access to integrated TB services. |

**3.2 Sustainability and Transition**

1. Based on the analysis in the **Funding Landscape Table(s),** describe the funding need and anticipated funding, highlighting gaps for major program areas in the next allocation period.

Also, describe how (i)national authorities will work to secure additional funding or new sources of funding, and/or (ii)pursue efficiencies to ensure sufficient support for key interventions, particularly those currently funded by the Global Fund.

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| Based on TB services domestic financing data and information from Partners' survey, the funding landscape tables were compiled to highlight the gaps for programmatic areas to mobilize additional resources needed to enhance and sustain core services for key population groups.  The U.S. Agency for International Development has contributed to building the national TB response capacity. Through the Global Accelerator to End TB it helped the country scale up the roll-out of GeneXpert diagnostic. Through its implementing partners, the USAID is assisting the country in enhancing the laboratory system and TB drug supply management capacities, strengthening the pharmacovigilance, monitoring and the role of community-based in TB control activities, and enabling financing mechanisms. The expenses are totaled to approximately US$3.87 million in 2020-2022; however, the data on spending categories was not fully available. It is expected to spend an annual average of US$1.26 million in the mid-term, subject to funds availability.  For the 2020-2024 period, Partners in Health has allocated funds of US$2.72 for Kazakhstan on the EndTB project aiming to expand access to new and repurposed anti-TB drugs and on the StamTB project to study modified short-term MDR-TB treatment regimens. Moreover, the funds were used on the ManyVoices project to provide psychosocial support to TB patients in Almaty and Karaganda region.  The KNCV Kazakhstan has spent nearly US$0.4 million during the reporting period on projects financed by Dr. C. de Langen Foundation for Global TB control and TBA & KOICA (TB Alliance/Korea International Cooperation Agency). In 2020-2021 the KNCV provided technical support for the planning and implementing the BPaL regimen for the treatment of pre- XDR-TB. Since January 2021, it has been implementing the project "Decentralization of ECG monitoring using a mobile device for patients with drug-resistant tuberculosis on an outpatient basis in Kazakhstan."  Through external technical support, the Center for Health Policies and Studies/GFATM spent approximately US$0.2 million to adapt the innovative tools for the community-based monitoring and performed NGOs assessment exercise in Kazakhstan. The amount includes small grant programs assessing barriers to diagnostic and care of TB affected among key population groups and patient' path analysis.  The amounts reported under the domestic spending are expected allocations to the NTP from the republican and local budgets. The costs of the activities in the draft 2022-2026 Comprehensive Plan, findings of the assessment and costing studies were used to define the funding needs. The landscape tables provide a detailed breakdown of estimated funding planned locally and the amount secured from alternative and additional sources, including the GF allocation for 2023-2025.  The budget areas with funding shortfalls include projected needs to sustain universal access to quality DS and DR-TB prevention, diagnosis, treatment, and community-based activities amounted to US$3,6million over three years. More specifically, it covers estimated costs for treating patients in the penitentiary sector and ACSM and M&E additional expenditures. As it was mentioned in the earlier paragraphs, the country plans the transition of the penitentiary system’ medical service to the health sector under the MoH. This will proceed by adaption of respective legislative acts to ensure a phased handover of the functions from the Committee of the criminally-executive system at the Ministry of Internal Affairs to the MoH. And, then the transfer of medical institutions from the penitentiary system to the health sector will follow along with allocations from the government budgets. Moreover, the work is underway to estimate the normative costs of orgmethod activities, ACSM, and M&E following SOPs to advocate for increased funding.  The government will finance nearly 95% of investment needs (Figure 40) and the requested amount will cover 77% of the funding gap.  **Figure 40. Activities’ funding sources** |

1. Highlight **challenges** related to sustainability (see indicative list in the *Instructions*). Explain how these challenges will be addressed either through this funding request or other sources. If already described in the national strategy, sustainability and/or transition plan, and/or other documentation submitted with the funding request, refer to relevant sections of those documents.

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| The country has taken bold steps towards the transition from the GF to domestic funding by annually increasing the allocations from the government budget to TB Service, as evidenced in the *co-financing commitments* paragraph. However, a few challenges and risks may adversely affect the national response; some are detailed under *the anticipated implementation risks* paragraph of the funding request along with the mitigation strategies. Facing new realities linked to COVID-19 virus evolution or emerging new health threats might hamper TB service provision, overburden the healthcare system and redirect financial resources needed to absorb the cost of the GF grant-supported TB services including fulfilment of co-financing commitments. The ongoing pandemic or emerging diseases may cause macroeconomic instability, impacting budget and financial assurances, including the level of funds to be allocated to the NGO-led services.  There might also be challenges with the expansion of the OneImpact Kazakhstan application introduction linked with the quality of Internet connection in some remote regions of the country, data privacy issues by adding a module on VST, and the costs associated with the application maintenance when the GF support will be ended. The NTP will use the existing mechanisms and rationalize the maintenance expenses. In parallel, the efforts will be continued to ensure that the state takes co-funding responsibility for the inputs and guarantee interventions' sustainability. |

1. If you have developed and implemented a transition workplan in the current allocation cycle, provide a status **update** as to what has been achieved.

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| Kazakhstan TB transition plan covers 2019-2022, which is the process of completion. The country will continue improving its transition preparedness beyond 2022 and develop another plan for the next GF grant period. The 2023-2025 activities relevant to sustainability and transition will be reflected in the roadmap of the TB control strategy for 2022-2026. The status update on what the country has achieved since 2019 is presented in *Appendix 1a*, by highlighting future needs.  More than half of the planned activities in the country's sustainability and preparedness Plan for the transition to domestic financing has been completed already. The remaining interventions are either in the completion stage or marked as yet ongoing. There were several needs identified, which are reflected in the funding request before full takeover to internal funding, linked primarily with the adoption of the latest recommendations of the WHO and technical partners on TB diagnosis and treatment, LTBI case management, and the need in the well-functioning system of active monitoring of the safety of medicines and the NTP capacity building.  Though the national legislation provides a solid basis for social contracting, the experiences are fragmented, inadequately funded, requiring further advocacy efforts and tools and mechanisms to be in place before the complete takeover to the internal financing. In 2020 and the beginning of 2021, the local governments have mobilized resources to provide emergency assistance to vulnerable families more impacted by the pandemic and the local COVID-19 responce, and limited resources were made available to fund NGO-led activities in TB or HIV control.  By 2022, efforts will be directed to accomplish the objectives of the present Plan, ensuring further development of sustainable capacities and resources. It was supposed to make amendments to the respective orders regulating and financing CCES that would allow purchasing the WHO recommended regimens for DR-TB patients from the budgetary funds allocated to the penitentiary sector. However, in 2021, the government of Kazakhstan has initiated the process of transition of the CCES Health Service from the Ministry of Internal Affairs to the civil sector under the MoH and regional health departments by assuring the budget for required medicines in 2022. It will require adapting legislative acts to ensure a phased handover of the functions from the CCES to the MoH and transferring medical institutions from the penitentiary system to the health sector.  The robust regulatory framework, adopted mid-term national health and TB control strategies, substantial political will, committed financing, quality TB integrated services provision at the PHC, well-developed institutional framework for NTP management and coordination, the GF effective support create a favorable environment for a smooth and sustainable transition. |

# **Annex 1: Documents Checklist**

Use the list below to verify the completeness of your application package:

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|  | Funding Request Form |
|  | Programmatic Gap Table(s) |
|  | Funding Landscape Table(s) |
|  | Performance Framework |
|  | Budget |
|  | Prioritized above allocation request (PAAR) |
|  | Implementation Arrangement Map(s)[[82]](#footnote-83) |
|  | Essential Data Tables (updated) |
|  | CCM Endorsement of Funding Request |
|  | CCM Statement of Compliance |
|  | Supporting documentation to confirm meeting co-financing requirements for the current allocation period |
|  | Supporting documentation for co-financing commitments for the next allocation period |
|  | Transition Workplan (if available) |
|  | Transition Workplan status update |
|  | National Strategic Plans (Health Sector and Disease specific) |
| ☐ | All supporting documentation referenced in the funding request |
|  | Health Product Management Template (if applicable) |
|  | List of Abbreviations and Annexes |

1. PAARs can only be submitted with the Funding Request. To complete a PAAR, fill-in the Excel template that you will receive from the Global Fund Secretariat. [↑](#footnote-ref-2)
2. This is only relevant for applicants with designated matching funds as indicated in the allocation letter. [↑](#footnote-ref-3)
3. The World Bank: World Development Indicators, 2020. [↑](#footnote-ref-4)
4. Ministry of National Economy of the Republic of Kazakhstan Statistics Committee. Available from: <https://stat.gov.kz>; accessed on 11 October 2021. [↑](#footnote-ref-5)
5. The World Bank: World Development Indicators, 2020. [↑](#footnote-ref-6)
6. The World Bank: World Development Indicators, 2019. [↑](#footnote-ref-7)
7. Government Decree No. 725.On the approval of the national project "High-quality and affordable health care for every citizen "Healthy nation", 12 October 2021. [↑](#footnote-ref-8)
8. Available from: <https://www.akorda.kz/ru/official_documents/strategies_and_programs>. Accessed on 5 November 2021. [↑](#footnote-ref-9)
9. Explanatory Note to the draft Law of the Republic of Kazakhstan "On the republican budget for 2022 - 2024", Ministry of Finance of the RK, 2021. [↑](#footnote-ref-10)
10. # “Kazakhstan’s Economy to Recover Modestly in 2021, But COVID-19-induced Poverty on the Rise, Says World Bank” Available from: https://www.worldbank.org/en/news/press-release/2021/01/29/kazakhstan-economic-update-december-2020.

    [↑](#footnote-ref-11)
11. Regional Economic Outlook: Arising from the Pandemic: Building Forward Better. IMF, April 2021 [↑](#footnote-ref-12)
12. Law of the Republic of Kazakhstan “On the ratification of the Loan Agreement (Ordinary Operations) (Active Measures to Combat COVID-19

    and cost support program) between the Republic of Kazakhstan and the Asian Development Bank”, 21 December 2020. [↑](#footnote-ref-13)
13. Law of the Republic of Kazakhstan No. 388-VI ЗРК “On the ratification of the Loan Agreement (Active Measures to Combat COVID-19 and the Expenditure Support Program) between the Republic of Kazakhstan and the Asian Infrastructure Investment Bank”, 21 December 2020.

    Available from: https://adilet.zan.kz/rus/docs/Z2000000388. [↑](#footnote-ref-14)
14. President Decree No. 520 dated 26 February 2021. [↑](#footnote-ref-15)
15. 2019 National Health Accounts. Available from: http://www.rcrz.kz/index.php/ru/2017-03-12-10-51-14/nats-scheta-zdravookhraneniya-ntsz [↑](#footnote-ref-16)
16. Government Decree N389, 01 July 2016 on establishment of social health insurance fund. [↑](#footnote-ref-17)
17. SHIF. Available from: https://fms.kz. [↑](#footnote-ref-18)
18. The CSHI’ coordinating and controlling functions belong to Coordination Department of Compulsory Social Health Insurance, established at the MoH. [↑](#footnote-ref-19)
19. Article 159 of the Code on health and healthcare system. [↑](#footnote-ref-20)
20. Diagnostic services to detect TB in suspects; diagnostic and treatment of patients with active TB and dispensary monitoring of persons registered in the NRTB subsystem; socio-psychological care to TB patients; recovery and rehabilitation treatment. [↑](#footnote-ref-21)
21. The MoH Order № ҚР ДСМ-291/2020 “On approval of the rules for payment of healthcare services within the guaranteed volume of free medical care and (or) in the system of compulsory social health insurance”, December 2020. [↑](#footnote-ref-22)
22. Optimizing the budget, reducing the level of the "shadow" economy and improving public procurement”. Minister of Finance. Available from: https://www.primeminister.kz/ru/news/reviews/optimizaciya-byudzheta-snizhenie-urovnya-tenevoy-ekonomiki-i-sovershenstvovanie-goszakupok-ministr-finansov-otchitalsya-pered-naseleniem-1553932 [↑](#footnote-ref-23)
23. Government decree No. 375 "On approval of the Rules for organizing and conducting the procurement of medicines, medical devices and specialized medical products within the guaranteed volume of free medical care and (or) in the system of compulsory social health insurance". June 4, 2021. [↑](#footnote-ref-24)
24. The MoH order № ҚР ДСМ-89 on “Rules for the provision of medicines and medical products within the guaranteed volume of free medical care and (or) in the system of compulsory social medical insurance”, 20 August 2021. [↑](#footnote-ref-25)
25. Law N429-V "On state social order, grants and awards for non-governmental organizations in the Republic of Kazakhstan”, amended on 19 April 2019. [↑](#footnote-ref-26)
26. Registered in web-portal. [↑](#footnote-ref-27)
27. The Order of the Ministry of Social Development “On approval of the rules for the formation, monitoring of implementation and evaluation of the results of the state social order”, August 2018. [↑](#footnote-ref-28)
28. Achievement in the field of education, science, information, physical culture, and sports; health protection of citizens, promotion of a healthy lifestyle; environmental protection; youth policy support and children's initiatives; promoting family, demographic and gender issues; support for socially vulnerable population groups; assistance to orphans, children from single-parent families and large families; employment promotion; protection of the rights, legitimate interests of citizens and organizations; conducting public monitoring of the quality of public services; promoting the development of civil society, including the efficiency strengthening of the NGOs activities; assistance to a person (family) in a difficult life situation; and other socially significant areas. [↑](#footnote-ref-29)
29. The MoH Order No. ҚР DSM-245/2020, 10 December 2020. [↑](#footnote-ref-30)
30. The MoH Order No. ҚР DSM-283/2020 “On the approval of the rules for confirming the results of continuous professional development of healthcare workers”, 20 December 2020. [↑](#footnote-ref-31)
31. Kharin et al, First steps in forecasting the health workforce in Kazakhstan: A baseline scenario. J Clin Med Kaz 2021; 18(3):40-45 [↑](#footnote-ref-32)
32. Tuberculosis surveillance and monitoring in Europe, 2021. WHO. [↑](#footnote-ref-33)
33. WHO Global Tuberculosis Report 2020, Geneva, 2020. [↑](#footnote-ref-34)
34. WHO Global Tuberculosis Report 2021, Geneva, 2021, pg. xii. [↑](#footnote-ref-35)
35. WHO Global Tuberculosis Report 2021. Available from: <https://worldhealthorg.shinyapps.io/tb_profiles/?_inputs_&entity_type=%22country%22&lan=%22EN%22&iso2=%22KZ%22> [↑](#footnote-ref-36)
36. WHO Global TB Database. Available from: <https://www.who.int/tb/data/en/> [↑](#footnote-ref-37)
37. <https://worldhealthorg.shinyapps.io/tb_profiles/?_inputs_&entity_type=%22country%22&lan=%22EN%22&iso2=%22KZ%22> accessed on 09.08.2021 [↑](#footnote-ref-38)
38. The MoH order No. 214 "On approval of the rules for the implementation of measures for TB prevention”, 30 November 2020. [↑](#footnote-ref-39)
39. The WHO Screen TB tool. Available from: https://wpro.shinyapps.io/screen\_tb/) [↑](#footnote-ref-40)
40. Dzhazybekova P., Eralieva L., Volik M., Dadu A., Edilbaev A. “Prioritization and strategy selection for systematic screening for tuberculosis using the WHO Screen TB tool”, draft final report, 2021. [↑](#footnote-ref-41)
41. IOM Kazakhstan. [↑](#footnote-ref-42)
42. Adherence date: 06 July 1993 [↑](#footnote-ref-43)
43. Ratified on 15 January 1999. UNHCR Kazakhstan. [↑](#footnote-ref-44)
44. Including Laws on “Migration of the Population, “On the Legal Status of Foreigners”, “On Refugees”, “On Compulsory Social Health Insurance”. [↑](#footnote-ref-45)
45. Analysis of TB beds optimization in Kazakhstan. KNCV Foundation Kazakhstan/GF PIU. May 2021. [↑](#footnote-ref-46)
46. The assumptions of the model included data on trends in TB case notification and care provision in 2021-2025, TB patients treatment categories, treatment regimens used. [↑](#footnote-ref-47)
47. Clinical guideline on LTBI diagnostics and treatment. NSCP/MoH. November, 2021. [↑](#footnote-ref-48)
48. WHO rGLC/Europe country technical support mission to Kazakhstan report, 2021 [↑](#footnote-ref-49)
49. The MoH order No. 214 "On approval of the rules for the implementation of measures for the prevention of tuberculosis", 30 November 2020. [↑](#footnote-ref-50)
50. Clinical guideline on diagnostics and treatment of latent TB infection. Updated in November, 2021. [↑](#footnote-ref-51)
51. Global Plan to End TB 2016-2020. Stop TB Partnership. UNOPS. [↑](#footnote-ref-52)
52. The MoIA order № 530 "On the approval of the Rules for the organization of TB care in institutions of the penitentiary system”. 20 August 2018. [↑](#footnote-ref-53)
53. President’ Decree No. 622 “On measures to further improve the public administration system of the Republic of Kazakhstan”,

    19 July 2021. [↑](#footnote-ref-54)
54. Manual on Supervision, Monitoring and Assessment of TB Control in the Republic of Kazakhstan”, November 2019. [↑](#footnote-ref-55)
55. The MoH order № ҚР ДСМ-320/2020 “On approval of the rules for pharmacovigilance and monitoring of safety, quality and efficiency of medical devices”, 23 December 2020. [↑](#footnote-ref-56)
56. <https://www.worldometers.info/coronavirus/country/kazakhstan/> . Accessed on November 14, 2021. [↑](#footnote-ref-57)
57. <https://www.worldometers.info/coronavirus/country/kazakhstan/> . Accessed on November 14, 2021. [↑](#footnote-ref-58)
58. <https://www.coronavirus2020.kz/> . Accessed on November 14, 2021. [↑](#footnote-ref-59)
59. <https://www.gov.kz/memleket/entities/kkkbtu/press/news/details/282971?lang=ru> [↑](#footnote-ref-60)
60. However, it is difficult to say what part of TB notification rate reduction in 2020 was caused by TB services disruptions due to lockdowns and preventive measures imposed, including improved IPC practices, as the last might have an impact also on TB transmission. [↑](#footnote-ref-61)
61. <https://worldhealthorg.shinyapps.io/tb_pronto/>. [↑](#footnote-ref-62)
62. Ibid. [↑](#footnote-ref-63)
63. Assessment of barriers related to the legal environment, gender, stigma and human rights for key populations in the response to tuberculosis in Almaty city and Almaty Oblast. Association of Legal Entities "Kazakhstan Union of People Living with HIV". Center for Health Policies and Studies (PAS Center). TB-REP 2.0, 2020. [↑](#footnote-ref-64)
64. Study, assessing barriers related to the legal environment, gender and human rights in Kazakhstan TB Response. Sange Research Center, USAID/ETICA Project, 2021. [↑](#footnote-ref-65)
65. Tuberculosis in Kazakhstan: knowledge, attitudes and practices of general population and key vulnerable groups. 2021, Alimbekova G.T. et al, Report on the results of a comprehensive sociological study conducted by the Center for the Study of Public Opinion and the KMU High School of Public Health. [↑](#footnote-ref-66)
66. Operational research of the main obstacles and delays in providing services for the detection, diagnosis, treatment of tuberculosis and drug-resistant tuberculosis in Kazakhstan. Public Fund MAD Consulting, 2021. [↑](#footnote-ref-67)
67. Operational research on piloting the package of stigma reduction interventions in healthcare organizations, providing TB Care in Almaty, Kazakhstan " KNCV Kazakhstan, 2019. [↑](#footnote-ref-68)
68. WHO Information Note. COVID-19: considerations for tuberculosis (TB) care. WHO. 05 May 2021. [↑](#footnote-ref-69)
69. Political declaration of the High-Level Meeting of the General Assembly on the Fight Against Tuberculosis: resolution/adopted by the General Assembly. 2018. Avaiable from: https://digitallibrary.un.org/record/1649568?ln=en [↑](#footnote-ref-70)
70. Government resolution No. 375, 04 June 2021 & MoH order No. ҚR DSM-89, 20 August 2021. [↑](#footnote-ref-71)
71. MoH order № ҚР ДСМ-320/2020, 23 December 2020 . [↑](#footnote-ref-72)
72. Turusbekova Nonna, Mok Peter, Assessment of the Global Fund grant NGO component in Kazakhstan, 2021. Preliminary findings and recommendations. [↑](#footnote-ref-73)
73. “The standardized package of community-based support services to improve TB outcomes”, include the Center for Health Policies and Studies (PAS Center), TB Europe Coalition and WHO Regional Office for Europe, 2021. Funding provided by the Global Fund through the TB-REP 2.0 grant. Available from: https://euro.sharefile.com/share/view/se2d10d786db14b26b90ef2ddf3c43b0e/fob8da17-d467-428c-aad6-869a4b25ff5b [↑](#footnote-ref-74)
74. Manual on Supervision, Monitoring and Assessment of TB Control in the Republic of Kazakhstan”, November 2019. [↑](#footnote-ref-75)
75. At the pre-assessment exercise, the lowest sustainable cost estimates for the products and services to enable the ability to deliver on grant targets within the defined budget. [↑](#footnote-ref-76)
76. The Paradigm Shift 2018-2022. Stop TB Partnership.

    Available from: http://www.stoptb.org/assets/documents/global/plan/GPR\_2018-2022\_Digital.pdf [↑](#footnote-ref-77)
77. An updated implementation arrangement map is mandatory if the program is continuing with the same PR(s). In cases where the PR is changing, the implementation arrangement map may be submitted at the grant-making stage. [↑](#footnote-ref-78)
78. The MoH Order № ҚР ДСМ-237/2020 “On approval of the Rules for the import into the territory of the Republic of Kazakhstan of medicines and medical devices and export from the territory of the Republic of Kazakhstan of medicines and medical devices, and the provision of the state service "Issuance of an agreement and (or) permit for the import (export) of registered and not registered medicines and medical devices”. December, 2020. [↑](#footnote-ref-79)
79. Note that information derived from the supporting documentation provided in response to the questions below, including information on funding landscape or domestic commitments, may be made publicly available by the Global Fund. [↑](#footnote-ref-80)
80. Explanatory Note to the draft Law of the Republic of Kazakhstan "On the republican budget for 2022 - 2024", Ministry of Finance of the RK, 2021. [↑](#footnote-ref-81)
81. Official information resource of the Prime Minister of the Republic of Kazakhstan. Available from: <https://www.primeminister.kz/ru/news/borba-s-koronavirusnoy-infekciey-osnashchenie-medicinskih-organizaciy-zarplatnaya-reforma-v-medsfere-razvitie-zdravoohraneniya-kazahstana-v-2020-godu-121545>. [↑](#footnote-ref-82)
82. An updated implementation arrangement map is mandatory if the program is continuing with the same PR(s). In cases where the PR is changing, the implementation arrangement map may be submitted at the grant-making stage. [↑](#footnote-ref-83)