

PROJECT INFORMATION DOCUMENT (PID) CONCEPT STAGE

Report No.: PIDC73194

Project Name	Regional Cancer Care Modernization Project (P151953)
Region	EUROPE AND CENTRAL ASIA
Country	Russian Federation
Lending Instrument	Investment Project Financing
Project ID	P151953
Borrower(s)	RUSSIAN FEDERATION
Implementing Agency	Federal Ministry of Health
Environmental Category	B-Partial Assessment
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Concept Review Decision	Track II - The review did authorize the preparation to continue

I. Introduction and Context

Country Context

Tyumen oblast is part of the Ural Federal District (UFD) of the Russian Federation and is located south of Western Siberia in the basin of the Irtysh River. The territory of Tyumen oblast (without the autonomous regions) covers an area of 160.1 square kilometers, making it the 4th largest oblast in the Urals and the 24th largest in the Russian Federation. Its population reached 1.4 million in 2015 (4th in the UFD and 32nd in the Russian Federation). With a population density of 8.8 people per square kilometer, Tyumen oblast ranks 4th in the UFD and 58th in the Russian Federation.

Tyumen oblast includes two autonomous okrug (or federal district), Yamalo-Nenetsk and Khanty-Mansiysk. Both were granted administrative autonomy and became separate entities of the Russian Federation in 1993. While all three entities have an independent system of executive authorities, they have a united legislative (representative) body at the Tyumen Regional Legislative Assembly consists of representatives from all three entities and is based in Tyumen City. The population of the larger Tyumen oblast (inclusive of the autonomous regions) was 3.6 million in 2015.

Tyumen oblast offers advantageous geographical location by linking the eastern and western

regions of the country; quite favorable climatic conditions; availability of mineral reserves, land, forests, and water resources; unique historical and cultural monuments; strong engineering development; and telecommunications and transport infrastructures. The region also supports a legal and economic securing system and investments with a highly skilled workforce, and positive demographic trends. All these characteristics create a good basis for long-term investment and a successful business environment. The current socioeconomic situation of Tyumen oblast is characterized by an upward trend in leading sectors of the economy. Between 2001 and 2012, the gross regional product more than doubled, with an average annual increase of 7.2 percent.

The demographic situation of Tyumen oblast shows positive trends, increasing by 120,000, from 1,309,000 in 2006 to 1,429,000 in 2015. In about the same period (2006-2014), the number of births was 180,000, which was lower than the mortality rate. The total fertility rate (TFR) is 1.96 children per woman, which is higher than the average for Russia of 1.75 (2014) and Western European countries such as Italy, Germany, Austria, that on average had a TFR of 1.4 in 2013. The birth rate in Tyumen oblast (17.0 per 1,000 population in 2014) is higher than the average for Russia (13.3 per 1,000), and the total mortality rate (11.6 per 1,000 population in 2014) is lower than that in Russia (13.1 per 1,000). The infant mortality rate for 2000-2014 decreased from 16.6 to 5.8 per 1,000 live births, and life expectancy increased from 66 years in 2006 to 70 in 2014. There is a significant gap of 11.5 years between male and female life expectancy (64.6 years and 76.1 years in 2014, respectively). In spite of this, this indicator remains low compared to international standards and countries with similar levels of development.

Large-scale projects aimed at improving health outcomes have been initiated in Tyumen oblast in recent years. Significant federal and regional investments have focused on the modernization of the health sector, the development of human resources, and the improvement of quality and accessibility of health care.

Sectoral and Institutional Context

Cancer is one of the main causes of mortality in the Russian Federation. Notwithstanding some marked improvement in recent years (2006-2015), the Russian Federation exhibits disturbingly low life expectancy and high mortality rates. The excess mortality is overwhelmingly attributable to non-communicable disease (NCD), such as cancer (neoplasms), which represents the second main cause of death. The largest share of the burden of cancer is being borne by groups from the lower end of the socioeconomic spectrum.

The age standardized rate for cancer incidence of 204.3 per 100,000 population (both sexes) is within the range of Eastern European neighboring countries and approximately two-thirds of the Western European level. However, cancer incidence is expected to increase by about 5 percent by 2025. The age standardized cancer-specific mortality rate in the Russian Federation is 122.5 per 100,000 population; however, it is at the same level or even higher than in Western European countries, which means a substantially lower rate relative to survival rates for cancer patients in Russia.

Most cancer mortality rates in Russia greatly exceed those in the United States. The most common malignancy in Russia for men in 2014 was lung cancer followed by prostate and colorectal cancer while the most common malignancy in the United States for men in 2014 was prostate cancer followed by lung and colorectal cancer. Breast cancer is the most common cancer for Russian women. Though the annual incidence of breast cancer is substantially lower than in the United

States, mortality is higher. The second most frequent cancer in women is colorectal with mortality rate over four times that in the United States, followed by endometrial and cervical cancer.

Sixty percent of the Russian population is at risk of dying from cancer as compared to 40 percent in the United Kingdom and 33 percent in the United States. The contributing factors are higher exposure to main risk factors, such as smoking, alcohol consumption, and environmental contamination; insufficient emphasis on cancer prevention; lack of vaccination for human papillomavirus (HPV); and inequitable access to treatment and medicine. The mortality-to-incidence ratio, an indirect measure of cancer survival, is higher for Russian men than for Russian women (0.72 vs. 0.49), and higher than for European (0.44) and American men (0.36).

Tyumen oblast statistics on cancer mortality are largely commensurate with the country general trend, though with slightly better trend. NCDs are responsible for the large majority (63.3 percent) of mortality in Tyumen oblast; cardiovascular diseases account for the largest share (51.6 percent), followed by cancer (11.7 percent). Cancer morbidity is on the rise by approximately 5.5 percent annually. In Tyumen oblast, a total of 5,559 (2,682 men and 2,877 women) new cancer cases were registered in 2015 (5,016 in the year 2013), representing a total crude incidence rate of 388.0 per 100,000 population, which is at par with 388.9 for the entire Russian Federation (in 2014). Statistics show that lung, prostate, and pancreatic cancers are most common for men in Tyumen oblast while breast and corpus uteri cancers are most common for women. The crude death rate from cancer in 2015 for the southern part of Tyumen oblast was 141.2 per 100,000 population (199.8 per 100,000 for the Russian Federation).

Early detection. Tyumen oblast is following an extensive and a wide range of preventive checkups-based model established in Russia, which shows strong support for population screening programs. Early detection of cancer and pre-cancer cases has improved over the past years. This has contributed to longer survival rate. In 2015, 145 new in situ cancer cases were detected compared to 94 cases in 2014. The percentage of cancer detection at late stages (III and IV) have been decreasing over time, reaching 23.71 percent in 2015 as compared to 25.19 percent in 2014. Yet, there is regional disparity in population coverage within the oblast, with cervical and colorectal cancer screening coverage being low. Preventive checkup programs include the use of mobile units for on-site checkups to address the existing gap in coverage rates between urban and remote communities. There is a strong political will to improve cost-efficiency and accuracy of screening activities in the region by digitalizing data transfer and analysis as well as looking into ways to personalize risk stratification of the target population using rapidly developing biomarker and big-data-based technologies.

Cancer treatment. In Tyumen oblast, the provision of cancer services to the population is largely adequate but needs further improvement. There is a good level of cancer care services provided free of charge at the tertiary, secondary, and primary levels. In general, cancer surgery and medical oncology and radiotherapy services are available. However, surgical hospital and radiotherapy units are quite old and do not cater to the growing demand for modern infrastructure, rational functional layout, and up-to-date diagnostic and treatment equipment. Thus, the current Tyumen Oblast Cancer Center (Dispensary) is the only specialized health facility in the region providing specialized medical care to patients suffering from malignant neoplasms. The Dispensary is located in one of the buildings constructed during 1940-1960. The in-patient part of the Dispensary is located in the building but does not meet the requirements of a hospital. The Dispensary consists of a dormitory that has narrow corridors with rooms on either side. Deterioration of the diagnostic, laboratory,

anesthesia, surgical, and radiation equipment of the Dispensary limit the availability of advanced technologies for cancer treatment to the population.

Primary prevention activities are intensified yet insufficient. Smoking prevalence and alcohol consumption remains high in Russia. There are an estimated 44 million smokers in Russia (60.2 percent men and 21.7 percent women). The estimated smoking rate in Tyumen oblast is 68 percent for men and 28 percent for women. Smoking rates are high among teenagers and young adults, while secondhand smoking is common. An estimated 330,000 to 400,000 people die each year from tobacco-related causes. Alcohol abuse takes a significant toll, with an estimated 500,000 deaths annually from alcohol-related disorders. Alcohol-related cancers, such as those of the head and neck, esophagus, liver, and colon are common in Russia and lead to a high death rate. Thus, the age standardized incidence and mortality rates for stomach cancer is higher (about 3 and 1.7 times, respectively) compared with Western European countries. Similarly, the ASR for lip and oral cavity cancer incidence in Russia is 8.5 (per 100,000 population), which is within the same range as in Western European countries (7.9 per 100,000 population), while mortality rate (ASR) is 2.5 times higher (5.0 and 2.0 per 100,000, respectively).

In recent years, the Russian Government has introduced a number of strong measures to restrict smoking. These include a notable increase in tobacco tax, ban of cigarette advertisements and use of pictorial warnings, and prohibition of smoking in public places. High fines have been enforced for violation, and physical activities have been encouraged through awareness campaigns, among others.

Cancer database. The cancer registration process in Tyumen oblast is largely based on old-fashioned paper-based data collection and recording. Timely and accurate information on cancer incidence, prevalence, and survival is necessary to secure adequate planning and operating of an oncology system. The Cancer Registry at the Tyumen Oncology Dispensary (Regional Cancer Center of Tyumen) is one of the first established cancer registries in the Russian Federation and counts also as one of the forerunners today. The whole cancer registration system is governed by the Herten Moscow Cancer Research Institute, which has set a standardized electronic format, according to which cancer data are registered by all regional cancer registries in the country. The actual data, however, are collected from health institutions on paper-based forms. The data from these documents is once again manually transferred onto a paper-based official form, which is then fed manually into electronic format. The process is inefficient as manual data entries increase the probability of reporting errors. The system today does not allow computer-algorithm-based logical controls to secure data integrity. Further, the current cancer registration system presents data analytics in a format that does not produce outputs in internationally comparable formats.

Cancer-related training of medical personnel. Overall, cancer care in Tyumen oblast is provided by health care professionals who demonstrate utmost commitment in the provision of cancer services; however, the training programs for cancer care specialists are not in line with European standards. As such, the region lacks formal training for Radiation Therapy Technologists (RTTs). Also, palliative care is not recognized as a medical specialty and therefore, there is no chair of palliative care at the medical university. Palliative care professionals are not systematically trained and oblast oncologists and general practitioners are not systematically involved in palliative care. Similarly, radio-pharmacist specialization (needed for radio-pharmaceutical management) does not exist. In addition, formal training of cancer care specialists lacks emphasis on close coordination among members of the multidisciplinary oncology team. As a result, the treatment plan for new cancer

patients is not systematically decided by the team. Though national treatment guidelines are in place, their compliance with international standards has not been assessed. Lastly, there is a lack of a quality assurance program for treatment.

Although there are gaps, the Tyumen oblast has already achieved important milestones for comprehensive cancer control, such as (a) approved strategy for oncology health services development (Tyumen Oblast Government Resolution N# 273-pn dated April 3, 2013); (b) a wide range of early detection activities, including preventive checkups and screening programs; and (c) a well-developed cancer care system for adults and children, which is free of charge. These gaps include (a) a need to improve cancer prevention and enhance efficiency of early disease detection system; (b) insufficient use of digital technologies in cancer registration and patient treatment data collection, transfer, treatment decisions, and analytics against an internationally recognized format; (c) a need for more vigorous health promotion activities; and (d) lack of appropriate infrastructure and advanced treatment modalities for cancer treatment, which hampers the effectiveness and efficiency in the use of human and financial resources.

Relationship to CAS

The proposed project is aligned with the World Bank Group's Country Partnership Strategy (CPS) for the Russian Federation FY2012-2016 (Report No. 65115-RU, November 18, 2011) and the World Bank's Health Sector Strategy. Strategic Theme 2: Expanding Human Potential of the CPS calls for increasing quality and improving access, targeting, coverage, and efficiency of social services for human development. In the health sector, the major goal of improving outcomes through support to health financing reforms and health services reorganization would be directly supported by the project. The project would also contribute to the World Bank Health Sector Strategy by improving the quality and coordination of healthcare. Better integration and coordination between different parts of cancer care at the regional level would improve access to the most advanced technologies for early detection and treatment of oncological diseases and would help improve the management of cancer care services at all levels of healthcare more effectively. The project would provide accurate field-specific information on prevalence of cancer-related risk factors and premature mortality.

The proposed operation would support the achievement of the World Bank Group's twin goals. Access to health services and financial protection in case of adverse health events are fundamental to achieve the twin goals of eradicating extreme poverty and promoting shared prosperity. Specifically, the improved prevention and treatment of cancer cases would reduce avoidable mortality and have a positive impact on the productivity of the labor force and potentially on regional growth.

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

The proposed Project Development Objective (PDO) is to contribute to Regional government's effort to improve early access to detection and quality treatment of cancer care services in Tyumen Oblast.

Key Results (From PCN)

The success and achievements of the proposed project would be measured according to (a) increase in the percentage of patients with malignant tumors identified at stages I and II; (b) increase in the percentage of new cancer patients with treatment plans decided by a multidisciplinary oncology

team at the Dispensary; (c) increase in the percentage of the population aware of the preventive effect of HPV vaccination; (d) increase in the percentage of public health care (PHC) facilities in pilot regions using Digital Decision Support Systems; and (e) increase in the number of patients treated at the Dispensary with the support of high-tech treatment modalities. The levels and rates of improvements will be defined during project preparation and will be used to perform the economic analysis for the proposed project.

III. Preliminary Description

Concept Description

The proposed project would contribute to improving the early detection and treatment of the Tyumen oblast cancer care system by focusing on the following main areas: (a) improvement of cancer screening and cancer care management; (b) enhancement of cancer prevention and control-related promotion and training activities; and (c) establishment of infrastructure and modernization of diagnosis and treatment capacity. The proposed project would comprise the following three components.

Component 1: Improving Cancer Screening and Cancer Care Management

Subcomponent 1.1: Cancer prevention and early detection

This subcomponent will consist of three activity lines. First, it will assist nascent health promotion and patient social support entity of the Tyumen Oncology Dispensary (Regional Cancer Center of Tyumen) and the Health Promotion Department of the Public Health Institute of Tyumen oblast, to increase health awareness and individual responsibility of the population. The second activity line would be directed to study best practices and improve cost-efficiency of cancer screening programs. The aim will be to create an innovation unit to study rapidly developing biomarker and big-data decision support system algorithm based technologies in risk stratification for breast and colon cancer, to achieve improved efficiency in conducting population screening programs. The third activity line is aimed to enhance efficiency in cancer data collection and processing process, data quality, and increase availability of complete and valid data in an internationally comparable format for decision making and control of the results, to optimize prevention, early detection, and treatment of oncology patients. The subcomponent, separately and in concert with Subcomponent 1.2, will support implementation of fully digitalized data collection, management, and quality assurance processes.

Subcomponent 1.2: eHealth and digitalization of health care data registering and handling

This subcomponent will target two areas of health care data management: (a) advancing already ongoing digitalization of patient data handling, including registration, storage, exchange, and availability to patients and (b) implementation of Digital Decision Support Systems (DDSS) for enhancing quality and efficiency of health care service provision.

Component 2: Enhancement of Cancer Training Programs

This component aims at improving clinical and auxiliary skills required to provide effective cancer diagnostic, curative, and palliative care services. The main activity under this component will be to support twinning arrangements with leading European medical schools to help modernize and

reorganize cancer training programs (undergraduate, graduate, and continued medical education) at the Tyumen Medical University and medical college. This will involve (a) reviewing training programs of cancer-related specialties; (b) strengthening communication skills of cancer care professionals, especially in treatment and palliative care; (c) designing and developing a training program for RTTs; (d) assessing the feasibility of establishing a chair of palliative care at the Tyumen Medical University in line with international best practices; (e) expanding the duties and training of oblast oncologists and general practitioners in palliative care, including the provision of home care and quality control; (f) ensuring compliance of national treatment guidelines with international standards; (g) systematizing patient treatment plans through multidisciplinary oncology teams; and (h) implementing quality assurance program for cancer treatment, with close attention to the process.

Component 3: Modernization of Oncology Services

The unmet demand for high-quality cancer diagnostics and therapy in Tyumen oblast and neighboring oblasts is high and increasing. An adequate technological infrastructure is a precondition for effective modernization and strengthening of the quality of cancer care in Tyumen oblast. This component will support (a) a comprehensive strategy for early cancer detection and treatment with the introduction of modern and advanced medical technologies; (b) the construction of a new Regional Oncology Center (ROC) for Tyumen oblast; and (c) improved organization and management of medical equipment and human resources for the provision of cancer care.

Component 4: Project Management, Monitoring and Evaluation

The objective of this component is to support day-to-day project implementation (fiduciary and safeguards) and technical advisory support for Components 1 and 2. This component will also finance financial audits. This component will sponsor complementary data collection and analytical activities for monitoring results (including citizen/beneficiary engagement indicators). Information and data collection would be complemented through evidence-based data on specific areas and ad hoc facility surveys. In addition, the component would sponsor learning events to educate and promote better use of evidence for policy and decision making.

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	x		
Natural Habitats OP/BP 4.04		x	
Forests OP/BP 4.36		x	
Pest Management OP 4.09		x	
Physical Cultural Resources OP/BP 4.11		x	
Indigenous Peoples OP/BP 4.10		x	
Involuntary Resettlement OP/BP 4.12		x	
Safety of Dams OP/BP 4.37		x	
Projects on International Waterways OP/BP 7.50		x	
Projects in Disputed Areas OP/BP 7.60		x	

V. Financing (in USD Million)

Total Project Cost:	250.00	Total Bank Financing:	250.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			0.00
International Bank for Reconstruction and Development			250.00
Total			250.00

VI. Contact point**World Bank**

Contact: Susanna Hayrapetyan
 Title: Lead Health Specialist
 Tel: 5251+4250 /
 Email: shayrapetyan@worldbank.org

Borrower/Client/Recipient

Name: RUSSIAN FEDERATION
 Contact: Andrei A. Bokarev
 Title: Director, Dept. for International Financial Relations, MOF
 Tel: 7-495-987-97-50
 Email: abokarev@dmfo.ru

Implementing Agencies

Name: Federal Ministry of Health
 Contact: Mikhail Kramorov
 Title: Head of Division, Dept. of Organization of Medical Care
 Tel: 7-495-627-2400
 Email: KramarovMV@rosinzdrav.ru

VII. For more information contact:

The InfoShop
 The World Bank
 1818 H Street, NW
 Washington, D.C. 20433
 Telephone: (202) 458-4500
 Fax: (202) 522-1500
 Web: <http://www.worldbank.org/infoshop>