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PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR59.6 MILLION
(US\$93 MILLION EQUIVALENT)

TO THE

REPUBLIC OF UZBEKISTAN

FOR A

HEALTH SYSTEM IMPROVEMENT PROJECT

March 10, 2011

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CURRENCY EQUIVALENTS

(Exchange Rate Effective March 10, 2011)

Currency Unit = Uzbekistan Sum (UZS)
 1 Sum = US\$0.0006
 US\$1 = 1,667.19 Sum

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	IRR	Internal Rate of Return
CAS	Country Assistance Strategy	LMIC	Lower Middle Income Country
CMU	City Medical Unions	M&E	Monitoring and Evaluation
CPD	Continuing Professional Development	MCH	Maternal and Child Health
CPIB	Central Project Implementation Bureau	MOF	Ministry of Finance
CVD	Cardiovascular Disease	MOH	Ministry of Health
DA	Designated Account	NCD	Noncommunicable Disease
DALYs	Disability-adjusted Life Years	NPV	Net Present Value
DFEP	Department of Economy, Finance and Projections	PDO	Project Development Objectives
DRG	Diagnostic Related Group	PHC	Primary Health Care
EBM	Evidence-Based Medicine	RMU	Rayon Medial Unions
EMC	Emergency Medical Centers	SES	Sanitary & Epidemiologic Services
EMF	Environmental Management Framework	STEPS	Stepwise Approach to Surveillance
EU-15	15 countries in the European Union before May 1, 2004	TA	Technical Assistance
FM	Financial Management	TIAME	Tashkent Institute of Advanced Medical Education
FSU	Former Soviet Union	TORs	Terms of Reference
GDP	Gross Domestic Product	TOT	Training of Trainers
GNI	Gross National Income	TPMI	Tashkent Pediatric Medical Institute
GOU	Government of Uzbekistan	UNFPA	United Nations Population Fund
GP	General Practice/Practitioner	UNICEF	United Nations Children's Fund
IDA	International Development Association	USAID	United States Agency for International Development
IFAC	International Federation of Accountants	WG	Working Group
IFR	Interim Financial Report	WHO	World Health Organization
IHMS	Institute of Health & Medical Statistics		

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UZBEKISTAN
HEALTH SYSTEM IMPROVEMENT PROJECT
PROJECT APPRAISAL DOCUMENT
EUROPE AND CENTRAL ASIA
ECSHD

Date: March 10, 2011 Country Director: Motoo Konishi Acting Sector Director: Mamta Murthi Acting Sector Manager: Jesko Hentschel Team Leader(s): Susanna Hayrapetyan Project ID: P113349 Lending Instrument: Specific Investment Loan	Sector(s): Health (98%) Compulsory health finance (2%) Theme(s): Health system performance (60%); Noncommunicable diseases (30%); Child health (10%) EA Category: Partial Assessment
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Project Financing Data:

Proposed terms:

Loan Credit Grant Guarantee Other:

Source	Total Amount (US\$M)
Total Project Cost:	103.1
Recipient	10.1
Total Bank Financing: IDA	93.00

Republic of Uzbekistan
Responsible Agency:
 Ministry of Health
 12 Navoi Street
 Uzbekistan
 Tel: (998-71) 139-1954
 office@jpib.uz
 Central Project Implementation Bureau (CPIB)
 Uzbekistan

Estimated Disbursements (Bank FY/US\$ millions)

FY	2012	2013	2014	2015	2016	2017
Annual	4.7	12.6	20.0	24.2	24.0	7.5
Cumulative	4.7	17.3	37.3	61.5	85.5	93.0

Project Implementation Period: Start: July 1, 2011 End: June 30, 2016	
Expected effectiveness date: July 1, 2011	
Expected closing date: December 31, 2016	
Does the project depart from the CAS in content or other significant respects?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If yes, please explain:	
Does the project require any exceptions from Bank policies?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Have these been approved by Bank management?	<input type="radio"/> Yes <input type="radio"/> No
Is approval for any policy exception sought from the Board?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If yes, please explain:	
Does the project meet the Regional criteria for readiness for implementation?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Project Development Objective:	
The overall Project Development Objectives (PDOs) are to (1) improve access to quality health care at the primary level and at RMUs; and (2) strengthen the Government's public health response to the rise in non-communicable diseases (NCDs).	
Project description. The project design envisages the following four components:	
Component 1: Improving Health Service Delivery (estimated total cost US\$82.17 million equivalent). This component consists of two sub-components as follows:	
<i>Subcomponent 1.1: Hospital Services Improvement</i>	
This subcomponent will improve hospital service delivery by: (a) refurbishing at least one hundred (100) central rayon hospitals with up-to-date diagnostic and waste management equipment and medical furniture; (b) improving health service planning at the RMUs including the revision of construction specifications and standards and the development of referral guidelines and equipment maintenance systems; and (c) providing study tours for health administrators to improve the skills and competencies in hospital.	
<i>Subcomponent 1.2: Primary Health Care Development</i>	
This subcomponent aims at developing PHC by: (a) expanding the general practice primary health care model to all urban polyclinics in pilot Fergana, Syrdarya, Samarkand oblasts and in Tashkent city; (b) continuing the ten-month general practice training programs; and (c) improving skills and competencies of medical personnel in early diagnosis, screening and treatment of priority NCDs and development of optimal urban general practice model implementation strategy, through the provision of goods, consultants' services and training.	
<i>Subcomponent 1.3: Clinical Quality Enhancement</i>	
The key aim of the subcomponent is to enhance clinical quality by: (a) providing on-site training of RMUs' pediatric and internal medicine doctors and nurses in new clinical treatment standards; (b) training in clinical case management and hospital administration; (iii) developing and introducing up-to-date relevant and effective practical treatment standards for RMUs internal medicine and pediatrics staff; and (iv) establishing quality improvement mechanisms to monitor implementation of the new clinical treatment standards, through the provision of goods, consultants' services and training.	
Component 2: Strengthening Health Financing and Management Reforms (estimated total cost: US\$4.45 million equivalent). This component aims at (a) consolidating and institutionalising per capita based primary health care financing and management reforms by developing the strategy for the health sector financing and appropriate regulatory measures for the implementation of that strategy through the provision of consultants'	

services; and (b) strengthening the role of MOH in health financing policy formulation and monitoring and local capacity building by: (i) conducting health sector expenditures analysis and medium term projections; (ii) developing the national health accounts (NHA); and studies on hospital utilization patterns; (iii) training relevant staff at MOH, rural primary health care clinics and RMUs on financial management; and (iv) developing a health financing information system to support the implementation of the hospital financing pilot, through the provision of goods, consultants' services and training.

Component 3: Institutional Strengthening for NCD Prevention and Control (estimated total cost US\$2.98 million equivalent). This component aims to strengthen the capacity of Uzbekistan's public health institutions in effective prevention and control of noncommunicable diseases as follows:

Subcomponent 3.1: Health Promotion and NCD Prevention

This subcomponent aims at strengthening the capacity of public health institutions in effective prevention and control of non communicable diseases by increasing awareness of and changing behaviors associated with increased risk for hypertension, diabetes and other chronic diseases among the population through the provision of goods, consultants' services, training and workshops.

Subcomponent 3.2: Strengthening Health Surveillance Systems

This subcomponent aims at strengthening the health surveillance systems by: (a) developing a surveillance system for NCDs; (b) improving the public health system's ability to use collected data in effective policy making and program planning; and (c) developing an effective health promotion and disease prevention programs, through the provision of goods, consultants' services, training and workshops.

Component 4: Project Management (estimated total cost US\$3.40 million equivalent). This component will strengthen the capacity of MOH, the Central Project Implementation Bureau (CPIB) and the Project Implementation Bureaus (PIBs) for Project management and implementation, monitoring and evaluation, environmental management pursuant to the Environmental Management Framework (EMF), and procurement and financial management through the provision of goods, consultants' services, training and incremental operating costs.

Safeguard policies triggered?	
Environmental Assessment (OP/BP 4.01)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Natural Habitats (OP/BP 4.04)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Forests (OP/BP 4.36)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Pest Management (OP 4.09)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Physical Cultural Resources (OP/BP 4.11)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Indigenous Peoples (OP/BP 4.10)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involuntary Resettlement (OP/BP 4.12)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Safety of Dams (OP/BP 4.37)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects on International Waters (OP/BP 7.50)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in Disputed Areas (OP/BP 7.60)	<input type="radio"/> Yes <input checked="" type="radio"/> No

Conditions and Legal Covenants:		
Loan/Project Agreement Reference	Description of Covenant	Date Due
Section 5.01	The Recipient has procured and installed a new advanced automated accounting software satisfactory to the Association at the CPIB	Prior to Effectiveness
Schedule 2, Section 1, part A.1	The Recipient shall carry out the Project through MOH in accordance with the requirements and details set forth or referred to in the Project Operations Manual. The Recipient shall not assign, amend, abrogate or waive the Project Operations Manual or any provision thereof, without the prior approval of the Association	Recurrent
Schedule 2, Section I, Part A.2	The Recipient shall establish and thereafter maintain (a) the CPIB with resources, staff and under terms of reference satisfactory to the Association and assign to it the responsibility for overall Project management and coordination; and (b) a PIB in all oblasts and the Republic of Karakalpakstan, with resources, staff and under terms of reference satisfactory to the Association, and assign to it responsibility to assist the CPIB with Project implementation.	Not later than September 1, 2011
Schedule 2, Section I, Part A.3	The Recipient shall establish and thereafter maintain for the duration of the Project implementation, Oblast Hospital Program Oversight Committees at the local government “Khokimiyat” level in all oblasts and the Council of Ministers of the Republic of Karakalpakstan.	No later than three (3) months after the Effectiveness Date
Schedule 2, Section I, Part A.4(a)	The Recipient shall establish and thereafter maintain for the duration of the Project implementation, an Inter-Ministerial Methodological Commission on Health Financing responsible for the coordination of health financing and management reforms issues and making recommendations for important health sector policy decision.	No later than 6 months after effectiveness
Schedule 2, Section I, Part A.4(b)	The Recipient shall adopt the decision on (i) the implementation of the hospital financing pilot in three hospitals in Fergana oblast; and (ii) the expansion of the urban model of primary health care to all polyclinics in three pilot oblasts and in Tashkent city.	No later than 6 months after effectiveness

Schedule 2, Section I, Part A.5	The Recipient shall, through the MOH, submit to the IDA the approved hospital investment plan for each year and the respective recurrent costs' plan.	No later than February of each year starting from the investment and recurrent costs plans for 2012 and on an annual basis for the duration of the Project
Schedule 2, Section I, Part A.6	The Recipient shall, through the MOH, submit to the IDA the status of execution of the hospital investments and respective recurrent costs' plan for the preceding year.	No later than February of each year starting from the investment and recurrent costs plans for 2012 and on an annual basis for the duration of the Project
Schedule 2, Section I, Part A.7	The Recipient shall, through the MOH, submit to the IDA reports from the Oblast Hospital Program Oversight Committees on implementation of the hospital improvement program.	On a semiannual basis for the duration of the Project

I. Strategic Context

A. Country Context

1. **Uzbekistan is a landlocked country with a gross national income (GNI, Atlas method) per capita of US\$1,100 in 2009.** However, it is resource rich (gold, copper, natural gas, oil, uranium), with great development potential, and is strategically located in the heart of Central Asia. It is the only country bordering all other Central Asian states and its development affects energy, water, trade, and other issues, and, ultimately, the political and social stability of the region.¹

2. **The country also has a well-developed capital and social infrastructure, especially compared with neighboring countries.** It accounts for 45 percent of the region's population, and its economic and social prospects are critical not just for the 28 million citizens of Uzbekistan, but also for the whole Central Asian region, with a population of more than 62 million. An estimated 37 percent of Uzbekistan's population lives in urban areas, with about 3 million inhabitants in the capital, Tashkent, the largest city. The country has a very young, rapidly growing population and is facing a serious employment generation challenge, especially in rural areas, where two-thirds of Uzbekistan's population lives.

3. **Despite a significant reduction of the agricultural sector gross domestic product (GDP)—from 37 percent in 1991 to around 18 percent in 2009—**it is still an important sector of the economy, accounting for a third of the employment in the country. In this sector, cotton, which was strongly developed in Soviet times, accounted for only 19 percent of total agricultural output measured by domestic raw cotton prices (or about 3.5 percent of GDP) in 2008–09. Industry produced 24 percent of GDP in 2009, construction 7 percent, and services 44 percent.

4. **The Government's approach has relied heavily on the use of state controls, planning, and direct interventions** in many sectors of the economy, foreign exchange and trade restrictions, directed and sometimes subsidized credits to selected sectors, and large public investments. Uzbekistan made progress in increasing self-sufficiency in both energy and foodstuffs, and has been pursuing a policy of "localization," that is, encouragement and protection of domestic production. In recent years this policy appears to have been successful in increasing value added in industry from 14 percent of GDP in 2001 to 24 percent in 2009, following a decline of the industrial sector from 33 percent of GDP in 1991. Despite the priority given to industrialization, it appears that much industrial investment has been inefficient.

5. **Economic growth has accelerated from around 4 percent during 1996–2003 to over 7 percent during 2004–06** and to over 9 percent during 2007–08, largely (but not exclusively) driven by external demand. This growth performance, coupled with an impressive decline in the population growth rate from 2 percent during 1996–99 to 1.3 percent during 2000–08, according to official statistics, has led to a sharp increase of annual per capita GDP growth, from 2 percent in the late 1990s to 6 percent during 2004–06 and to over 7 percent during 2007–08. Despite the global crisis, Uzbekistan's economy continued to grow by about 8 percent in 2009 and 2010.

6. **However, despite high reported economic growth, employment generation and private consumption** have lagged, and there has not been a commensurate reduction in poverty in recent years, since growth has been poverty-inelastic. The national poverty level (defined as the percentage of the population consuming less than 2,100 kilo-calories per person per day) declined from 27.5 percent of the population in 2001 to 22 percent in 2008, that is, by just 5.5 percentage points. A significant increase of

¹ World Bank Uzbekistan Country Brief 2010 (Updated September 2010); <http://go.worldbank.org/IHMML3ZBE0>.

remittances and other transfers to Uzbekistan, at 4 to 7 percent of the GDP during 2005–08, from labor migrants in Kazakhstan, the Russian Federation, and other countries, has contributed to the living standards of the Uzbek population, and particularly that of low-income and poor families.

7. **Poverty levels vary significantly across regions in Uzbekistan, with rural areas showing more poverty than urban areas.** As the Living Standard Assessment shows, rural poverty has a number of causes, including the low quality of agricultural land (particularly plots owned by Dekhan, or farmers), the absence of nonagricultural jobs in most rural areas and, generally, lower access to public goods. Environmental conditions are also a particularly important factor in the regional variation in poverty rates. Karakalpakstan and Khorezm are at the tail-end of irrigation systems and, with insufficient or unreliable access to water, they have been severely affected by the Aral Sea crisis. Here and in other parts of Uzbekistan, water logging and soil salinity have continued to reduce the ability of those in the rural communities to raise their incomes. With the tightening of budget constraints for state-owned enterprises and utility price adjustments in recent years, a newly emerging concern is the urban poor, particularly in smaller regional towns. This regional diversity also translates into persistent socioeconomic inequalities, although consumption inequality is moderate compared to other Former Soviet Union countries (the Gini coefficient is estimated at around 0.39²).

Health Outcomes

8. **Population health outcomes in Uzbekistan are commensurate with its socioeconomic development level as a lower middle income country (LMICs).** The main health problems are rapidly approaching those faced by industrial countries, as demonstrated by indicators on chronic disease and other outcomes. According to the World Health Organization (WHO) (*World Health Statistics 2009*), life expectancy for a person born in 2009 is on average 68 years, which is 11 years below the European countries average of 79 years. Over the last several years, the greatest burden of disease in Uzbekistan has been attributed to noncommunicable and chronic diseases, with cardiovascular diseases and neuropsychiatric conditions among the highest causes of morbidity for both males and females.

9. **Noncommunicable diseases (NCDs) accounted for approximately 90 percent of all deaths in Uzbekistan in 2009.** Diseases related to the circulatory system were the most common cause of death, accounting for 65.6 percent of age-standardized mortality (WHO 2009). The mortality rate from diseases of the circulatory system in Uzbekistan in 2006 (754.2 per 100,000 population) was 1.7 times higher than the average in the European Region and three to five times higher than in the EU-15 (WHO, *European Health Report 2009*). About half of all cardiovascular-related mortality is due to ischemic heart disease, with one-quarter attributed to cerebrovascular-related diseases. Malignant neoplasms are the second-most-prevalent cause of death in the country, while respiratory diseases account for about 7 percent of total mortality. Mortality from digestive diseases has increased notably in the country, much of which is due to chronic liver disease and cirrhosis. Poor access to high-quality preventive and treatment services, especially in the rural areas, has greatly affected the indicators of mortality.

10. **Although NCDs are the greatest problem, Uzbekistan, still has remaining challenges related to maternal and child health (MCH) outcomes.** In comparison with other WHO European Region countries, it still faces high maternal and child mortality rates. In response, the GOU initiated several policies and programs mobilizing both internal and external resources, with a resulting decline in infant mortality by over 38 percent from 18.3 per 1,000 live births in 2001 to 11.3 per 1,000 live births in 2009 (officially reported data defer from WHO estimates, which are notably higher). Extensive support has been provided by Asian Development Bank (ADB), United Nations Population Fund (UNFPA), United

² World Bank Uzbekistan Country Assistance Strategy FY08–FY11 (2008), p. 12.

Nations Children's Fund (UNICEF), United States Agency for International Development (USAID), and WHO for MCH programs, including the revision and development of treatment guidelines on maternal and newborn care including neonatal resuscitation, piloting of health promotion and educational programs, and capacity building for health personnel.

B. Sectoral and Institutional Context

Health Reforms and Government Strategy

11. Uzbekistan's health services organization and delivery is based on rayon and oblast administrative areas. Responsibility for primary and secondary care rests with rayons and cities within rayons. There are 1,132 hospitals and 4,310 outpatient facilities. There are 159 rayon-level hospitals and 847 city hospitals in oblasts (264 of which are private) and 107 in Tashkent. These hospitals serve the national population of 28 million. The health system, inherited from the Former Soviet Union, is biomedically driven and oriented toward infectious disease control.

12. Primary Health Care Reforms. The Primary Health Care reforms supported by the World Bank through two investment projects, Health I and Health II, are nearly complete. Since the mid-1990s, Uzbekistan has undergone major reforms, with a health sector that has focused on restructuring Primary Health Care (PHC) and establishing an emergency medical care network. Both primary care and emergency centers are part of the package of free care covered by public funds. In PHC, the country has implemented a standard approach to the training of general practitioners (GP), upgrading the rural PHC infrastructure³ and the allocation of equipment for GP rural clinics, and the scope of health services to be provided. The reforms have resulted in the increased satisfaction of the population with the improvement of primary health services and increased motivation of service providers as a result of improved working conditions, retraining, and availability of bonus incentives. As of September 2010, 2,698 physicians covering 2,381 rural health clinics and 566 physicians from 29 city polyclinics have been retrained as GPs. The PHC reforms have encouraged efficiency as patients shift to lower-cost, outpatient services, and have helped orient facilities toward local needs and improved accountability. The emergency care system was entirely reorganized and now includes the Republican Center and 12 regional branches, which provide free-of-charge quality services to urban and rural populations. However, considerable challenges remain with respect to governance, in particular, financial and management accountability, efficiency in public resource management and quality of service provision, and expansion of the GP-based PHC in urban settings.

13. Urban Model of Primary Health Care. No final decisions have been made on the way to reform the urban polyclinics, which are staffed with multiple narrow specialists, often duplicating the specialists at hospitals. A government policy objective is to have all patients enter the health care delivery system through the GP of a family practice group, irrespective of urban or rural residence. The Health II project supported piloting this model in urban areas, particularly in 26 polyclinics in Gulistan, Margelan, Samarkand, and the Tashkent regions. The GP groups were initially modeled on a team approach within the polyclinic. Over time, the staff of polyclinics underwent the 10-month GP training, the facilities were provided with modern equipment, and the number of narrow specialist physicians at the polyclinics was gradually reduced. In addition, per-capita financing was introduced in pilot polyclinics. The approach taken has led to a significant restructuring of the way polyclinics are organized and managed. The Government conducted an independent assessment of the pilot programs, which demonstrated mixed results. The pilot is positive in terms of improved access to PHC services, improved satisfaction of

³ The Russian translation of Primary Health Care centers is *Selski Vrach Punckt*. We use the English translation in this document.

patients with the quality of basic services provided by GPs, increased use of PHC services, a strengthened gate-keeping role of GPs, and the expanded scope of PHC services provision. However, the results showed the dissatisfaction of providers with the increased volume of work and reporting requirements due to a lack of appropriate financial incentives to perform additional tasks, and the tendency toward rehiring narrow specialists at the restructured polyclinics. Following the results of the urban pilot program, the Government decided to prolong the duration of the pilot and expand the urban GP model to all urban polyclinics in three pilot oblasts and in Tashkent. The Ministry of Health (MOH) intends to revisit the PHC strategy to eliminate barriers for introducing the GP-based model in urban areas.

14. The Emergency Medical Care (EMC) network, consisting of national- and oblast-level hospitals, EMC departments within central rayon and city hospitals, and the ambulance network, is providing good-quality 24/7 services for acute surgical and medical patients formally free of charge, following a program of upgrading, equipping, and training of staff. It has also established referral and support relationships among the rayon, oblast, and republic levels.

15. Secondary Health Care Development. The current configuration of inpatient service provision is inefficient. Uzbekistan has a large, inefficient, and fragmented network of hospitals and specialized clinics, characterized by multiple vertical programs and many single-specialty facilities. There is a lack of clarity regarding the specific roles and linkages between the numerous hospitals and specialized care facilities. Inefficiency is largely evident in the oblast hospitals network and less within Rayon Medical Unions (RMUs). At the oblast level, in particular, there is fragmentation and duplication of services across too many separate facilities. In addition, the organization of buildings and departments within each hospital is usually very inefficient; there are multiple buildings on a hospital site, with poor functional layout and connection. These are also characterized by an inefficient management system due to the many disconnected vertical chains of command and reliance on vertical, technical routes for oversight.

16. Quality of Inpatient Services. One of the major adverse effects of the current fragmentation for health care outcomes is the poor quality of secondary care services and the lack of an institutional and managerial focus on prevention and management of chronic illness and nonacute services for the middle-aged and older populations, compounded by a lack of coordination of services for patients with multisystem diseases that are mostly related to NCDs. Case management based on quality improvement techniques, evidence-based medicine, and up-to-date clinical practice protocols and standards is largely absent. The quality assessment of pediatric inpatient care, conducted by WHO in 2008, revealed a number of shortcomings in clinical management (diagnostic, treatment, and monitoring): for 35 percent of the 87 cases observed, the children did not require hospitalization; in 76 percent of the cases, the therapy prescribed was noted as ineffective and unsafe; in 81 percent of the cases observed, clinical management was considered suboptimal; and in 94 percent of the cases, health workers did not have clinical protocols, guidelines, and/or clinical standards.

17. Poor infrastructure and outdated diagnostic and medical equipment at the rayon-, city-, and oblast-level secondary facilities add obstacles to the provision of quality inpatient care. Except in the upgraded EMCs, equipment is typically 25 to 30 years old or older, and much of it is nonfunctioning. Technical maintenance of the medical equipment is absent, and laboratory facilities often lack needed reagents for diagnostic tests.

18. Access to Hospital Care. The poor are less likely to seek care (the 2000–01 Household Budget Survey). The burden of expenditures falls disproportionately on the poor: the poorest households spend 22 percent of food consumption on health care compared to 18 percent on food consumption, on average. Out-of-pocket payments are also especially high in the poorest regions, which creates financial barriers for the access to quality health services. The incidence of out-of-pocket expenditures is higher at specialized facilities at the oblast and city level.

19. Geographic access to health facilities is not the main obstacle for the poor, but health infrastructure has deteriorated significantly in rural areas (where the poor are more likely to reside), and the poor are unable to afford the costs of medicines even if they do consult with a health services provider in the case of sickness.

20. The Government's Plans for Hospital Reform and Development. Secondary Health Care Reforms have been limited. Over the last 10 years, the Government has undertaken measures to address inefficiency and fragmentation of secondary care; however, the secondary health care reform has been limited to a rationalization of the hospital system, which mainly entailed reducing the number of small hospitals in rural areas. Between 1997 and 2005, the number of rural hospitals was reduced by almost half and the number of urban hospitals by around 20 percent. The hospital bed capacity reduced from 5.3 beds per 1,000 people to 4.8 beds per 1,000 people; however, this ratio remains high compared both to other LMICs and upper-income countries. The gradual reduction in hospital capacity since independence has not been part of a planned, comprehensive approach (as was the case with primary care reform). Therefore, with most physical structure and staffing remaining unchanged, there have been limited savings and efficiency gains.

21. The GOU is concerned about the inefficiencies in the current hospital configuration and is ready to take steps to modernize the extensive network of health facilities. *The Welfare Improvement Strategy 2008–2012* and the Decree of the President of Uzbekistan (PP-700 of September 19, 2007), “On main directions on further deepening of reforms and implementation of the State Program on Healthcare Development,” identifies inpatient and specialized care as important areas of focus for the next stage of health sector reforms, with the aim of improving the performance of medical establishments. The Government’s goal is to improve the quality of secondary care in rayons/cities and to make tertiary-level quality services available in oblast facilities to increase access, and also to reduce self-referral and referral to specialized hospitals in Tashkent.

22. Presidential Decree PP-700 approved the following main actions with regard to hospital service provision:

- Structural changes in the organization of the Oblast Health Departments and RMUs and subordinate health facilities at these levels. The changes consolidate hospital facilities in rayons/cities under a single legal entity and management.
- A new set of stand-alone self-financing diagnostic centers at the republic and oblast levels.
- Transfer of finance/accounting departments of Oblast Health Departments and oblast/rayon hospitals into the finance departments at the corresponding level of local administration, in conjunction with bringing Oblast Health Departments and health facilities into the single Treasury system starting January 1, 2008.
- Strengthening safety of blood transfusion and blood processing.
- An investment plan for upgrading RMUs, oblast multiprofile hospitals and multiprofile children’s centers, and diagnostic centers. The Ministry of Finance (MOF) has budgeted US\$500 million for civil works investment during 2008–12 for this program and is seeking financing from development partners/donors for equipment and training costs.
- A training and retraining program for doctors (through clinical residency), and for head doctors and their deputies (on health care management).

23. The Government has clear policies on the service types to be provided at the rayon level. These policies, expressed in various proclamations, dictate service groupings: therapy, surgery, pediatrics, obstetrics and gynecology, emergency and communicable diseases, together with laboratory, imaging,

and other diagnostic technologies. Until relatively recently, these groupings were delivered independently in both polyclinic (ambulatory) and hospital inpatient settings. These instruments are intended to clarify what must be provided and, together with defined norms and standards, are meant to guide staffing, financing, and management of service delivery. That provides an extensive template for services planning in individual institutions. This prescriptive approach also has the potential to result in the inappropriate allocation of human and financial resources unless the directives allow for significant interpretation to meet local needs. Similarly, unless they are regularly and extensively updated, the directives can lead to rigidity and the maintenance of outmoded approaches to clinical services delivery and the incapacity to adapt to opportunities for services improvement and economic efficiencies that emerge from clinical and technological developments.

24. The Government's current strategy on reforming secondary care does not intend major reconfiguration of the hospital system. There is potential to achieve efficiency through greater consolidation of the hospitals network into a smaller number of larger facilities. Substantial economies could be achieved in utilities, maintenance, clinical and nonclinical support services, transport, and communications through consolidation of sites and buildings. There is also potential for rationalizing the roles of narrow specialists in polyclinics, and in hospital outpatient and inpatient departments.

25. Over the last decade, several reports have been commissioned by development partners and projects related to the need for rationalization of hospital services in Uzbekistan. All of the reports have made similar recommendations to consolidate management of the separate vertical systems at the oblast level, and to consolidate hospital services at the oblast and rayon/city level into multiprofile general hospitals combining emergency and nonacute admissions.

26. However, the option for major changes through optimization and consolidation of hospital services at the oblast/city level into multiprofile general hospitals and combining emergency and nonacute admissions was considered to be radical and politically challenging for a country in transition. Therefore, the Government opted for an evolutionary approach to addressing the hospital system inefficiency, and adopted a program for renewal of the Central Rayon Medical Unions and City Medical Unions to ensure the access of rural communities, in particular, to good-quality health services that are provided at reasonable cost.

27. Under this program, the GOU is interested in improving the functional efficiency and management structure *within* the RMUs and City Medical Unions (CMUs), and within the referral chain from PHCs through rayon, oblast, and republican facilities. Thus, the Government intends to improve the provision of specialized care through making substantial investments in upgrading RMUs, oblast multiprofile hospitals, and multiprofile children's centers.

28. Health Financing Reforms. The health financing reforms initiated in 1996 at the PHC level have increased the Government's effectiveness in the provision of basic health care. However, an improvement in hospital financing is necessary to improve the efficacy of the health care system and ensure the proper motivation of providers. The rural PHC financing and management reforms through pooling of funds for rural primary care at the oblast level and direct (adjusted) per capita financing of the rural PHCs from oblast administrations, now cover the entire country. The PHC reforms have increased the predictability of financing for local health facilities and the availability of resources for drugs, medical supplies, physical infrastructure, and salary incentives.

29. However, public expenditure on health (including externally financed), at 2.5 percent of GDP in 2009, remains relatively low. A further increase in budget allocation to the PHC system is needed to ensure proper motivation of the staff in providing quality PHC services and adequate funds for basic medicine and maintenance.

30. In terms of equity in health financing, there are large differences in the level of effort and capitation amounts across oblasts. In 2009, the capitation in Syrdarya was 60 percent higher than in Samarkand, and in Samarkand the capitation grew at a much lower pace (+23 percent) than overall public expenditure (+33 percent). Remedies should be devised to improve the equity of financing of primary care in the country.

31. Consolidation of Per-capita Health Financing. With regard to per-capita financing for primary care, the main concern pertained to the impact of the Treasury reform, which, among other things, transferred the responsibility for paying PHCs from the health to the finance departments at the rayon level. The implementation is not uniformly satisfactory, and some issues still need to be resolved. In particular, not all finance departments appear to be applying a uniform base capitation to all facilities at the rayon or even the oblast level, and the decision on distribution of funds by the Finance Department often occur without coordination with health institutions. Another concern is the confusion that seems to prevail between “savings” and “underspending.” Most finance departments think that unspent fund should be returned to the Treasury when, in principle, under capitation financing, facilities should be able to retain unspent money to improve services (by providing more drugs, investing in the facility, or both). The Government needs to consolidate the per-capita financing reforms and clearly define the roles and responsibilities of the finance and health departments in the financing of the health care providers to ensure shared understanding among stakeholders.

32. On the other hand, resource allocation to rayon and city hospitals is still centered on input-based norms (bed and staff numbers), reflecting nominal capacity and not the level of services provided. The current system produces geographic inequity in financing and the absence of incentives for efficiency improvement. Health services at RMUs level are provided free of charge to the population.

33. Hospital financing reforms were commenced in the pilot Fergana oblast with the support of USAID-funded Zdrav plus project, which aimed at introducing case-based financing. The chosen technical solution was the use of the diagnostic related groups (the DRG system), which, since the last decade, has become the dominant form of payment worldwide for inpatient services. However, the hospital financing reforms are currently stagnant, and the hospital financing pilots are not progressing.

34. The tradition in Uzbekistan of complying with staffing and bed norms is inconsistent with the freedoms that hospital managers need to make good use of a DRG system. Furthermore, introduction of case-based financing of hospitals was hindered by the lack of readily available information through an established Information Management System and sufficient management and technical capacity to apply such a sophisticated provider payment mechanism. Therefore, the move to developing a completed case payment system for rayon hospitals needs more preparation and a carefully handled transition period. A rather long period of “improvements in financing” as opposed to introducing new financing systems is needed in Uzbekistan, in view of the difficulties experienced in Fergana in implementing DRGs. The transition option could be to proceed with piloting cost-and-volume contracts and block contracts for the rest of the rayon hospitals.

35. The State of Governance and Management Reforms in the Health Sector. Autonomy of health facilities is restricted. The introduction of a per capita financing formula in PHC has increased transparency by removing the discretion of Central Rayon Hospitals in allocating resources to PHC facilities. The implementation of a new Treasury system, unifying the budget and accounting system and streamlining budget planning, execution, and reporting, has achieved significant results, including more timely cash allocations to health facilities, reduced delays in direct payments to suppliers, and tightened control over expenditures. It has also enhanced local government capacity to prepare comprehensive and accurate management reports.

36. However, achievements in improving accountability and efficiency have been mixed and the ongoing PHC reform efforts are constrained by a variety of factors, such as (i) underfunding, (ii) a lack of progress in procurement reform, (iii) an emphasis on control rather than flexibility in financial and human resource management, and (iv) weak capacity of internal and external audit and of health personnel.

37. Similarly, except for Republican Specialized Centers, hospitals have little autonomy over budget allocation, human resource management, or infrastructure configuration/capital expenditure.

38. Health Sector Stewardship. The Government is keen to continue efforts to improve hospital financing and to test the new approaches over next five years. Since Uzbekistan is facing a broad modernization challenge, aimed at better fitting into a modern world, the MOH needs to strengthen its lead role to focus more on providing strategic guidance, setting norms and regulations, and ensuring accountability in allocating financial resources. The Health Financing Management Information Systems also need attention. The existing hospital statistics system for planning and management through a new hospital database currently being piloted in Fergana oblast should be maintained and eventually scaled up to become part of that endeavor.

39. Public Health. The health system as a whole is not organized in a way to effectively offer quality preventive and curative services against NCDs. Over the last several years, the greatest burden of disease in Uzbekistan has been attributed to noncommunicable and chronic diseases, counting cardiovascular diseases and neuropsychiatric conditions among the highest causes of death for both males and females. Despite this, current public health measures are largely focused on sanitary-hygienic surveillance and infectious disease control. Aspects of a modern health service provision, such as the increasing importance of NCDs for the health of the population and integration of public health services with other areas of the health care system, have not been addressed in a comprehensive manner. The NCD surveillance system is not adequately developed to reduce the disease burden and needs strengthening.

40. After independence, Uzbekistan developed several guiding documents that serve as a comprehensive legal framework, characterized by (i) active involvement of the population in health promotion activities; (ii) forming and developing cross-sectoral cooperation; (iii) improving the system and infrastructure of health development; (iv) and changing approaches to the evaluation of preventive activities. Through these documents, and primarily through the Constitution of the Republic of Uzbekistan, the state secures rights to health protection and medical care for the citizens, and encourages activities for health promotion, sport development, and environmental and sanitary-epidemiological well-being. The principles embraced by the Constitution are concretized by the “Law on Population Health Protection” and the “Law on the State Sanitary Surveillance.” Strategic objectives of health promotion are further elaborated on in the “Concept for Health Promotion in the Republic of Uzbekistan 2008–2015,” the main one of which is defined as “Reduction of mortality and morbidity rates caused by diseases and conditions that can be prevented through change of population lifestyle.”

41. The Institute of Health and Medical Statistics (IHMS) is the main vertical structure responsible for the implementation of health promotion programs in the Republic of Uzbekistan at all levels, jointly with the MOH, research institutes, and health care institutions. Governmental and nongovernmental agencies, local community organizations (Makhallas), the media, and international agencies are also actively engaged in the implementation of health promotion/public health activities. Prevention of communicable and noncommunicable diseases is spread among various parts of health care system including the Sanitary and Epidemiologic Services (SES) and the IHMS. The IHMS comprises 14 oblast branches, 159 rayon branches, and 24 urban health centers staffed by more than 2,000 specialists, including approximately 1000 physicians and paramedical personnel. At present, the Institute of Health and Medical Statistics health promotion activities concentrate on mass-media-based knowledge dissemination. About 20 TV and

30 radio programs serve as information channels together with central and local print media and leaflets, posters, and brochures. Reference Web sites have been developed for a wide range of users, and about 40 print materials on various health topics are produced every year in very high numbers for dissemination to the population nationwide.

42. The evaluation of health promotion campaigns is one of the most important components of the work of the IHMS and its oblast branches. The IHMS's national and oblast level Social Research and Monitoring Departments regularly conduct small localized surveys on population awareness of (i) tuberculosis; (ii) sexually transmitted diseases; (iii) prevention of enteric infections; and (iv) nutrition, physical activity, and healthy lifestyles. Despite this, the incongruence between reported data on particular risk factors, for instance, high obesity and the reported low prevalence of diabetes, points to a problem with data quality and reliability.

43. Most primary health care providers are involved in some kind of promotional or educational activities, and these have been envisaged as part of preventive activities and one of the main functions of PHC. However, the understanding of PHC providers vis-à-vis their role in health promotion and disease prevention and coordination with the health promotion specialists could be further improved since, currently, GPs do not consider this to be their chief concern. In contrast, the community health nurses (patronage nurses) are actively involved in their communities through the provision of health information, follow-up home visits for immunization checks, and postnatal and newborn care. Armed with the necessary skills and knowledge, this cadre of workers can be even more effective in their work, especially in prevention and home-based care of NCDs.

44. Key health promotion programs implemented in Uzbekistan are still very much skewed toward communicable diseases and include (i) prevention of nutrition deficiencies (including anaemia) largely through nutrition education, supplementation with iron, folic acid, vitamin A, and flour fortification, and dissemination of leaflets and health messages through the media to the population on various health conditions; (ii) health promotion in schools, with health promotion classes covering reproductive health, drug addiction, and infectious diseases (NCDs, lifestyle factors, and socioeconomic determinants are less often included); and (iii) HIV/AIDS/STI prevention, which includes dissemination of prevention information particularly targeting young people. While the IHMS makes great efforts to undertake the activities it is charged with, it lacks the technical means and capacity for systematic surveillance and control of NCDs, and its staff (particularly in the regional and district branches) has limited capacity to conduct assessments of population health status and the subsequent implementation of a variety of evidence-based activities targeted toward prevention and reduction of NCD risk factors. Furthermore, it seems that data currently collected on population health outcomes are underused in terms of descriptive analyses and reports analyzing the information for political and managerial decision makers.

45. Although several steps have been taken over the last decade to develop public health in Uzbekistan, much work remains to be done. This is particularly important as the country begins to take a more comprehensive approach to addressing the problem of NCDs. To succeed in this, much greater emphasis must be placed on coordination of actions among the various departments and units within the health sector and with the sectors outside health. Already, the Bank-funded Health II project, in close collaboration with WHO and other partners, is supporting a number of MOH-led efforts that show great promise and are closely linked to the activities planned in the proposed Health System Improvement Project. These include (i) the development of a National Health Promotion Plan outlining specific activities to be undertaken during 2011–14; (ii) the development of a National Strategy on prevention and control of non-communicable chronic diseases in Uzbekistan for 2011-2010 (with support from the WHO); and (iii) the Draft Law on Restriction of Tobacco and Alcohol Distribution and Use- all of which are expected to be adopted in 2011. Uzbekistan is also taking steps to sign onto the WHO Framework Convention on Tobacco Control, also by 2011. These initiatives will require a high level of leadership

from the MOH and coordination with multiple sectors and partners in order to be implemented in the near and medium term. The project, therefore, provides an excellent opportunity to continue to move these public health initiatives and the policy dialogue forward in the medium term.

C. Higher-Level Objectives to which the Project Contributes

46. The Bank's involvement would complement the current and planned support from government and other donors and international agencies by addressing in a more systemic way the challenges of the provision of quality hospital services to the country's rural population, reforming the way those services are organized and paid for, general public health education and promotion, and behavioral change of the population. This project would aim at bringing together the various interventions among donors while focusing on integrating and scaling up major public health action through deepening ongoing health sector reforms within the context of the Government Welfare Improvement Program.

47. The Bank has included the proposed project in the Country Assistance Strategy (CAS) for the period FY09–FY11 (Report No. 43385-UZ, May 14, 2008), which responds to two of the CAS's four pillars specific to (i) enabling an environment for shared growth (under "increasing the efficiency of public financial management for more effective service provision"), and (ii) improving human development and social protection through improved basic services delivery.

II. Project Development Objectives

A. PDOs

48. The overall PDOs are to (1) improve access to quality health care at the primary level and at RMUs, and (2) strengthen the Government's public health response to the rise in NCDs.

Project Beneficiaries

49. The project is targeted both geographically (majority rural) and at the level of care (secondary care), to help the vulnerable population. The last available Living Standard Assessment and the social assessment showed that primary care services and secondary health services provided by rayon hospitals in rural areas are the principal way of providing basic primary and secondary services to vulnerable households. It is likely that lower-income groups will increasingly seek care when needed, if they know that reliable quality care can be obtained locally. The rural population in the intervention areas will have access to quality PHC and secondary care, and thus, will save on travel costs and avoid the loss of time and money by going to rayon hospitals instead of hospitals in the oblasts and Tashkent. The population living with chronic diseases will also benefit through gaining knowledge about improved self-management of their conditions at home, which will lead to the earlier seeking of care and the prevention of complications. In addition, urban populations in pilot cities will benefit from improved quality of PHC services at pilot urban polyclinics.

50. Beneficiaries of the Project will also include medical personnel at the pilot urban polyclinics, PHCs and RMUs. By undergoing intensive training, retraining, or both, they will upgrade their clinical skills and competencies, which will add to their professional dignity and comfort in providing safe and quality health care services.

51. Officials at the MOH, at the oblast health and finance administration, hospital managers in project hospitals, and the IHMS will benefit from activities aimed at strengthening their capacity in health policy formulation and oversight. The strengthened leadership role of the MOH and public institutions will, in turn, increase the health care system's responsiveness to identified public health problems. The IHMS,

which is responsible for health promotion, disease prevention, and monitoring of population health outcomes, would benefit from building capacity that would enable it to adequately carry out its functions.

B. PDO-Level Results Indicators

52. The key performance indicators that would be used to track progress toward the PDO are:

- Increased proportion of diabetic and hypertension patients referred from PHC facilities to RMUs, in accordance with treatment standards
- Improved perceived quality of PHC and secondary health care services in intervention areas
- Increased proportion of hospitals (RMUs) following NCD treatment standards
- Issuance of a profile of NCD risk factors and burden of disease.

III. Project Description

A. Project Components

53. The proposed project will support the implementation of the Government State Program “On main directions on further deepening of reforms and implementation of the State Program on Healthcare Development” by improving the linkages in health care service delivery from PHC to specialized care, and improving the quality of secondary care in rayons while increasing access and reducing self-referral to specialized hospitals in Tashkent.

54. In primary health care, the proposed project will assist the Government to (i) advance the PHC reforms by expanding the GP PHC model to urban areas, (ii) provide continuous professional development of GPs and nurses, and (iii) develop an overall vision for PHC financing and deepening of the efficiency of service provision by consolidating capitation payments in PHC.

55. In secondary care, the Bank’s support will focus on enhancing secondary care services by (i) strategically investing in diagnostic and treatment equipment in the rationally designed hospitals at the rayon level, (ii) determining how the six broad services that are defined in policy to be delivered at the rayon level should be delivered, (iii) improving clinical service management on priority NCDs, (iv) improving the referral system, and (v) improving rayon hospital financing. As relationships between primary care and the central RMUs strengthen and grow, the medical unions will be able to give greater emphasis to ambulatory care using the backup support of GPs and the outreach services of PHCs. Over time, the outcome-orientated approach and focus on NCDs will ultimately create an environment where there will be no other choice but to drop the old, unrenovated duplicate facilities.

56. In addition, the proposed project will continue to support efforts to improve MOH capacity in health financing policy formulation and of public health institutions to respond to identified public health problems. The specific focus would be on implementing health promotion programs to decrease the risk of NCDs and developing an NCD surveillance system.

The project design envisages the following four components:

Component 1: Improving Health Service Delivery (estimated cost US\$82.17 million equivalent)

57. This component will focus on improving service planning at RMUs, refurbishing them with modern biomedical equipment, and improving skills and competencies of clinical staff in disease case management and treatment while focusing on the most frequently occurring pediatric and noncommunicable disease conditions. This component will also build on the results achieved under Health I and Health II with regard to restructuring PHC. It will further support advancing PHC reforms by expanding the general practice PHC model to urban areas, strengthening the referral system, and improving skills and competencies of medical personnel in early diagnosis, screening, and treatment of priority NCDs.

Subcomponent 1.1: Hospital Services Improvement (estimated total cost US\$76.22 million equivalent)

58. This subcomponent will improve hospital service delivery by: (a) refurbishing at least one hundred (100) selected central rayon hospitals with up-to-date diagnostic and waste management equipment and medical furniture; (b) improving health service planning at the RMUs including the revision of construction specifications and standards and the development of referral guidelines and equipment maintenance systems; and (c) providing study tours for health administrators to improve the skills and competencies in hospital.

59. The physical arrangement of services has a practical impact on the effectiveness and efficiency of clinical services delivery. Therefore, the Project will emphasize creating the opportunity for review and for reconfiguring the functional relationships and organizational structure of clinical services delivery at the RMU level. Refurbishment of many central RMUs will maintain some of the constraints of their past design, but the location and design of additional buildings, and the reuse of facilities will be planned in ways that maximize opportunities to improve functional relationships and help control future operational costs. To the extent possible, the services will be consolidated (reception, diagnostic, emergency, general medicine and pediatric departments, and so forth) and housed in fewer facilities.

60. The Government has selected the Project hospitals based on the following defined criteria: (i) distance from the capital city, (ii) epidemiology of the oblast, (iii) socioeconomic development of the oblast, (iv) the level of physical dilapidation of the hospitals and the hospital utilization rate, (v) the existence of medical education institutions, and (vi) the size of the rural population.

61. Accordingly, the project will support all hospitals in 6 oblasts (Andizhan, Fergana, Kashkadarya, Namangan, Republic of Karakalpakstan, and Samarkand) and two to three hospitals in other oblasts. The number of project hospitals may increase during implementation in case there would be savings and/or the donor partners will cover certain technical assistance activities under their projects.

Subcomponent 1.2: Primary Health Care Development (estimated total cost US\$2.44 million equivalent)

62. This subcomponent aims at developing PHC by: (a) expanding the general practice primary health care model to all urban polyclinics in pilot Fergana, Syrdarya, Samarkand oblasts and in Tashkent city; (b) continuing the ten-month general practice training programs; and (c) improving skills and competencies of medical personnel in early diagnosis, screening and treatment of priority NCDs and development of optimal urban general practice model implementation strategy.

63. The 10-month GP training program will remain the main method for training the urban polyclinic doctors, and it should once again undergo external review to ensure that the practical skills training aspects are of high quality and to assure the quality of the mentorship skills of the GP trainers.

64. This subcomponent will finance (i) technical assistance to review and revise the 10-month GP training program; (ii) the provision of medical equipment to urban PHC facilities (all polyclinics) in three oblasts—Fergana, Samarkand, and Syrdarya—and in Tashkent; (iii) foreign and local technical assistance to develop the optimal and time-bound urban general practice or family medicine model implementation strategy; (iv) the development of legislative and regulatory documents for further rollout of an urban model of PHC service provision; and (v) foreign and local technical assistance for further development of nurse training and improvement of nurse trainer skills.

Subcomponent 1.3: Clinical Quality Enhancement (estimated total cost US\$3.51 million equivalent)

65. The key aim of the subcomponent is enhance clinical quality by: (a) providing on-site training of RMUs' pediatric and internal medicine doctors and nurses in new clinical treatment standards; (ii) training in clinical case management and hospital administration; (iii) developing and introducing up-to-date relevant and effective practical treatment standards for RMUs internal medicine and pediatrics staff; and (iv) establishing quality improvement mechanisms to monitor implementation of the new clinical treatment standards, through the provision of goods, consultants' services and training.

Component 2: Strengthening Health Financing and Management Reforms (estimated total cost US\$4.45 million equivalent)

66. This component aims at (a) consolidating and institutionalising per capita based primary health care financing and management reforms by developing the strategy for the health sector financing and appropriate regulatory measures for the implementation of that strategy through the provision of consultants' services; and (b) strengthening the role of MOH in health financing policy formulation and monitoring and local capacity building by: (i) conducting health sector expenditures analysis and medium term projections; (ii) developing the national health accounts (NHA); and studies on hospital utilization patterns; (iii) training relevant staff at MOH, rural primary health care clinics and RMUs on financial management; and (iv) developing a health financing information system to support the implementation of the hospital financing pilot.

67. The component will finance (i) Technical Assistance (TA) to develop the overall vision and strategy for the Health Sector Financing and appropriate regulatory measures to ensure the lead role of the oblast/rayon health organs in health budget planning; (ii) TA and training to build MOH capacity in developing National Health Accounts, analyzing health sector expenditure, and developing medium-term projections; (iii) TA to develop and pilot cost-and-volume and block contracts for reimbursement of hospital services and its evaluation; (iv) training in financial and hospital management to staff in rural PHC clinics and RMUs; (v) acquisition of computers, IT equipment, and software development at selected rayon hospitals and the MOH; (vi) a study on the reasons for the low utilization of hospital services by the middle-aged and older populations; and (vii) study tours to countries with established case-based hospital financing.

Component 3: Institutional Strengthening for NCD Prevention and Control (estimated total cost US\$2.98 million equivalent)

68. The overall aim of this component is to strengthen the capacity of public health institutions in effective prevention and control of NCDs. Activities would be implemented in two pilot oblasts

(Kashkadarya and Fergana), with a third oblast (Syrdarya) serving as a control. The proposed activities are as follows.

Subcomponent 3.1: Health Promotion and NCD Prevention (estimated total cost US\$1.57 million equivalent)

69. This subcomponent would build on current efforts to improve health promotion. Specifically, it would aim at strengthening the capacity of public health institutions in effective prevention and control of non-communicable diseases by increasing awareness of and changing behaviors associated with increased risk for hypertension, diabetes and other chronic diseases among the population in two oblasts—Kashkadarya and Fergana.

70. The planned activities would contribute to implementing the National Health Promotion Plan (2011–2014) and would build on efforts started under the Health II project to improve the knowledge and skills of health promotion specialists in undertaking effective health promotion and behavior change activities. Specific areas will include (i) identifying key public health issues in the population, (ii) implementing a number of focused evidence-based interventions (reduction of salt intake, tobacco use, and so forth), (iii) developing appropriate evidence-based approaches to resolve the identified issues (for example, community education days, screenings, and so forth), and (iv) evaluating the impact of the interventions.

71. To strengthen capacity in the above areas, the subcomponent will finance (i) training for public health specialists on principles of basic health promotion, the epidemiology of NCDs, and effective health communication strategies; (ii) training of PHC providers on hypertension and diabetes screening and prevention; and (iii) a basic package of computer/multimedia equipment to the Institute of Health and Medical Statistics departments of the two treatment oblasts and their rayon/city branches for use in the development of health communication materials, activity monitoring, and reporting.

72. Global best practice points to multisectoral actions as the most effective way of addressing the NCD challenge. However, since these are the initial efforts to strengthen the public health system's response to NCDs, and laying the basis for changing the current setup of the public health system, a decision has been made to focus on only a few public-health-specific activities and, in collaboration with the WHO, to pursue an active policy dialogue on NCDs with health and non-health policy makers in the country, which would then form the basis for moving toward implementation of multisectoral actions at a later time once awareness of the determinants of NCDs is greater. This also recognizes existing capacity constraints and the limited successes in the public health area of the current project as a result of having too many complex activities.

Subcomponent 3.2: Strengthening Health Surveillance Systems (estimated total cost US\$1.41 million equivalent)

73. This subcomponent aims at strengthening the health surveillance systems by: (a) developing an epidemiological surveillance system for NCDs; (b) improving the public health system's ability to use collected data in effective policy making and program planning; and (c) developing an effective health promotion and disease prevention program. The development of epidemiological surveillance (including behavioral risk factors) for NCDs, would be piloted initially in the two treatment oblasts *with* later expansion to routine national-level monitoring. The system would be based on the WHO STEPS – Stepwise Approach to Surveillance methodology designed specifically for NCD surveillance in low- and middle-income countries.

74. Activities would include (i) definition of indicators for routine surveillance and development of a national NCD monitoring and reporting system, (ii) training of health statisticians (IHMS) in accurate data collection and analysis, and (iii) provision of the necessary hardware and software. Baseline and follow-up population surveys (in the three oblasts) to collect data for the selected NCD indicators are also planned to be fielded during the lifetime of the project, since these would serve as the basis for future routine NCD surveillance. Efforts would also focus on improving the public health system's ability to use the collected data in effective policy making and program planning, and the subsequent development of effective health promotion and disease prevention programs to address problems identified. To facilitate this and enhance the stewardship role of the health sector in this specific area, and to raise awareness of NCDs as a multisectoral issue, regular roundtable discussions of MOH policy makers and other key stakeholders will be planned and supported. This will also be critical to furthering the current policy developments on the restriction of tobacco and alcohol use and the national NCD Strategy.

Component 4: Project Management (estimated cost US\$3.40 million equivalent)

75. This component will strengthen the capacity of MOH, the CPIB and the PIBs for Project management and implementation, monitoring and evaluation, environmental management pursuant to the Environmental Management Framework (EMF), and procurement and financial management through the provision of goods, consultants' services, training and incremental operating costs.

76. The Project would be implemented over a five-year period and would finance goods, consultant services, training, and incremental operating costs. The Government would finance the cost of upgrading the physical condition of hospitals, recurrent operating costs, and taxes.

B. Project Financing

1. Lending Instrument

77. The total project cost is estimated at US\$103.1 million equivalent, of which US\$93.0 million equivalent will be in International Development Association (IDA) Credit. The GOU will be responsible for all local taxes (estimated at US\$10.1 million equivalent) associated to the IDA-financed expenditures.

2. Project Cost and Financing

Project Cost by Component	IDA	Government	Total	Percent Financing
Component 1: Improving Health Services Delivery	82.17	8.04	90.22	88
1.1 Hospital Services Improvement	76.22	5.34	81.56	
1.2 Primary Health Care Development	2.44	0.22	2.66	
1.3 Clinical Quality Enhancement	3.51	2.48	5.99	
Component 2: Strengthening Health financing and Management Reforms	4.45	0.53	4.96	5
Component 3: Institutional Strengthening on NCD Prevention Control	2.98	0.31	3.30	3
3.1 Health Promotion and NCD Prevention	1.57	0.14	1.72	
3.2 NCD Surveillance	1.41	0.16	1.58	
Component 4: Project Management	3.40	0.97	4.38	4
Total Project Cost	93.00	10.1	103.1	100

78. The following table specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Credit, the allocations of the amounts of the Financing to each Category, and the percentage of expenditures to be financed for Eligible Expenditures:

Category	Amount of the Credit Allocated (expressed in USD equivalent)	Percentage of Expenditures to be Financed (exclusive of Taxes)
(1) Goods, Consultants' services, Training and Incremental Operating Costs	93,000,000	100%
TOTAL AMOUNT	93,000,000	

C. Lessons Learned and Reflected in the Project Design

79. A review of past and current Bank support to the health sector in Uzbekistan and other Europe and Central Asia countries during the last 10 years revealed that a government's strong commitment to a health reforms agenda is key for project implementation success.

80. The Project also addresses several key lessons learned from the review of health care reforms in the transition Commonwealth of Independent States countries, which include the need to (i) enhance efficiency of the supply side by changing clinical protocols, reforming outpatient care, changing the skill

mix of the labor force, and strengthening providers' managerial capabilities; (ii) strengthen the role of the government using budgetary and regulatory instruments, by improving the public budget management and supervisory and regulatory roles; and (iii) design and implement mechanisms to meet demand.

81. There are also several useful general lessons from international experience with hospital and provider payment reforms, but there are also lessons drawn from the successes Uzbekistan has achieved in primary care reform, including per-capita financing, and the obstacles and delays encountered in previous attempts to pursue planned hospital rationalization and introduction of case-based hospital financing. These experiences point to the need for a comprehensive approach to reform. With respect to the universally difficult challenge of consolidating hospitals and downsizing staff, it may be more fruitful to approach reform via objectives and approaches that resonate better with clinicians and patients, subject to budget constraints, and reinforced by an incremental improvement in incentives.

82. The unsuccessful experience with previous case-based hospital financing pilots demonstrated that although the Government had a conceptual capacity (as demonstrated by it developing a full case-based payment method for new republican tertiary facilities), there were not sufficient preconditions for its introduction at rayon-level hospitals. Yet, the health authorities at the territorial levels seem more comfortable with the existing resource allocation based primarily on bed numbers—a method they perceive as known and easier to manage and control—than with the new system of risks and uncertainty in terms of expenditure. Therefore, the move to developing a case-based payment system for rayon hospitals needs more preparation and a carefully handled transition period.

83. In other areas in which the Government has already initiated reform, progress could be rapid, rather than incremental, such as in the development and implementation of new standards for clinical practice and management and clinical and management training.

84. The project design reflects lessons learned from the Health I and Health II projects. These include (i) the need to keep the project objective specific and to limit the number of key monitoring indicators; (ii) limiting the scope of public health activities, recognizing capacity constraints; and (iii) that the international best option may not be appropriate for Uzbekistan at this time. Therefore, the scope of achievable policy reform supported by this project will be limited.

IV. Implementation

A. Institutional and Implementation Arrangements

85. In accordance with its assigned government function, the proposed Project would be executed under the direction of the MOH. The overall project oversight will be assumed by a structural unit chaired by the First Deputy Minister as stipulated by point 6 of the Decree of the Cabinet of Ministers of the Republic of Uzbekistan, No. 229 of August 12, 2009. Oblast Hospital Program Oversight Committees will be established at the local government "Khokimiyat" level in all oblasts and the Council of Ministers of the Republic of Karakalpakstan no later than September 1, 2011. The Committees will comprise representatives of the oblast health department, the oblast and rayon finance departments, and oblast administration. The main role of these committees would be to oversee project implementation progress, ensure timely coordination with the State Hospital Investment and Recurrent Program, and decide on actions to address issues that may arise during implementation. To ensure that project objectives are reached, the Working Groups (WGs) established by the MOH under Health II (Order #52 dated February 11, 2005) will continue to function for specific project components. The WGs comprise appropriate leading specialists from the Ministry of Economy, MOF, MOH, and other related organizations. Each WG is managed by an appointed WG leader. The activity of all WGs will continue to be coordinated by respective deputies to the Minister of Health. Decisions made by WGs will become effective after their

approval by the MOH. The Central Project Implementation Bureau (CPIB) will coordinate the work of the WGs and provide them with necessary documents and other technical assistance.

86. The main responsibilities of the WGs are to review and endorse:

- List quantity and technical specifications of medical and other equipment
- Terms of reference for international and local consultants
- Training programs
- Decisions on problems arising during project implementation
- Implementation plans for each component of the Project
- Regulatory (normative) documents required for project implementation
- Reports of international and local consultants.

87. The Inter-Ministerial Methodological Commission on Health Financing will be established no later than six months after effectiveness to coordinate health financing and management reforms issues and make recommendations for important policy decisions in that regard.

88. The CPIB will be responsible for procurement under the proposed Project. A procurement capacity assessment was carried out and concluded that the CPIB has adequate staffing and experience to carry out procurement activities related to the proposed project. The CPIB has acquired practical experience with the Bank procurement procedures through implementation of projects financed by the Bank. The main procurement risks include (i) the protracted contract and medical equipment registration requirements in the country, which will cause procurement delays; and (ii) the low level of competition due to the high cost of doing business in the country and the low level of development of the local manufacturing industry. To mitigate these risks, the CPIB will coordinate and follow up with the registration authorities and, as a result, simplify the procedure for the suppliers, as was discussed during the Appraisal mission. The Bank would closely monitor this aspect of the contracts implementation and propose remedial actions if contracts are overly delayed. The procurement packaging arrangement will be made with a view to attract international participation in the bidding process, and the CPIB will advertise procurement widely. A procurement plan covering the entire period of project implementation has been developed. More details on procurement arrangements are provided in Annex 3, as is a detailed description of the component-specific institutional arrangements.

B. Results Monitoring and Evaluation (M&E)

89. Project outcomes and results would be assessed using the CPIB's M&E system to track progress on the indicators specified in the results framework. The system will draw on multiple information sources and instruments. The system will also track data on (i) behavioral risk factors related to NCDs, (ii) satisfaction of patients and providers of health services, and (iii) quality of health services through special studies and surveys. The M&E specialist of the CPIB will be responsible for overall data collection, analysis, and timely reporting on project progress and related key performance indicators. The specialist will liaise with the Regional Institute of Health Monitoring Departments in the six oblasts covered by the Project (and with the regional representatives of the CPIB) in preparing semiannual Project Management and Progress Reports. In addition, Oblast Hospital Program Oversight Committees, to be established in all oblasts, will periodically report on the Government's implementation and recurrent program. Regional representatives of the CPIB will serve as secretariat to the Committees in the six oblasts covered by the project. The proposed Project supports supervision and monitoring activities and health-related data under Components 3 (Public Health—NCD Surveillance System) and 4 (Project Management), which will also focus on improving information management capacity at the local and national levels.

90. Project Management and Progress Reports. Semiannual Project Management and Progress Reports prepared by the CPIB in consultation with the MOH, would examine compliance of the Project's procedures, as specified in the Project Operations Manual. These reports would rely on qualitative data collection (general population surveys, among others) and quantitative data (project outcome indicators and intermediate outcome indicators and other relevant indicators) to provide answers to key questions about the Project's operations and performance. These reports will also include semiannual reports prepared by the Oblast Hospital Program Oversight Committees on project implementation. These types of evaluations and reporting are particularly important for understanding how the Project evolves and if the quality of services improves over time. It is also important for identifying unanticipated bottlenecks and design mechanisms that may hinder implementation or negatively affect Project objectives. Accordingly, in-depth reporting is planned for the purpose of the midterm review, while the progress report prior to project closing will aim at evaluating project outcomes and lessons learned.

C. Sustainability

91. The sustainability of the proposed project hinges on the GOU's political commitment to invest in the modernization of the health care system in all oblasts. The proposed operation would further build on accomplishments in the PHC system already achieved under the Health I and Health II Projects, which have laid the foundation for a reformed health care system. The results of the analytical work carried out under the Health II project and the assessment of governance reforms in PHC showed that the initiated health reforms, including per-capita financing reforms, are fully supported by the Government and are not likely to be reversed. There are a number of key actions that still need to be completed under the proposed operation, including completing staff retraining on general practice, expansion of an urban model of PHC services delivery, improving autonomy and accountability of PHC providers, and solidifying PHC financing reforms. Once these elements are implemented, the achievements of the Project would likely remain sustainable in the long term.

92. Reduced fragmentation within RMUs should lead to fiscal savings and longer-term sustainability. Better-equipped and staffed primary and secondary care and functional integration in the treatment of priority health problems would help continue to direct patients' flows toward appropriate levels of care and discourage bypassing the referral network.

93. The sustainability of the project also depends on sustained levels of additional recurrent costs (particularly for operation and maintenance of equipment) and the implied budgetary outlays as a result of the investments made to upgrade health facilities and to train more health professionals. The sustainability of the PHC network is already assured in terms of sustained and gradually increasing budgetary allocations to increase reimbursement of PHC providers. Thus far, the GOU, though slow, has also been able to gradually increase its overall health budget, and has proved willing to provide additional funds for upgrading physical infrastructure. The ongoing monitoring of the Government's budgeting and execution of Project RMUs, and operation and maintenance of equipment and infrastructure, will ensure sustainable financing of the capital investments of the projects. To that effect, the MOH will submit to the Bank on a yearly basis the approved hospital investment and recurrent plans and the status of execution of said plans for the previous year.

94. The Government has determined that retraining the PHC and rayon hospital staff requires a sustainable commitment for at least six years, after which financing is required on a smaller scale to replace staff lost to attrition and for continued training.

V. Key Risks and Mitigation Measures

95. The Project risks for preparation and implementation have been noted as Medium-I, that is, a *high impact* on the PDO if the anticipated risks were not mitigated, but with a *low likelihood* of occurrence. Risks were identified during Project pre-appraisal and appraisal. The Project includes activities and design elements that aim to mitigate the risks and any potential impacts. Risks are summarized in the Operational Risk Assessment framework (see Annex 4).

VI. Appraisal Summary

A. Economic and Financial Analysis

96. The Project is expected to save over 37,000 disability-adjusted life years (DALYs) in 2016 and 50,000 in 2020 for a total of 980,000 DALYs over the 2011–2030 period. The main direct benefit of the project derives from the economic value of averted DALYs. The costs and benefits of the Project are estimated over 20 years, including the five years of project implementation.

97. The baseline and most conservative scenario results in a net present value (NPV) of nearly US\$189.6 million and a 24 percent internal rate of return (IRR). NPV and IRR analyses were quite sensitive to the value of a DALY (ranging from 1 to 3 times per capita GDP, which raises the rate of return nearly threefold). In contrast, the IRR was only somewhat sensitive to the discount rate for DALYs and not very sensitive to the deflator (inflation) rate or to the discount rate for DALYs averted. With valuation of life near to what is used in U.S. studies, the project IRR is unusually high. The rate of return is also not very sensitive to an arbitrary reduction of 50 percent in intervention effectiveness.

98. However, because we used very modest effectiveness estimates, there is no major risk of overestimation of returns. For example, the overall reduction in DALYs from CVD, the leading cause of death, is estimated at only about 5 percent over 20 years, whereas the U.S. interventions (prevention, specifically tobacco control), blood pressure management, and case management in hospitals have reduced CVD mortality by over 25 percent in the last two decades. Alternative scenarios and their effect on the Project's economic performance are presented in the sensitivity analysis (see Annex 6).

B. Technical

99. The project was designed based on the current situation in the health sector in Uzbekistan and reflects the policy priorities of the GOU and the advice and knowledge of the Bank on international experience in undertaking similar reforms. Project preparation incorporated lessons from the implementation of the Health II project and builds on the capacity developed during implementation of the Health I and II Projects. The technical design of the first two components reflects the Government's own policy model stemming from the Welfare Improvement Strategy 2008–2012 and the Decree of the President of Uzbekistan (PP-700 of September 19, 2007), "On main directions on further deepening of reforms and implementation of the State Program on Healthcare Development." It also takes into account assessment of the piloted urban model of the PHC and the initiative on introducing new hospital payment mechanisms. Several technical working groups reviewed experience and impacts and developed refinements for Health III.

100. The design of the third component is based on the WHO STEPS – Stepwise Approach to Surveillance methodology designed specifically for NCD surveillance in low- and middle-income countries.

C. Financial Management

101. The CPIB would be responsible for the financial management (FM) arrangements of the proposed Project. An inaccurate disclosure of the in-kind contribution provided by the GOU in Financial Statements of the Proposed Project was the crucial problem under the Health II Project. External auditors were not able to verify information on the level of financing provided to the project by the GOU in form or in-kind contributions throughout the life of the project. To avoid similar problems, it was agreed that the MOF will provide funds for the hospital renovation/reconstruction under parallel financing. The CPIB will update its Financial Management Manual to reflect the activities of the Project by Negotiations and will procure and install the modern version of the accounting software prior to project implementation.

102. The adequacy of FM arrangements would be continuously monitored during Project supervision and adjustments made when necessary to ensure fiduciary compliance. Subsequently, an Action Plan has been agreed on with the CPIB to ensure that adequate FM systems are in place before implementation begins. In addition, an FM Specialist would review the annual audit report and the quarterly Interim Financial Reports, including a monthly reconciliation of accounts, and perform at least one complete supervision mission per nine-month period, which could be complemented by other supervisions as necessary. More details on FM arrangements are provided in Annex 3.

Actions for capacity building	Responsible	Completion date
1 Adopt the Financial Management Chapter of the Operational Manual that reflects the specific activities of the project	CPIB	Prior to project start-up
2. Procure and install the new accounting software that will be specially designed to meet World-Bank-financed projects requirements including ability to generate Interim Financial Reports, withdrawal applications, statements of expenditure, and annual financial statements	CPIB	Prior to project start-up

D. Procurement

103. The CPIB would be responsible for procurement under the proposed project. A procurement capacity assessment was carried out and concluded that the CPIB has adequate staffing and experience to carry out procurement activities related to the proposed project. The CPIB has acquired practical experience with the Bank procurement procedures through implementation of projects financed by the Bank. The main procurement risks include (i) the protracted contract and medical equipment registration requirements in the country, which will cause procurement delays; and (ii) the low level of competition due to the high cost of doing business in the country and the low level of development of the local manufacturing industry. To mitigate the above risks, the CPIB will coordinate and follow up with the registration authorities and, as a result, simplify the procedure for the suppliers. The Bank would closely monitor this aspect of the contracts implementation and propose remedial actions if contracts are overly delayed. The procurement packaging arrangement will be made with a view to attract international participation in the bidding process. The CPIB would also advertise procurement widely. A procurement plan covering the entire period of project implementation has been developed. More details on procurement arrangements are provided in Annex 3.

E. Social

104. There are several key social issues arising from the project context and its development objectives. The recent Living Standard Assessment confirmed that Uzbekistan still shows a marked difference in urban and rural social development indicators, with the poor in rural areas having the worst access to health care. The project would contribute to overcoming this gap by improving access to health care for the general population, and for vulnerable social groups, and in marginalized geographic areas, in particular. Lower-income groups tend to use lower-level facilities, such as outpatient facilities and rayon hospitals, more often than higher-income groups and, hence, would benefit to a greater extent from upgrading the RMUs. Increased transparency in the system would contribute to minimizing the effect of networks and social connections, which still seem to play an important role in accessing treatment. Increased transparency is also expected to have a positive impact on informal payments, especially in the referral network. In addition, the current fund allocation system favors richer, and urban, regions. Thus, the introduction of a more balanced resource allocation system would also help to bridge geographic differences in the distribution of funds, which tend to disproportionately impact the poorer regions of the country and, in turn, the poorer strata of the population in these regions.

F. Environment (including Safeguards)

105. OP 4.01 is triggered because the Project would indirectly support the rehabilitation of health facilities financed by the government budget (100 hospitals), with potential improvements in health care waste management. The Environmental Management Framework (EMF) was prepared because locations of Project interventions have not all been defined. The EMF provides environmental management guidelines, including those for health care waste management. Based on the EMF, a site-specific Environmental Management Plan (EMP) will be prepared prior to beginning construction at each site. In most cases, the works are expected to be limited to minor rehabilitation, and the Bank's standard "Checklist EMP" will be used. The EMF was disclosed in-country on the MOH's Web site on November 20, 2010, and was disclosed in the Bank's Infoshop prior to appraisal. Most Project activities are not expected to generate adverse environmental effects. In relation to construction, there would also be small-scale and medium-scale rehabilitation of existing health care facilities to ensure appropriate provision of medical services. While the impacts of these supported activities are localized, minor, and reversible, they still warrant certain care. The Project would provide clear environmental management guidelines and training, as deemed necessary, for contractors hired for rehabilitation and outfitting of health care facilities. Particular attention would be paid to waste generated at construction sites.

106. The Project will not procure and use pesticides for disease vector control. Therefore, the Operational Policy on Pest Management is not triggered.

Annex 1: Results Framework and Monitoring

UZBEKISTAN: HEALTH SYSTEM IMPROVEMENT PROJECT

Results Framework

The overall Project Development Objectives (PDOs) are to: (1) improve access to quality health care at the primary level and at RMUs; and (2) strengthen the Government's public health response to the rise in NCDs.

Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values ^b						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition, etc.)
				YR 1	YR 2	YR3	YR 4	YR5	YR 6				
PDO Level Results Indicators^a													
1 Increased proportion of diabetic and hypertension patients referred from PHC facilities to RMUs, in accordance with treatment standards.		%	Beneficiary population survey; baseline available within 6 month of project effectiveness			tbd		tbd		3 surveys, of which first survey financed under Health II for baseline	Beneficiary Population survey	Independent firm hired by CPIB	
2.Improved perceived quality of PHC and secondary health care services in intervention areas		%	Beneficiary population survey; baseline available within 6 months of project effectiveness			tbd		tbd		3 surveys, of which first survey financed under Health II for baseline	Beneficiary Population survey	Independent firm hired by CPIB	No. of respondents from intervention areas rating the quality of medical services as “satisfactory” or above/total number of respondents included in the sample
3.Increased proportion of hospitals following NCD treatment standards (at least 20 treatment standards)		%	Special study, baseline available within 6 months of project effectiveness			35%	65%	90%	100%	Special studies to be conducted each year starting from 3rd year of implementation	Monitoring of medical records	Independent group of experts involved in the development of NCD treatment standards hired by CPIB	
4.Issuance of a profile of NCD risk factors and burden of disease		No. of reports	0	Monitoring indicators defined	Base-line survey	1st report published	2nd report	3rd report	At least 3 reports published	3 reports	Surveillance records	Regional Institutes of Health s (RIHs)	

Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values ^b						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition, etc.)
				YR 1	YR 2	YR3	YR 4	YR5	YR 6				
INTERMEDIATE RESULTS													
Intermediate Results (Component 1): Improving Health Service Delivery													
1.1 Hospitals equipped with medical and waste management equipment	X	No.	0	0	25	25	30	20	100	Annual	Progress Report	CPIB	
1.2 New treatment standards developed and adopted by the MOH (CVD, diabetes, etc)		No.	0	10	10	5	0	0	25	Annual	Progress Report	CPIB	
1.3 Urban polyclinics' doctors receiving training under the 10-month training GP program	X	No.	670	600	600	600	600	600	3,670	Annual	Progress Report	CPIB	
1.4 Health personnel at PHCs (doctors and nurses) receiving training under continuous professional education	X	No.	0 doctors 0 nurses	1,300; 14,250	1,500; 14,250	1,500; 14,250	1,700; 14,250	0	6,000; 57,000	Annual	Progress reports	CPIB	
1.5 Hospital management staff receiving training on hospital management	X	No.	0	110	125	125	117	0	477	Annual	Progress reports	CPIB	3 staff x 159 hospitals (excluding financial management)
1.6 Hospital core staff receiving training on waste management	X	No.	0	0	75	75	75	75	300	Annual	Progress reports	CPIB	(3 staff x 100 hospitals) To be trained per hospital: Director; Head Administrator; Chief Nurse
1.7 Health personnel receiving training on clinical case management (NCDs and pediatrics):	X	No.	0							Annual	Progress reports	CPIB	a) doctors (therapists and pediatricians): 6 staff x 100 hospitals = 600 b) nurses: 12 staff x 100 hospitals = 1,200 c) specialists: 4 staff x 100 hospitals = 400
1.8 People with access to a basic package of health	X	%							100 %	Annual	Progress reports	CPIB	Population covered by quality health care at the PHC and first referral care as % of total population in intervention areas
Intermediate Results (Component 2): Strengthening Health Financing and Management Reforms													

Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values ^b						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition, etc.)
				YR 1	YR 2	YR3	YR 4	YR5	YR 6				
2.1 Staff of reformed PHC and hospitals receiving training in financial management	X	No.	0	70	230	230	70		600	(to coincide with training cycle)	Progress report	CPIB	
2.2 Percent of recurrent expenditures not related to salary relative to actual expenses of: a) PHCs b) Rayon hospitals c) Urban polyclinics		%	6.1%						At least 20%	Annual	MOF/MOH records	CPIB	
2.3 National Health Accounts developed and published		No.	0		1st report		2nd report		2 reports	2 reports	NHA reports	MOH/Statistical Committee	
2.4 Public Expenditure Review developed		No.	0		1st report		2nd report		2 reports	2 reports	PER reports	CPIB	
2.5 Volume and Cost contract introduced in 3 hospitals in Fergana oblast		No	0	Con-tracts develop-ed	Hos-pitals sign con-tracts	Pay-ment started	Re-sults ana-lyzed	Con-tract renew-ed	All 3 hos-pitals paid accord-ing to contract			Obl. Finance Departments/Obl. Health Departments / MOH	

Intermediate Results (Component 3): Institutional Strengthening for NCD Prevention and Control

3.1 Number of video clips on health education on cardiovascular risk factors		No.	0	3	3				6		Progress report	Institute of Health/CPIB	
3.2 Number of people screened for (a) hypertension, and (b) diabetes through community-based screening programs in targeted areas		No.	0								Progress report	Institute of Health/CPIB	Target number per year to be determined at appraisal when oblasts selected and target population known
3.3 Percent of population in targeted Oblasts knowing cardiovascular risk factors		%	Data available within 6 month of effective-ness								General Population Survey	Institute of Health/CPIB	
3.4 Public Health specialists (surveillance staff) trained in data collection and analysis, including trainers, in all oblasts	X	No.	0	100	0	100	0	100	300	Annual	Progress report	Institute of Health/CPIB	

a. Please indicate whether the indicator is a Core Sector Indicator (see <http://coreindicators>)

b. Target values should be entered for the years data will be available, not necessarily annually.

Annex 2: Detailed Project Description

Component 1: Improving Health Service Delivery (estimated total cost US\$82.17 million equivalent)

This component will focus on improving service planning at Rayon Medical Unions (RMUs), refurbishing them with modern biomedical equipment, and improving skills and competencies of clinical staff in disease case management and treatment while focusing on the most frequent pediatric and noncommunicable disease (NCD) conditions. It will also complement the activities of the ADB, which started in 2005 and funded upgrades in central rayon hospitals, with a focus on maternal and child health services.

This component will also build on the results achieved under Health I and Health II with regard to restructuring of primary health care (PHC). It will further support advancing the PHC reforms by expanding the general practice (GP) PHC model to urban areas, strengthening the referral system, and improving skills and competencies of medical personnel in early diagnosis, screening, and treatment of priority NCDs.

Subcomponent 1.1: Hospital Services Improvement (estimated total cost US\$76.22 million equivalent)

The Welfare Improvement Strategy 2008–2010 and the Decree of the President of Uzbekistan (PP-700 of September 19, 2007), “On main directions on further deepening of reforms and implementation of the State Program on Healthcare Development,” identifies inpatient and specialized care as important areas of focus for the next stage of health sector reform with the aim of improving the performance of medical establishments. The Government’s goal is to improve the quality of secondary care in rayons/cities, to increase access, and to reduce self-referral and referral to specialized hospitals in Tashkent. The activities of this subcomponent would support the Government’s plans to improve the provision of specialized care at the rayon level by complementing the substantial investment program for upgrading RMU hospitals. The Government has defined the list of 100 hospitals to be covered by the Project. Accordingly, the Project will support all hospitals in 6 oblasts (Andizhan, Fergana, Kashkadarya, Namangan, Republic of Karakalpakstan, and Samarkand) and two to three hospitals in other oblasts.

The selection of oblasts and hospitals was made according to the following defined criteria: (i) distance from the capital city, (ii) epidemiology of the oblast, (iii) socioeconomic development of oblast, (iv) the level of physical dilapidation of the hospitals and the hospital utilization rate, (v) existence of medical education institutions, and (vi) the size of the rural population. In addition, the selection of oblasts took into consideration the commitment of oblast health administration to health reforms and the technical capacity to take on challenges that the project requires. Thus, Karakalpakstan and Syrdarya are among the least well-off oblasts in terms of economic development and poor environment. Andijan, Fergana, and Namangan oblasts are the most populated areas in the country. Samarkand oblast is of high importance in terms of tourism development, and is quite far from the capital city. Kashkadarya is a geographically deprived area with its population often residing in mountainous and difficult-access areas.

This subcomponent will improve hospital service delivery by: (a) refurbishing at least one hundred (100) selected central rayon hospitals with up-to-date diagnostic and waste management equipment and medical furniture; (b) improving health service planning at the RMUs including the revision of construction norms and standards and the development of referral guidelines and equipment maintenance systems; and (c) providing study tours for health administrators to improve the skills and competencies in hospital.

Refurbishment of many central RMUs will maintain some of the constraints of their past design, but the location and design of additional buildings, and the reuse of facilities will be planned in ways that maximize opportunities to improve functional relationships and help control future operational costs. To the extent

possible, the services will be consolidated (reception, diagnostic, emergency, general medicine and pediatric departments, and so forth) and housed in fewer facilities.

The Project will examine the alternatives for services delivery, including the traditional method of separating outpatient from inpatient services, but also some level of integration of these services, particularly in departments where there is dependence on diagnostic and therapeutic equipment for the management of both outpatients and inpatients.

The Project will facilitate development of services plans for each project hospital, which will describe the volume and complexity of clinical and diagnostic services to be provided by individual hospital units and will include projections of demand. They will assess the required inpatient beds and outpatient facilities needed to provide this level of services. The plans will include required staffing resources and the relevant diagnostic and other equipment needed. Where appropriate, they will make proposals for referral arrangements between primary care, the service, and higher-level services. Once approved by the relevant authorities, the services plan informs the facilities planners about the requirements and priorities for the hospital's rehabilitation. It is anticipated that services plans will produce recommendations for the number of beds, outpatient facilities, and staffing that are different from the current centrally determined norms. This would be particularly the case if a more integrated, ambulatory-focused model of care is adopted.

As relationships between primary care and the central RMUs strengthen and grow, the medical unions will be able to give greater emphasis to ambulatory care, using the backup support of GPs and the outreach services of PHCs.

The number of beneficiary hospitals may increase during implementation in case there would be savings and/or the donor partners will cover certain technical assistance activities under their projects.

Subcomponent 1.2: Primary Health Care Development (estimated total cost US\$2.44 million equivalent)

This subcomponent aims at providing further support to PHC service provision through the general practice model of care established and supported under the Health I and II projects. It will also continue to enhance the functioning of PHC nurses through the successful continuing professional development training scheme established under the ADB-funded Women and Child Health Development project. Since the first two projects have already covered nearly all investment needs through the provision of medical equipment and staff retraining at the PHC facilities in rural areas, this subcomponent will have a limited number of activities.

As such, the subcomponent aims at developing PHC by: (a) expanding the general practice primary health care model to all urban polyclinics in pilot Fergana, Syrdarya, Samarkand oblasts and in Tashkent; (b) continuing the ten-month general practice training programs; and (c) improving skills and competencies of medical personnel in early diagnosis, screening and treatment of priority NCDs and development of optimal urban general practice model implementation strategy. Specific activities will include (i) TA to review and revise the 10-month GP training program; (ii) the provision of medical equipment to urban PHC facilities (all polyclinics) in three oblasts—Fergana, Samarkand, and Syrdarya—and in Tashkent city; (iii) foreign and local TA to develop the optimal urban family medicine model implementation strategy; (iv) the development of legislative and regulatory documents for further rollout of the urban model of PHC service provision; and (v) foreign and local TA for further development of nurse training and improvement of nurse trainer skills.

Under the Health I and II projects, training of rural PHC GPs and pilot urban polyclinics through a 10-month program has been organized and managed by the Tashkent Institute of Advanced Medical Education (TIAME) and carried out in GP training centers in Tashkent and the 14 regions. The recent decision of the Government to continue the pilot urban PHC model was based on the positive performance assessment of the

selected pilot polyclinics in Gulistan, Margilan, Samarkand, and Tashkent. The evaluation of the model conducted by independent consultants and by the Ministry demonstrated positive perception of patients and health care providers and improved efficiency of PHC service provision in pilot polyclinics. Since urban polyclinic doctors should and often are functioning more as GPs, it is planned that the same General Practice Training Centers be fully responsible for this training process.

In addition to the retraining of the polyclinic staff, the opportunity should be taken to consider the development of a more comprehensive system of mentorship training for the long-term improvement of the postgraduate training system for GPs. The ideal place to house such mentorship training programs is the urban (rayon) polyclinic setting, which is in much closer proximity to the PHCs, and where staff regularly sees a variety of patients. For the purposes of retraining, the remaining PHC clinicians and the polyclinic staff the General Practice Training Centers will continue to function at full capacity for the duration of the Project. Efforts will also be made to facilitate arrangements to integrate all the existing General Practice Training Centers and their staff into the postgraduate education departments of the regional TIAME branches/affiliates. This will resolve issues over payment of the GP trainers' salaries; and ensure continuity of the CPD programs and alignment of the programs with other medical education programs. The 10-month GP training program has in recent years undergone modifications and improvements, and since it will remain the program of choice for training the remaining PHC and urban polyclinic doctors, it is critical that it should once again undergo a thorough external review and revision to ensure that the practical skills training aspects are of high quality and to assure the quality of the mentorship skills of the GP trainers.

Finally, to ensure continued quality service provision in rural PHC centers, continuous short training courses would be provided to approximately 5,700 doctors and 14,000 nurses on appropriate management of selected NCDs and other health conditions at the primary care level, and on referral guidelines to the secondary care level and follow-up care of patients with NCDs. The nurse training will build on the program and structure developed and successfully used under the ADB-funded project. More than 100 PHC nursing standards recently developed are now in the process of being adapted and agreed by the relevant national experts. The process of implementing these nursing care standards and disseminating their use across the country will be supported through the Uzbekistan Health System Improvement Project. This will be done through the quite effective cascade method of teaching of PHC nurses at the postgraduate nurse training centers established over the last three years in different rayons around the country. Since much capacity in training of health personnel has already been established over the last several years through the Health II project, it is planned to use the same trainers and rayon training centers to provide this continuing education to PHC doctors and nurses.

Subcomponent 1.3: Clinical Quality Enhancement (estimated total cost US\$3.51 million equivalent)

The key aim of the subcomponent is to enhance clinical quality by: (a) providing on-site training of RMUs' pediatric and internal medicine doctors and nurses in new clinical treatment standards; (ii) training in clinical case management and hospital administration; (iii) developing and introducing up-to-date relevant and effective practical treatment standards for RMUs internal medicine and pediatrics staff; and (iv) establishing quality improvement mechanisms to monitor implementation of the new clinical treatment standards. Approximately 26 clinical treatment standards on various commonly occurring NCDs for adults will be developed. Clinical standards for children will be based on the recently Ministry of Health (MOH)-approved Hospital Integrated Management of Childhood Illnesses guidelines. These standards are currently in use in pediatric hospitals in several regions around the country and their use will be further rolled out and institutionalized through training under the project. The process of developing the NCD clinical treatment standards, including the relevance and evidence base of the content and differentiation of standards for primary care and secondary care, will be closely coordinated with the international consultants, the Evidence Based Medicine Center, working group specialists, and the WHO. Once finalized, the clinical treatment

protocols will be reviewed to ensure congruence with current international best practice prior to their approval, adoption by the MOH, and subsequent use in the training.

Attention will also be paid to improving the referral arrangements and coordination of care for patients with diabetes, hypertension, and other NCDs between the secondary and primary care levels.

It is planned to train approximately 1,500 rayon hospital doctors (mainly therapists, pediatricians, cardiologists, and some infectious disease specialists) and 3,000 rayon hospital nurses. To achieve this goal for the on-site postgraduate training of medical staff, it is recommended that a limited number of training modules on the new clinical treatment standards be developed by an authoritative team of master trainers led by the Continuing Education Department of the TIAME, who have already established a similar process and who are fully conversant with adult education techniques required for this program. Technical content and authority will be provided by republican-level specialists, GP specialists and trainers, other TIAME specialists (including from the Center for Evidence-Based Medicine), and technical advisors from UNICEF and WHO, with regular initial support from an international consultant(s) using similar topics for both doctors and nurses and taught in an integrated way. Criteria for selection of the specialists must include knowledge and practice of latest evidence-based medicine (EBM) guidelines and ability to lead discussion groups in an open and inclusive manner. This group will (i) provide input and collaborate with the Center for Evidence-Based Medicine and MOH in the development of approximately three to five clinical treatment standards each year; (ii) design the schedule of training programs and develop the materials for the courses and manuals, lead the training of trainers seminars and, divided into two teams, will provide regular support to the training of rayon trainers in two selected oblast centers to be fully equipped under Health III. Emphasis will also be placed on developing mentoring skills in these trainers in addition to teaching skills that use participative methodologies, especially the use of case studies to address the felt and real needs and concerns of the health care staff.

The first step in the cascade training program will be the training of trainers from the 14 oblasts (4 oblast-level doctor and nurse trainers, respectively, per oblast for a total of 56 each) in Tashkent, who will undergo a four-to-five-day Training of Trainers (TOT), the first two to three days of which to be devoted to the new materials, and the last two to three days for the oblast trainers to practice the training supported by the master trainers. A few selected GP trainers and TIAME specialists will also be trained alongside them to support them in their task. The second step will be for selected rayon hospital staff (two nurse and doctor trainers per rayon for a total of 318) to be trained by the oblast trainers at the oblast level, also following the same four-to-five-day TOT. Efforts will be made to ensure that the oblast and rayon trainers are hospital GPs (therapists) and general pediatricians who will then become the regular trainers for all topics. Also, only practicing doctors and nurses who manage patients regularly will be selected as trainers, and will preferably not be close to retirement age, and will be interested enough to be involved, experienced, and respected by colleagues. The third step will be for the rayon trainers to train other relevant staff in the hospital and its related polyclinic. Following this, the PHC coordinator based in the rayon will organize for the local GPs to be trained in aspects relevant to their work (as part of the continuing professional development outlined in 1.2 above). At the beginning of each module, key medical, nursing, and governmental leaders will meet in Tashkent to be introduced to the training module.

In addition to the general rollout of the cascade training program from oblast to rayon, more intensive mentoring and peer-to-peer learning activities of oblast and rayon trainers by the Master Trainers (perhaps divided into two teams, one for each oblast) will be targeted at two of the six oblasts to be fully covered by the World Bank project. This envisions three to four specialists that will regularly meet with doctors at the RMU's to discuss problems encountered in patient management. By year 3–4 of the project, this mechanism could begin to roll out to the other oblasts, using the support of those already involved to spread best practices.

The training modules on the new clinical treatment standards will include the following aspects:

- ½ to 1 hour: follow-up of homework and discussion of any questions from previous training
- 1 to 2 hours: prevention and counseling/management to be taught by nurses and expected to be implemented by both doctors and nurses
- 1 to 2 hours: brief case studies prepared by the participants on the relevant topic according to prearranged formats (for example, history, examination, differential diagnosis, tests, and management). The first presentation(s) will be from a nurse and/or GP perspective (with the possibility of the nurses free to leave to join their own group afterward), the next from the hospital perspective and, if appropriate and time is left, a case presented by the teacher. This could include the presentation of difficult or interesting cases and detailed discussion about what was done and teaching points for improvement
- Break (possibly a half day, with training to be continued another day)
- 3 to 4 hours: presentation, discussion, and skills training on new clinical topics, including introduction of any new standards for
 - a) Nurses in own group
 - b) Doctors in own group
- 15 minutes: homework for next training session, for example, preparation of case study, use and documentation of skills, preparation of any audit work for
 - a) Nurses in own group
 - b) Doctors in own group.

Once drafted and tested/improved, these will be agreed with the TIAME and the relevant medical institutes, accredited, and established as obligatory components of any postgraduate training course carried out in the country. The material would then replace other non-evidence-based material previously in use. A maximum of one to two subjects per day is advisable to reduce loss of quality in passing the teaching down by cascade and to allow time for mentoring and supervision of skills acquisition, and these might even be broken down into half-day components to fit into the regular monthly RMU organization/management meetings. Efforts will be made to hold joint teaching sessions for the doctors and nurses to cover the interdisciplinary/team aspects of managing the selected patient conditions, such as effective patient communication and interpersonal relationships followed by continued separate training to cover issues specific to medical and nursing care on management of selected CVD, diabetes, respiratory diseases in adults, and respiratory and gastrointestinal diseases in children. Management of pediatric conditions will be based on the treatment standards developed by UNICEF/WHO on the Hospital Integrated Management of Childhood Illnesses. Close collaboration with UNICEF and WHO in this area is therefore planned during the project.

The training activities will be complemented with intensive monitoring of the implementation of the standards in the hospital through the use of a Quality Assurance instrument similar to or adapted from the WHO Quality Improvement Assessment Tool currently used by the maternal and child health departments. Quality Improvement tools, which seek to understand reasons for compliance or noncompliance and suitable approaches to address the difficulties based on a deep understanding of the constraints faced by the hospital staff, will be used in place of any reward/punishment system of inducement to comply. This will allow accurate recording of results rather than their adjustments in order to avoid the threat of punishment or the promise of reward. TA for the development of clinical quality monitoring indicators will also be provided to ensure that a system for monitoring the effectiveness of the training and skills improvement program is established. TA for skills improvement for faculty of medical universities and colleges (nursing) will also be provided, to ensure that new graduates are provided with the same level of knowledge as practicing doctors and nurses.

Training of hospital managers on effective clinical management is also planned. Furthermore, trainings of key hospital personnel on waste management will also be done. In both these cases, international TA will be

sought to assist the MOH in developing the relevant content for Uzbekistan based on international best practice and establishing mechanisms to carry out this training for all managers, chief doctors, and chief nurses of all the RMUs in the country.

Component 2: Strengthening Health Financing and Management Reforms (estimated total cost US\$4.45 million equivalent)

This component aims at (a) consolidating and institutionalising per capita based primary health care financing and management reforms by developing the strategy for the health sector financing and appropriate regulatory measures for the implementation of that strategy through the provision of consultants' services; and (b) strengthening the role of MOH in health financing policy formulation and monitoring and local capacity building by: (i) conducting health sector expenditures analysis and medium term projections; (ii) developing the national health accounts (NHA); and studies on hospital utilization patterns; (iii) training relevant staff at MOH, rural primary health care clinics and RMUs on financial management; and (iv) developing a health financing information system to support the implementation of the hospital financing pilot.

The component will finance activities aimed at improving hospital financing by introducing cost-and-volume contracts in three selected rayon hospitals in Fergana oblast and block contracts for the rest of rayon hospitals in selected oblasts.

Block contracts have the advantages of (i) providing certainty about the financial flows for both parties; (ii) minimizing the level of administrative and information costs, and (iii) removing incentives for providers to engage in inappropriate admissions and similar practices detrimental to either the patient or the purchaser interests. Block contracts are indeed similar to the current practice of providing a budget for a defined bundle of services substantiating input funding by means of normative rates, like bed capacity or staff numbers, staffing ratios, and so forth. The payment is usually determined by the previous year's provider costs and received periodically (for example, monthly or quarterly).

Cost-and-volume contracts: Fergana pilot hospitals that have already started improving their information base will be funded through cost-and-volume contracts, with payments for explicitly quantified services, a reasonably defined number of outpatients attendances, patients to be treated in given specialties (usually with differentiation of high-, medium-, and low-cost categories), and even specific clinical conditions. Planning volumes of care and an active purchasing role in determining more cost-effective medical interventions will be a prerequisite for these contracts.

The main practical issue to be addressed is the implications of the volume-and-cost payment system for the way in which the new Treasury system operates at the oblast and rayon level. The initial formulation of the Treasury reforms places an impractical burden on Oblast Health Department and Rayon Finance Department personnel in reviewing and responding to any requests for the reallocations needed to manage the normal month-to-month variation in hospital expenditures. There is a need to revise the regulations and allocation of roles and responsibilities so the Oblast Health Departments become responsible for pooling and managing risks arising from variation in the utilization of hospital services

The component will finance (i) TA to develop the overall vision and strategy for the Health Sector Financing and appropriate regulatory measures to ensure the lead role of the oblast/rayon health organs in health budget planning; (ii) TA and training to build capacity in the MOH and developing National Health Accounts, analyze health sector expenditures, and develop medium-term projections; (iii) TA to develop and pilot cost-and-volume and block contracts for reimbursement of hospital services and its evaluation; (iv) training in financial and hospital management to staff at rural PHC clinics and RMUs; (v) acquisition of computers, IT

equipment and software development at selected rayon hospitals and the MOH; (vi) a study of the causes for the low utilization of hospital services by the middle-aged and older populations; and (vii) study tours to countries with established case-based hospital financing.

Component 3: Institutional Strengthening for NCD Prevention and Control (estimated total cost US\$2.98 million equivalent)

The overall aim of this component is to strengthen the capacity of Uzbekistan’s public health institutions in effective prevention and control of NCDs. Activities under this component would be in two pilot oblasts (Kashkadarya and Fergana), with a third oblast (Syrdarya) serving as a control. These pilot oblasts match two of the six targeted oblasts in Component 1; this is to ensure a comprehensive and integrated approach to the management of the selected NCDs. Furthermore, the planned activities correspond to those outlined in Uzbekistan’s draft National Health Promotion Strategy Action Plan for the Republic of Uzbekistan for 2011-2014 and also fit within the framework of the draft National Strategy on prevention and control of non-communicable chronic diseases in Uzbekistan for 2011-2020- both of which are expected to be adopted by the Government in 2011.

Subcomponent 3.1: Health Promotion and NCD Prevention (estimated total cost US\$1.57 million equivalent)

This subcomponent aims at strengthening the capacity of public health institutions in effective prevention and control of non communicable diseases by increasing awareness of and changing behaviors associated with increased risk for hypertension, diabetes and other chronic diseases among the population in two oblasts—Kashkadarya and Fergana. Much effort will be placed on ensuring these activities are well coordinated with the others occurring at the secondary and primary care levels to ensure an integrated and effective approach to NCD prevention and care. The planned activities would contribute to implementing parts of the draft National Health Promotion Plan (2011–2014) and would build on efforts begun under the Health II project to improve the knowledge and skills of health promotion specialists in undertaking effective health promotion and behavior change activities, specifically (i) identifying key public health issues in the population; (ii) implementing a number of focused evidence-based interventions, developing appropriate evidence-based approaches to resolve the identified issues (for example, community education days, school health education, development of health information brochures for different population segments, effective use of media channels to convey messages, screenings, and so forth); and (iii) evaluating the impact of the intervention(s).

The main proven cost-effective interventions (as recommended in a number of recent key global policy documents)⁴ that will be pursued include efforts to reduce salt intake, restriction of tobacco and alcohol use, changes in dietary habits and physical activity, identification of individuals at high risk of CVD, and the management of diabetes and hypertension. These last two actions will be implemented in close collaboration with PHC providers and are also linked to activities to be undertaken by RMUs in Component 1. The health promotion specialists would work closely with PHC doctors and patronage nurses (community health nurses) in carrying out various community-based health promotion and disease prevention activities, including health education, home visits, and follow up of patients with confirmed NCD diagnoses and establishment of community support groups for patients with NCDs. Screening programs for hypertension and Type 2 diabetes are planned for the two pilot oblasts to identify individuals at high risk for these diseases. An important consideration in implementation of the screening programs will be the availability of and access to appropriate treatment for those people confirmed to have hypertension, cardiovascular disease, or diabetes. Currently, diabetes treatment is provided free of charge to patients at public sector health facilities due to its

⁴ WHO (2008) 2008–2013 Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases.; WHO (2005). Preventing Chronic Diseases: A Vital Investment; WHO (2004). Global Strategy on Diet, Physical Activity and Health; WHO (2003). WHO Framework Convention on Tobacco Control.

designation as a socially important disease, and treatment cost for the other abovementioned conditions would be borne by the patients.

A population-based survey is planned to be carried out in the three oblasts prior to the start of the Project to collect baseline data on behavioral risk factors related to NCDs, including smoking, alcohol use, physical activity, and dietary habits. Community-based health promotion programs focused on risk-factor reduction would then be developed and implemented based on the findings of the baseline survey. The data collected would also serve as the basis of establishing the national NCD surveillance system for routine monitoring of NCD behavioral risk factors. A follow-up survey would be done at the end of the project to assess the impact of the health promotion programs implemented.

To strengthen the capacity of health promotion specialists in the above areas, training on (i) principles of basic health promotion, (ii) epidemiology and the epidemiology of NCDs, and (iii) health communication is required. Training in these areas will be provided to IHMS health promotion/public health specialists at the central level and also in the oblast and rayon branches. International TA will be provided to work with the IHMS and other local counterparts in developing the training modules and the teaching methodology to deliver the training effectively. An international expert on health communication will also provide TA on the development of comprehensive health promotion/behavior change programs for implementation in the two oblasts. The focus would be on improving the capacity to effectively deliver specific health messages on NCD risk reduction to the population using media and other channels. Training for PHC GPs on preventive actions and routine screening for hypertension and diabetes is also planned, as is the procurement of the requisite screening reagents. Community health nurses would also receive training on effective home follow-up of patients and on the provision of health education on risk factor prevention. In addition, a basic package of computer/multimedia equipment will be provided to the Institute of Health and Medical Statistics departments in the pilot oblast and their rayon/city branches for use in the development of health communication materials, activity monitoring, reports, and so forth. Since the activities would need to be carried out in close collaboration with communities, it is proposed to have regular discussion sessions with community leaders/groups/PHC personnel/local government/oblast and rayon health authorities, to increase their awareness of NCDs, discuss implementation of planned activities and progress to gain their support, and to establish strong working relationships between public health providers and the targeted communities. Furthermore, regular higher-level roundtable policy discussions with health and non-health policy makers are planned in collaboration with the WHO, to help highlight the problem of NCDs and the need for implementation of multi-sectoral actions to address this problem. This will be done through the Public Health Working Group at the MOH, and the already established inter-agency working group that is currently working on finalizing the National NCD Strategy.

Subcomponent 3.2: Strengthening Health Surveillance Systems (estimated total cost US\$1.41million equivalent)

In parallel with the health promotion activities, this subcomponent aims at strengthening the health surveillance systems by: (a) developing a epidemiological surveillance system for NCDs; (b) improving the public health system's ability to use collected data in effective policy making and program planning; and (c) developing an effective health promotion and disease prevention programs. The development of epidemiological surveillance (including behavioral risk factors) for NCDs, would initially be piloted in the two oblasts with later expansion to routine national-level monitoring. Activities would include the following:

NCD Surveillance System: The surveillance system would be based on the WHO STEPS – Stepwise Approach to Surveillance methodology,⁵ which is designed specifically to help low- and middle-income

⁵ STEPwise Approach to Chronic Disease Risk Factor Surveillance (STEPS), WHO (2008); <http://www.who.int/chp/steps/riskfactor/en/index.html>.

countries get started on chronic disease surveillance and to build their capacity in this area. The methodology and has been successfully tested and is currently in use globally by several countries. The STEPS approach is focused on the collection of established NCD risk factors that determine major population disease burden. The survey collects population-level data in the following areas: (i) basic demographics; (ii) behaviors—tobacco use, alcohol consumption, fruit and vegetable consumption, and physical activity; (iii) physical measurement—weight and height, waist circumference, and blood pressure; and (iv) biochemical measurements—fasting blood sugar and total cholesterol.

International TA would also be provided to (i) further refine the definition of indicators for routine surveillance; (ii) develop protocols for the national NCD monitoring and reporting system, including where, when, and how often data should be collected and the data sources (routine population surveys, data from health providers, and so forth); (iii) determine the institutions to be involved in data collection, processing, analysis, and interpretation; and (iv) review current regulations/laws and recommend those that need to be developed and passed to allow the establishment of this system.

Similarly, efforts to improve the capacity of IHMS health statisticians and specialists of SSES Centers at the central level and in the oblast and rayon/city branches in accurate data collection and analysis and the use of statistical software, as well as provision of the necessary hardware and software (SPSS), will also be done under this component. International and local TA will be provided in supporting the training of statisticians in data analysis and interpretation, and in analyzing, summarizing, and presenting the data collected during the survey. Particular attention will be given to ensuring that the international and local consultants actively engage with the IHMS and SSES Centers on all activities to ensure a high degree of knowledge transfer as opposed to the work being done by the consultants only. This is critical if the IHMS and SSES Centers are to fully undertake future routine NCD epidemiological surveillance for the whole country.

As described in Subcomponent 3.1, baseline and follow-up population surveys in the three oblasts to collect data on the selected NCD indicators are also planned to be fielded during the life of the project, and these would serve as the basis for future routine NCD surveillance. An equally important objective of this component would be to improve the public health system's ability to use the collected data in effective policy making, program planning, and advocacy. The findings of these surveys will therefore be published and widely disseminated through workshops to health and non-health stakeholders, as will the data collected from the surveillance. To enhance the stewardship role of the health sector in this specific area, and to increase awareness of NCDs as a multi-sectoral issue, regular roundtable discussions of MOH central and regional policy makers and other key stakeholders are also planned to be held during the life of the project. This will be done in close collaboration with the WHO, because they are already supporting the MOH in drafting the National on prevention and control of non-communicable chronic diseases in Uzbekistan for 2011-2010 and will be critical to furthering the current policy developments on tobacco and alcohol use restriction and the national NCD Strategy. The already established inter-agency working group that is currently working on finalizing the National Strategy on prevention and control of non-communicable chronic diseases in Uzbekistan for 2011-2020 will be one of the forums used. A study tour to a country with a strong public health and effective NCD surveillance system is also planned for relevant MOH policy makers and practitioners from the IHMS.

Component 4: Project Management (estimated total cost US\$3.40 million equivalent). This component will strengthen the capacity of MOH, the CPIB and the PIBs for Project management and implementation, monitoring and evaluation, environmental management pursuant to the Environmental Management Framework (EMF), and procurement and financial management through the provision of goods, consultants' services, training and incremental operating costs.

Annex 3: Implementation Arrangements

I. Project Administration Mechanisms

In accordance with its assigned government function, the proposed Project would be executed under the direction of the Ministry of Health (MOH). Overall project oversight will be assumed by a structural unit chaired by the First Deputy Minister as stipulated by point 6 of the Decree of the Cabinet of Ministers of Republic of Uzbekistan, No. 229 of August 12, 2009. The Oblast Hospital Program Oversight Committees will be established in the six oblasts covered by the Project no later than three months after effectiveness and in the remaining oblasts no later than 12 months after effectiveness, and will comprise representatives of oblast health department, oblast and rayon finance departments, and oblast administration. The main role of these committees would be to oversee project implementation progress, ensure timely coordination with the State Hospital Investment and Recurrent Program, and decide on actions to address issues that may arise during implementation. The designated representatives from the MOF and MOH will periodically participate in the meetings of the Committees. Semiannual reports of the committees will be submitted to the Bank by the Central Project Implementation Bureau (CPIB).

To ensure that objectives of the project are reached, the Working Groups (WGs) established by the MOH under Health II (Order #52 dated February 11, 2005) will continue to function for specific project components. The WGs comprise appropriate leading specialists from the Ministry of Economy, MOF, MOH, and other related organizations. Each WG is managed by an appointed WG leader. The activity of all WGs will continue to be coordinated by respective deputies to the Minister of Health. Decisions made by WGs will become effective after their approval by the MOH. The CPIB will coordinate the work of the WGs and provide them with the necessary documents and other technical assistance (TA).

The main responsibilities of the WGs are to review and endorse the following:

- List quantity and technical specifications of medical and other equipment
- Terms of reference for international and local consultants
- Training programs
- Decisions on problems arising during project implementation
- Implementation plans for each component of the Project
- Regulatory (normative) documents required for project implementation
- Reports of international and local consultants.

An Inter-Ministerial Methodological Commission on Health Financing will be established to coordinate health financing and management reforms issues and make recommendations for important policy decisions in that regard.

The CPIB will continue to ensure the day-to-day management of the project as per Health II. CPIB staff at the central office and oblast branches will remain on board during the project implementation period. The regional representatives (local experts to be posted in each Oblast Health Department covered by the Project) will provide close coordination of project activities and technical support in M&E and implementation. They will keep track of the Government's funding of hospital rehabilitation and serve as secretariat to the Oblast Hospital Program Oversight Committees. Institutional and implementation arrangements, including definition of roles and responsibilities, will be detailed in the Project Operations Manual.

Component 1 Specific Institutional Arrangements

Component 1 will be implemented under the overall supervision and guidance of the Health Department of the MOH. The First Deputy Minister of the MOH will be the Curator of the Project and will be responsible for overseeing project implementation. The component coordinators will be in charge of overall implementation, planning, and coordination, in close coordination with the Ministry's relevant units.

Implementation of Subcomponent 1.1: Prior to the provision of equipment and medical furniture, the Government will finance, under parallel financing, upgrading of buildings and fixtures of the central rayon hospitals. Following the Decree of the President of Uzbekistan "On main directions on further deepening of reforms and implementation of the State Program on Healthcare Development," the MOF has budgeted US\$500 million for civil works investment for 2010–14. Implementation of the investment plan began in 2010 and will largely overlap with the time span of the project. It is established practice that by February of each year, the Government approves the list of hospitals and the amount of financing for renovation/reconstruction of rayon hospitals for that year. This process allows the sequencing of the implementation steps under the component and coordination of the component activities with the government investment program as follows:

- By February 2012, the Government will approve the investment program for 2012, which will involve hospitals from the list of 100 hospitals to be supported by the project. The financial resources allocated for each beneficiary hospital will be based on concrete estimates of the civil works cost per each beneficiary hospital.
- The project will provide local and foreign TA to help the local authorities prepare the design and bill of quantities of each beneficiary hospital, which will be developed in accordance with modern approaches to hospital service configuration and functional planning.
- Each year, not later than February, prior to making funds available for the provision of equipment, furniture, and training of medical personnel, the Government shall submit to the IDA the approved hospital investment plan for each year and the respective recurrent costs plans, along with the status of execution of the said plans for the previous year. This process will start with the investment and recurrent costs plan for 2012 (Legal Covenant).

Implementation of Subcomponent 1.2: The Cabinet of Ministers shall adopt the decision on the expansion of the urban model of primary health care (PHC) to all polyclinics in the three pilot oblasts and in Tashkent. Furthermore, all the existing General Practice Training Centers and their staff should be integrated into the postgraduate education departments of the regional TIAME branches/affiliates and get paid by the state. Overall, the daily supervision of the subcomponent's implementation would be the responsibility of the respective coordinator at CPIB's central office and representative at the regional branches.

Implementation of Subcomponent of 1.3: The MOH will establish a National Working Group (WG) on health care quality comprising relevant specialists from the republican-level specialized institutes and other relevant policy makers and practitioners. The Coordinator of the Component, together with the WG, will closely collaborate with technical advisors from UNICEF and WHO in the context of the training program (that is, the development of clinical treatment standards, training modules, and so forth). The process of developing the clinical treatment standards, including the relevance and evidence base of the content and differentiation of standards for primary care and secondary care will be closely coordinated with the international consultants, the Evidence-Based Medicine Center, WG specialists, and WHO. Once finalized, the clinical treatment protocols will be reviewed to ensure congruence with current international best practice prior to their approval, adoption by the MOH, and subsequent use in the training. The Component

Coordinator, in collaboration with the WG, will be responsible for day-to-day oversight, supervision of implementation, and regular reporting on progress.

Component 2 Specific Institutional Arrangements

The Inter-Ministerial Methodological Commission on Health Financing will be established at the level of the Cabinet of Ministers under the Project for overall coordination of this component's implementation (Legal Covenant). The Committee will be chaired by the First Deputy Minister of Health and will comprise representatives of the MOF, MOH, Ministry of Economy, the Statistics Service, and other related agencies. The Inter-Ministerial Methodological Commission on Health Financing will be responsible for (i) coordinating policies/actions between the Ministries of Health and Finance and the Treasury, and (ii) discussing strategic issues related to health sector financing and making recommendations for important policy decisions. It will periodically assemble meetings to discuss implementation progress of the pilot program on hospital cost and volume financing and prepare semiannual and annual reports for the existing Inter-Agency Council and to the World Bank. The Inter-Agency Council, chaired by the Deputy Prime Minister, was created by Resolution #229 of the Cabinet of Ministers and comprises representatives from several key ministries and aims to ensure overall project oversight and its continued linkage with the Government Health Sector Reform Agenda.

The Inter-Ministerial Methodological Commission on Health Financing will submit to the Cabinet of Ministers the Primary Health Care Financing strategy to base the PHC reforms on more robust and functional grounds by January 2013. In addition, the Government will adopt the decision on the piloting hospital cost and volume-based financing scheme in three hospitals in Fergana oblast (Legal Covenant) no later than six months after effectiveness.

The MOH Department of Finance, Economy and Projections (DFEP) will provide conceptual guidance for the implementation of component activities. To enhance the DFEP's capacity in health financing policy formulation and in setting norms and regulations, the DFEP will hire new staff with relevant background. The component coordinator at the CPIB (Health Financing), together with regional representative of the CPIB, will be responsible for the daily supervision of the component's activities and liaising the agencies and structures involved in the implementation of the component.

Component 3 Specific Institutional Arrangements

The coordinator for Component 3 at the CPIB, together with regional PIB representatives, will be responsible for daily supervision of the component's activities and liaising with the agencies and structures involved in the implementation of the component. The coordinators will work closely with the Public Health WG at the MOH to discuss and agree on issues related to developing and getting necessary MOH and Government approval for regulations, and laws required during the course of the project particularly related to establishment of the NCD surveillance system. The main implementing institutions for the component are envisioned to be *the republican- level, oblast departments and rayon/city branches of the Institute of Health and Medical Statistics, State Sanitary and Epidemiology Surveillance (SSES), PHC facilities with the following key partners: Republican Specialized Theoretical and Practical Center of Endocrinology and Republican Specialized Research Center of Cardiology, Tashkent Institute of Postgraduate medical Education (TIPME), regional and rayon health departments, makhallas, local community groups, WHO and UNICEF.*

II. Financial Management, Disbursements, and Accounting

Implementing Entity: The CPIB will be responsible for implementation of the financial management (FM) function of the project, including the flow of funds, budgeting, accounting, reporting, and auditing. The FM assessment was carried out to determine the FM implementation risk and the FM arrangements at CPIB, including accounting, reporting, planning, and budgeting, and staffing is considered to be satisfactory to the Bank. Inherent Risk of the project is rated as Substantial, while the Control Risk and the Overall FM Risk are both considered to be Moderate (after taking into account mitigation measures that had been completed or will be completed by project effectiveness).

Strengths and Weaknesses

There are no major weaknesses at the CPIB. The significant strengths that provide a basis for reliance on the project FM system include (i) FM arrangements similar to an existing project being implemented by the CPIB and found to be adequate, and (ii) experienced FM staff.

Budgeting and Planning: The CPIB has, in general, acceptable budgeting and planning capacity under the Health II Project. The annual budget of the Project will be based on the final procurement plan that is to be discussed and agreed with the CPIB Director, and approved by the World Bank. All changes to the procurement plan will be reviewed by the CPIB Director and approved by the World Bank. The Director, the disbursement specialist, and the procurement specialists will be involved in the preparation of the annual budget. These budgets will form the basis for allocating funds to project activities and requesting counterpart funds from the Government, where appropriate. The budgets will be prepared according to the Interim Financial Report (IFR) format (disbursement categories, components and activities, account codes, and broken down by quarter).

Accounting and Maintaining of Accounting Records: The CPIB has prior experience maintaining the independent accounting system. The project accounting will be maintained based on the National Accounting Standards of Uzbekistan. For reporting purposes, cash basis International Public Sector Accounting Standards and World Bank guidelines for Borrowers will be used under the Project. The Financial Management Manual properly reflects accounting policies and procedures applicable to the Project. All supporting documents will be maintained in files for ready access by auditors and Bank staff. The Project's chart of accounts will track all transactions and report them according to source of financing project components, and type and category of expenditure. The CPIB under the Health II Project uses the 1-C accounting system specially designed to meet the World Bank-financed project requirements, including ability to generate IFRs, withdrawal applications, statement of expenditures, and annual financial statements. In addition, regular backups of the accounting data are done by the accounting staff. However, the current accounting software is very slow because it is based on an outdated version of 1-C. For the purpose of the Health III project, the CPIB will procure new accounting software that will be based on the modern 1-C and will be specially designed to meet the World Bank-financed project requirements, including ability to generate IFRs, withdrawal applications, statement of expenditures, annual financial statements, and other reports as required by the Government of Uzbekistan. The system shall have safeguards against the input of inaccurate data or unauthorized access to the system. Regular backup of the accounting data shall be made by the accounting staff.

Internal Controls: The CPIB's internal controls system was assessed in general to be capable of providing timely information and reporting on the Project, except for the reporting of counterpart funds allocated to the ongoing Health II project in the form of in-kind contributions. However, since under the current project the Government in-kind contribution will be provided in the form of parallel financing, the risk of mis-

presentation of financial information in the project's financial statements is minimized. The Financial Management Manual is well prepared and fully documents accounting and financial reporting policies and procedures and, in particular, incorporates proper internal control procedures over cash transactions, including maximum allowed daily cash operations, formally describes expenditures' authorization, invoices approval, and payments processing procedures; sets up clear back-up arrangements; formalizes reconciliation procedures of project records with Client Connection and XDR/USD reconciliation, safeguards for assets, and so forth. Under the Health II Project, the CPIB conducts monthly formal reconciliation of the World Bank disbursement data with project's accounting records via Client Connection. The Financial Manager has designed Excel spreadsheets where the planned, disbursed, and committed amounts under each category, as well as the undisbursed funds, are stated and reconciled to the Client Connection system. Formal reconciliation of the special and local accounts with the project records is done on a monthly basis, but informal reconciliation is done more frequently, usually upon receipt of bank statements from the commercial bank. The CPIB has adequate internal control procedures in place over operational expenses.

The Financial Management Manual was updated to reflect the specific activities of the project, like Audit Terms of Reference, frequency of submission, format of IFRs, and so forth.

Financial Reporting: Project-management-oriented Interim Unaudited Financial Reports (IFRs) will be prepared under the Project. The CPIB will produce a full set of IFRs every calendar quarter throughout the life of the project. The format of IFRs has been agreed during the assessment and includes (i) Project Sources and Uses of Funds, (ii) Uses of Funds by Project Activities, (iii) Designated Account Statements, (iv) Disbursement Summary, and (v) a Statement of Expenditure Withdrawal Schedule. IFRs will be produced by the accounting software. These financial reports will be submitted to the Bank within 45 days of the end of each calendar quarter. The annual audited project's financial statements and audit report together with the management letter will be provided to the Bank within six months of the end of each fiscal year and also at the closing of the project.

External Audit: The auditor's report on the Health II project's financial statements for FY 2009 has been received on time (on June 30, 2010). The auditor, PricewaterhouseCoopers, Uzbekistan, has issued a qualified (except for) opinion on the project financial statements. The reason for qualification was inability to verify the cumulative in-kind financing contributed by the GOU, included in Financial Statements. The Health III project audit will be conducted (i) by independent private auditors acceptable to the Bank, on terms of reference acceptable to the Bank, and selected by the CPIB; and (ii) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC). The terms of reference will include activities involving (i) audits of financial statements, (ii) assessments of the accounting system, and (iii) a review of the internal control mechanisms. The following table identifies the required audit reports that will be submitted by the CPIB together with the due date for submission.

Audit Report	Due date
Project Financial Statements The Project Financial Statements include Project Balance Sheet, Sources and Uses of Funds, Uses of Funds by project activities, Statement of Expenditures Withdrawal Schedule, Designated Account Statement, Notes to the financial statements, and Reconciliation Statement	Within 6 months of the end of each fiscal year and also at the closing of the project

The audited financial statements will be disclosed to the public in a manner acceptable to the Bank. Following the Bank's formal receipt of these statements from the borrower, the Bank makes them available to the public in accordance with the World Bank Policy on Access to Information.

Flow of Funds and Disbursement Arrangements: Credit funds will flow to the Project via disbursements to one designated account (DA) maintained by the CPIB. The Project will follow transaction-based disbursement procedures (advances to the DA, documentation of the advances based on statements of expenditures and supporting documents, direct payments, and special commitments). Withdrawals from the Credit Account will be requested according to requirements in the Disbursement Letter. The Ceiling of the Designated Accounts will be US\$4,000,000. Withdrawal applications will be signed by two persons: (i) an authorized representative of the Borrower (Ministry of Finance); and (ii) another designated official, such as the CPIB Director, or other persons delegated in writing by the Ministry of Finance.

Disbursements will be made on the basis of full documentation: (i) goods/services contracts for consulting firms over US\$100,000 each, and (ii) individual consultants' contracts over US\$50,000 each. Disbursements under these amounts, and training and operating costs, will be made according to certified Statements of Expenditure. Documents to support the Statements of Expenditure will be held by the CPIB for at least one year after the International Development Association (IDA) receives the audit report for the fiscal year in which the last withdrawal from the Credit Account was made. This information will be available for review during Bank staff supervision missions and for annual audits that assess the propriety of Statement of Expenditure disbursements and the quality of the records.

III. Procurement

Procurement Capacity and Risk: The CPIB will be responsible for procurement under the proposed project. A procurement capacity assessment has been carried out and concluded that CPIB has adequate staffing and experience to carry out procurement activities related to the proposed project. The CPIB has acquired practical experience with the Bank procurement procedures through implementation of projects financed by the Bank. The main procurement risks include (i) the protracted contract and medical equipment registration requirements in the country, which will cause procurement delays; and (ii) the low level of competition due to the high cost of doing business in the country and the low level of development of the local manufacturing industry. To mitigate these risks, the bidding documents will include clear requirements on medical equipment registration, and the CPIB will make efforts to coordinate and follow up with the registration authorities. The procurement packaging arrangement will be made with a view to attract international participation in the bidding process, and the CPIB will advertise procurement widely. The procurement risk is rated as high.

Applicable Guidelines: Procurement for the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" published in May 2004, and revised in October 1, 2006 and May 1, 2010 (Procurement Guidelines); "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" published in May 2004, and revised in October 1, 2006 and May 1, 2010 (Consultant Guidelines); and the provisions stipulated in the Financing Agreement.

Procurement Plan: A Procurement Plan has been developed covering procurement activities for the entire period of project implementation. A summary is presented below. Some International Competitive Bidding procurement will be conducted repetitively during project implementation to follow the rehabilitation of medical facilities (financed by the Government) and their readiness to accommodate the equipment financed by the Project. Few activities still have to be entered into the Procurement Plan; this will be done once their implementation plans are determined (that is, individual assignments to be specified at a later stage). The Procurement Plan will be updated from time to time, but at least once a year. Each update will be subject to the Bank's prior review. The initial Procurement Plan and subsequent updates will be published on the Bank's external Web site in line with Bank Guidelines. A General Procurement Notice (GPN) will be published **at negotiations**. Details on procurement arrangements will be provided in the Project Operations Manual.

The tables below present the procurement plan for goods and the procurement plan for consultants' services.

Procurement Plan for Goods

Description	Procurement Method	Bank Review (Prior/Post)	Date of Draft Bidding Document (BD) to the Bank (Month-Year)	Date of Contract Completion (Month-Year)
Procurement of medical and laboratory equipment for 50 RMUs and urban Pilot polyclinics ^a	ICB	Prior	May-11	Sep-12
Procurement of medical and laboratory instruments and supplies for 50 RMUs and urban Pilot polyclinics ^a	ICB	Prior	Jun-11	Sep-14
Procurement of medical and laboratory furniture for RMUs ^a	ICB	Prior	Jun-11	Sep-12
Procurement of computer hardware and software for accounting, registration at RMUs/OMUs, NHA working group, public health facilities, statistic departments, and SES facilities	ICB	Prior	Feb-12	May-13
Procurement of training equipment for regional training centers and computer equipment and software for database management of nurse and doctor PG training	ICB	Prior	Jul-11	Aug-12
Procurement of reagents for diabetes screening ^b	Shopping	Prior	Jun-11	Jun-13
Procurement of training literature for public health staff	Shopping	Post	n/a	Jul-11
Procurement of equipment for waste management in RMUs	ICB	Prior	Jul-11	Oct-12
Procurement of training equipment for regional training centers and computer equipment and software for database management of nurse and doctor PG Training	ICB	Prior	Mar-12	Nov-14

a. These packages can be split into two ICB packages to equip the RMUs according to renovation and rehabilitation schedules to avoid unnecessary storage after delivery.

b. This includes three shopping packages to be procured at different time, each package within the limit of shopping threshold. First shopping will be subject to Bank prior review.

Procurement Plan for Consultants' Services

Description	Firm or Ind.	Select. Method	WB Review (Prior/ Post)	Request for Exp. Of Interest	Draft RFP (incl. TOR, Short List)	WB No-objection to RFP (full package)	Date of Contract Completion
Selection of consulting company for Improving Health Service Delivery	Firm	QCBS	Prior	Mar-11	Apr-11	Apr-11	Dec-14
Selection of consulting company for Construction Supervision	Firm	QCBS	Prior	May-11	May-11	June-11	Dec-14
Consulting firm for Hospital Financing Software development	Firm	QCBS	Prior	Aug-11	Aug-11	Sep-11	Sep-12
Consulting firm for Assessment of Use of Medical Services/Medical Practices	Firm	QCBS	Prior	May -11	Apr-11	May -11	Dec-15
Consulting firm for General Population Survey	Firm	QCBS	Prior	May-11	May-11	Jun-11	Dec-14
Selection of consulting company for Strengthening Health Financing and Management Reforms	Firm	QCBS	Prior	May-11	May-11	Jun-11	Dec-14
Selection of consulting company for Institutional Strengthening on NCD Prevention Control	Firm	QCBS	Prior	May-11	May-11	Jun-11	Dec-14
Consulting firm for NCD Surveillance Study Service (3-stage survey)	Firm	QCBS	Prior	Mar-11	Apr-11	Apr-11	Dec-15
Selection of consulting company for support in logistics of trainings, workshops, round tables, conferences etc.	Firm	QCBS	Prior	Mar-11	Mar-11	Apr-11	Dec-14
Consulting services for design and Implementation of M&E system; national health Account Software development and Production of Local Communication (TV billboards)	Firm	CQS	Post	Mar-11	Apr-11	Apr-11	Dec-14
Audit of financial statements for years ending 31.12.2011 and 30.06.2016	Firm	LCS	Prior	Nov-11	Nov-11	Dec-11	Apr-16

Procurement Supervision and Ex-post Review: Routine procurement reviews and supervision will be provided by procurement specialists based in country offices in the region. In addition, two supervision missions are expected to take place per year during which ex-post reviews will be conducted for the contracts that are not subject to Bank prior review on a sample basis (20 percent). One ex-post review report will be prepared per fiscal year, including findings from physical inspections for not less than 10 percent of the contracts awarded during the review period.

Additional Provisions for National Competitive Bidding (NCB): The standard NCB provisions for Uzbekistan, as included in the Financing Agreement, will be applied to all the NCB contracts.

Procurement Thresholds: The thresholds for procurement methods and Bank prior review are indicated in the table below.

Expenditure Category	Contract Value (US\$)	Procurement Method	Bank Prior Review
Goods	>200,000	ICB, LIB	All the ICB and LIB contracts
	< =200,000	NCB	The first two NCB contracts
	< 100,000	Shopping	The first one Shopping contract
	NA	DC	All DC contracts
Consultant Services	>=200,000	QCBS, QBS, FBS, LCS	All contracts above US\$100,000 for firms; and all contracts above US\$50,000 for individuals; and all SSS contracts.
	< 200,000	CQS	
	NA	SSS	
	NA	IC	
<p><i>Note:</i> CQS = Selection Based on Consultants' Qualification DC = Direct Contracting FBS = Fixed Budget Selection IC = Individual Consultant selection procedure ICB = International Competitive Bidding LCS = Least Cost Selection LIB = Limited International Bidding NA = Not applicable NCB = National Competitive Bidding QBS = Quality Based Selection QCBS = Quality and Cost Based Selection SSS = Single (or Sole) Source Selection</p>			

IV. Environmental and Social (including safeguards)

Social: On social, no land acquisition is foreseen under the Government's investment program, which will be supported by this Project through goods and services; all works will be sited on existing public land. Therefore, OP 4.12 is not triggered. The screening checklist in the Standard Environmental Management Plan (EMP) Checklist that will be used includes a section on land acquisition will be deleted because it does not apply in this case. If it should turn out during implementation that land acquisition is in fact necessary, the project will need to be restructured and OP 4.12 triggered, and one or more Resettlement Action Plans will be prepared as needed.

Though the screening checklist specifies landownership to the Government, the checklist will nevertheless include a section on how ownership has been determined (title search or advance public notice that goes uncontested). The proposed Project would not trigger the land acquisition and/or resettlement safeguard policies.

Environmental: OP 4.01 is triggered because the Project would indirectly support the rehabilitation of health facilities financed by the government budget (100 hospitals) with potential improvements in health care waste management. An Environmental Management Framework (EMF) was prepared because locations of project interventions have not all been defined. The EMF provides environmental management guidelines, including those for health care waste management. Based on the EMF, a site-specific Environmental Management Plan will be prepared prior to beginning construction at each site. In most cases, the works are expected to be limited to minor rehabilitation and the Bank's standard EMP Checklist will be used. The EMF was disclosed in-country on the MOH's Web site on November 20, 2010, and disclosed in the Bank's Infoshop prior to appraisal. Most project activities are not expected to generate adverse environmental effects. In relation to construction, there would also be small-scale rehabilitation of existing health care facilities to ensure appropriate provision of medical services. While the impacts of these supported activities are localized, minor, and reversible, they still warrant certain care. The Project would provide clear environmental management guidelines and training, as deemed necessary, for contractors hired for rehabilitation and outfitting of health care facilities. Particular attention would be paid to waste generated at construction sites.

The EMF provides an overview of Uzbekistan's environmental legislation as it applies to project activities and the measures contractors should follow to be in compliance. It provides detailed specifications on areas of potential impact and the mitigation measures that are to be implemented in case a project-supported activity has a potential negative environmental impact. It provides clear instructions on the appropriate measures to be adopted with respect to construction. Considering that the Project specifically deals with the health sector, the EMF provides a separate chapter with technical guidance on health care waste management. The Project recognizes that there is a need for capacity building and would implement a training program focusing on bringing health facilities up to internationally accepted standards and on providing clear guidance to contractors hired for rehabilitation or remodeling of hospitals or health centers.

The MOH's Environmental Management Program, with World Bank support, would review and supervise the scope of current technical specifications and terms of reference for all works, thereby ensuring environmental compliance. The MOH considers this an important aspect to follow up on during supervision and evaluation.

It is not anticipated that project activities would result in a significant increase in health care waste; however, the Project would monitor the proper disposal of health care waste by health care providers and implement a health care waste management action plan to monitor the proper disposal of health care waste by the health care facilities according to national norms and that satisfy World Bank safeguard requirements. The Project would also support capacity building for health service providers and monitoring agencies on health care waste management.

The proposed Project would support the Government in implementing measures necessary to mitigate potential environmental effects. Of particular importance is the need to ensure that health care waste is disposed of in an environmentally sound manner and that health care workers are adequately trained in medical waste management. On the management of the environmental risks of small-scale construction works, the CPIB would incorporate the EMF guidelines in the Project's Operations Manual and standard bidding documents for civil works.

The Project would not procure and would not use pesticides for disease vector control. Therefore, the Operational Policy on Pest Management is not triggered.

V. Project Monitoring & Evaluation (M&E)

Project outcomes and results would be assessed using the CPIB's M&E system to track progress on the indicators specified in the results framework. The system would draw on (i) multiple information sources and instruments, including special surveys and studies; (ii) technical audits; and (iii) quarterly Project Management and Progress Reports. The proposed Project supports supervision and monitoring activities under Components 3 and 4, which focused on improving the management capacity at the local and national levels of the MOH, including an NCD surveillance system.

The M&E specialist of the CPIB will be responsible for overall data collection, analysis, and timely reporting on project progress and related key performance indicators. The specialist will liaise with the Regional Institute of Health Monitoring Department in the six oblasts covered by the Project and with the regional representatives of the CPIB in preparing the progress reports. In addition, the Oblast Hospital Program Oversight Committees will periodically report on the Government's implementation and recurrent program. Regional representatives of the CPIB will serve as secretariat to the Committees.

Project Management and Progress Reports: Semiannual Project Management and Progress Reports, prepared by the CPIB in consultation with the MOH, would examine compliance of the Project's procedures, as specified in the Project Operations Manual. These reports would rely on qualitative data collection (beneficiary population surveys, among others) and quantitative data (project outcome indicators and intermediate outcome indicators and other relevant indicators) to provide answers to key questions about the Project's operations and performance. Semiannual reports of the Oblast Hospital Program Oversight Committees will be submitted to the Bank by the CPIB. These types of evaluations and reporting are particularly important for understanding how the Project evolves and if the quality of services improves over time. It is also important for identifying unanticipated bottlenecks and design mechanisms that may hinder implementation or negatively affect project objectives. Accordingly, in-depth reporting is planned for the purpose of the midterm review, while the progress report prior to project closing will aim at evaluating project outcomes and lessons learned.

Concurrent Technical Audit: The concurrent technical audit would validate that the services rendered are adequately delivered and that the reported levels of achieved results are accurate and verifiable (including number of beneficiaries). In addition, the technical audit would verify that the incentives for achieving the performance indicators have been applied. This mechanism is an important tool for holding providers and the MOH accountable for the services they report and supervise.

Annex 4: Operational Risk Assessment Framework (ORAF)

Project Development Objective(s)

The overall Project Development Objectives (PDOs) are to (1) improve access to quality health care at the primary level and at RMUs, and (2) strengthen the Government's public health response to the rise in NCDs.

PDO Level Results Indicators:

1. Increased proportion of diabetic and hypertension patients referred from Primary Health Care facilities to Rayon Medical Unions, in accordance with treatment standards.
2. Improved perceived quality of PHC and secondary health care services in interventions areas.
3. Increased proportion of hospitals (RMUs) following NCD treatment standards.
4. Issuance of a profile of NCD risk factors and burden of disease.

Risk Category	Risk Rating ^b	Risk Description	Proposed Mitigation Measure
Project Stakeholder Risks			
<ul style="list-style-type: none"> • Stakeholder 	MI	<p><i>Borrower relations:</i> Bank's relation with Borrower is positive and project's PDOs are aligned with Bank's sector priorities. However, there is the risk that Government's engagement to the health sector reform agenda will not be maintained.</p> <p><i>Donor Relations:</i> Coordination among donors and high-level dialogue with Government officials continues to be strong though challenging; health reform agenda can be successful only if all stakeholders are engaged in its implementation.</p> <p><i>Direct Stakeholders View:</i> End beneficiaries have limited voice in influencing quality of health services.</p>	<ol style="list-style-type: none"> 1. Continued advocacy by the Bank for the reform agenda with intensive consultations with Government and donor community. 2. Communication strategy implemented to inform stakeholders on reform agenda. 3. Population survey in the intervention areas to be carried out over the project period will monitor, among other things, patient satisfaction with service delivery, contributing to civil society engagement in the health sector.
Implementing Agency Risks (including FM & PM)	ML	<p>There is a risk of lack of coordination of project activities across various agencies and levels (central and oblast levels); significant implementation delays may occur due to weak procurement and FM management capacity at the oblast level; major impediment to smooth project implementation likely to occur due to required contracts registration and price verification by the MEFRIT and the MOH (for medical equipment).</p>	<p>Selection of regional representatives of CPIB to be posted in each Oblast Health Department for coordination of activities and technical support in MOH and serve as secretariat to the Oblast Hospital Program Committees.</p> <p>Bank to closely monitor (and advise on) application of Bank's procurement guidelines by the CPIB; Draft Project Operations Manual will be submitted to the Bank by Negotiations and will cover, among other things, processes, roles, and responsibilities related to technical and fiduciary aspects.</p>

Risk Category	Risk Rating^b	Risk Description	Proposed Mitigation Measure
			Establishment of functional unit at the MOH, headed by the First Deputy Minister of Health responsible for project monitoring and oversight and for guiding the CPIB in taking proactive actions.
Project Risks			
<ul style="list-style-type: none"> Design 	L	Selection process of rayon hospital may diverge from the established criteria; delay in selection may delay project implementation.	1. Annual Hospital Investment and Recurrent Plans, including plans execution, will be subject to Bank review.
<ul style="list-style-type: none"> Social and Environmental 	L	The project triggers Environmental Safeguard Policy OP 4.01 because of construction and rehabilitation works to be financed using government's funds (Project will finance equipment of selected health facilities). OP 4.12 is not triggered because there will be no resettlement or land acquisition. The risk lays in whether the implementation of safeguards will be smooth.	1. EMF was disclosed before appraisal. 2. Compliance of civil to the revised construction and environmental norms and standards will be closely monitored by the Bank and experts. 3. Equipment for treatment and waste management in the intervened hospitals financed under the project.
<ul style="list-style-type: none"> Program and Donor 	L	The risk in this area is minimal because the project supports the Government's health reform agenda. Government is financing all civil works (estimated at US\$300 million equivalent) and is not dependent on other donor contributions.	Annual Hospital Investment and Recurrent Plans will be subject to Bank review to ascertain that project supports will equip Government's hospital investment program.
<ul style="list-style-type: none"> Delivery Quality 	ML	Government's commitment to provide financing for the maintenance of civil works and equipment during and beyond the life of the project is essential. Adequate resources for independent evaluation of project outcomes through population-based surveys should be provided. CPIB capacity developed under Health II should be maintained to ensure adequate contract management.	1. Annual Hospital Investment and Recurrent Plans, including plans execution, will be subject to Bank review (Legal Covenant). 2. Baseline and follow-up health population surveys financed under subcomponent 3.2. 3. Bank to continue advising on application of good contract management practices.

a. This is the version that should be used for Negotiations and submission for Board Approval.

b. Low (L) = *Low impact* on PDO if it happens and *Low likelihood* of it occurring; Medium driven by likelihood (ML) = *Low impact* on PDO even if there is a *High likelihood* that it will happen; Medium driven by impact (MI) = *High impact* on PDO even if there is a *Low likelihood* that it will happen; High (H) = *High impact* on PDOs and a *High likelihood* that it will occur.

Overall Risk Rating at Preparation	Overall Risk Rating During Implementation	Comments
MI	MI	With the Bank's close monitoring and timely advice on application of Bank's procurement guidelines and preparation of bidding documents for the first packages before effectiveness by the CPIB, it is expected that delays in project implementation will be minimized. Establishment of functional unit at the MOH headed by the First Deputy Minister of Health responsible for project monitoring and oversight (and the establishment of Oblast Hospital Program Oversight Committees) may minimize further the risks of implementation delays and bottlenecks.

Annex 5: Implementation Support Plan

Strategy and Approach for Implementation Support

The Strategy for Implementation Support has been developed based on the nature of the proposed Project and its risk profile. The Strategy aims to make implementation support for the Government of Uzbekistan (GOU) in general and the Ministry of Health (MOH) in particular more flexible and more efficient so that the Project Development Objectives are achieved, and focuses implementing the risk mitigation measures defined in the Operational Risk Assessment Framework. The following areas and actions have been defined as part of the strategy:

- Financial Management: Supervision would support the CPIB’s financial management capacity, including but not limited to accounting, reporting, and internal controls.
- Role of Partners: The Bank team would continue to work closely with other key donors (WHO, USAID, UNICEF, and so forth) and the MOH for the definition of annual performance goals. The use of the agreed-upon performance indicators and annual performance goals would also be examined during the first year of project implementation and thereafter.

Health System Improvement Project Partners

Name	Institution/Country	Role
Quality Health Care Project	USAID	Project partnered with the Bank in supporting health financing and service quality aspects.
Women and Child Health Development	Asian Development Bank (ADB)	The ADB project finances large-scale program focused on provision of modern equipment to maternal hospitals across the country and training of medical personnel.
UNICEF	UN Agency	UNICEF is and will remain the main counterpart on the issues of nutrition, training in general pediatrics, development and introduction of related treatment protocols, and EBM guidelines and immunization issues. The large-scale training program for General Practitioners (GPs) on pediatrics financed by the EU and currently being implemented by UNICEF will complement the Health III project.
World Health Organization (WHO)	UN Agency	Supporting the framework NCD strategy development.
KFW	German Government Agency	Supporting TB control through establishment of a national reference lab and the provision of goods, consulting services, and training. In addition, KFW is planning a 25-million-euro program to provide equipment to national-level and oblast-level multiprofile children’s hospitals.
The Global Fund		Ongoing grants program are supporting AIDS, TB, and malaria control.
The GPOBA Project	IFC	The grant program aims at financing Public Private Partnerships (PPP) projects to support the establishment of stand-alone diagnostic centers at the republic and oblast level.
CDC and DTRA	U.S. Government	Supporting surveillance, biosafety issues, and avian influenza prevention through various channels of U.S. assistance such as technical assistance and material support.

Implementation Support Plan

For the execution of the Implementation Support Plan (ISP), a member of the Bank team based in the country office would ensure timely, efficient, and effective implementation support for the GOU. Task team leadership and key social and environmental specialists would also conduct semiannual formal supervision missions and field visits to follow up on Project implementation. Detailed inputs from the Bank team are outlined below.

Technical Inputs:

- a. *Performance Monitoring:* During the first 12 months, the CPIB would work with each of the regional representatives of the CPIB located in each oblast to oversee and backstop the implementation of an annual work plan. The concurrent technical audit would verify the number of participants receiving services, the achievement of the performance goals, and that the incentives for achieving the performance indicators have been applied. Between months 12 and 48 in implementation, the CPIB and regional representatives would review the results indicators and annual performance goals with the Oblast Health Departments. Local Bank staff and the task team would formally supervise the completion of these activities.
- b. *Equipment and Rehabilitation:* During the first 12 months of the Project, the CPIB would work closely with the Oblast Health Departments to complete a diagnostic of each network's needs, including medical and nonmedical equipment and rehabilitation. In addition, local consultants will be hired to closely supervise the execution of these activities. The Bank task team would formally supervise the completion of these activities.

Fiduciary Requirements and Inputs: During preparation, the Bank team would identify capacity-building needs to strengthen its financial management capacity and to improve procurement management and efficiency. Both the financial management and procurement specialist are based in country offices to provide timely support. Formal supervision of financial management reports would be carried out semiannually, while procurement supervision would be carried out on a timely basis as required.

Safeguards: Semiannual inputs from the environmental and social specialist would be required throughout the Project's lifetime. The CPIB and the Oblast Health Departments would have to ensure that service providers receive adequate training on environmental safety measures. Likewise, service providers would need to ensure that the Project's benefits reach the intended populations and that the intervention is culturally appropriate. Semiannual formal implementation support missions and field visits would ensure that safeguard measures are followed.

The table below reflects the implementation support plan for the Project.

Implementation Focus

Time	Focus	Skills Needed	Resource Estimate/Year	Partner Role
FY12	Ensuring robust M&E systems, technical quality, and seamless financial management	M&E + technical + FM	US\$200,000	
FY13–FY17	Ensuring technical quality and fiduciary compliance	Technical + Fiduciary	US\$250,000	
Other				

Skills Mix Required

Skills Needed	Number of Staff Weeks/FY	Number of Trips/FY	Comments
Health	16	3	
Monitoring and Evaluation. Technical	3	1	
Monitoring and Evaluation. Safeguard	1	1	
Medical Equipment Specialist	2	N/A	
Implementation	4	2	
Financial Management Specialist	3	2	
Procurement Specialist (Senior)	3	1	

Supervision Plan: As part of its project supervision mission, the Bank will conduct risk-based financial management supervision within nine months of project effectiveness, and then at appropriate intervals. During project implementation, the Bank will supervise the project's financial management arrangements in the following ways: (a) review the project's quarterly Interim Financial Report and annual audited financial statements and auditor's management letter and remedial actions recommended in the auditor's Management Letters; and (b) during the Bank's on-site supervision missions, review the following key areas: (i) project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement management and financial flows, including counterpart funds, as applicable; and (iv) any incidences of corrupt practices involving project resources. As required, a Bank-accredited Financial Management Specialist will assist in the supervision process. The initial overall procurement risk is rated "high." During the supervision, in order to mitigate risks, the FMS will compare the contracts unit costs to similar costs using the Internet and local market, will have more frequent SPN missions in the first part of the Project, and consider having joint fiduciary SPN missions with procurement colleagues.

Annex 6: Economic and Financial Analysis

This annex presents a cost-benefit analysis of the Project, based on the projected costs and expected quantifiable economic benefits. The project's benefits arise chiefly because of its expected positive impact on morbidity and mortality. The analysis below considers the entire Project costs and the benefits generated under Components 1, 2, and 3. Possible benefits yielded under Component 4 (project management) are not included in the analysis, but their costs are included in the total.

A. Basic Framework

The estimated benefit of the project is the economic value of the lives saved and serious disability averted by the investments made in the project: (i) improved access to medical care, (ii) better quality of care, (iii) efficiencies in health delivery and from health prevention, and (iv) activities to fight noncommunicable diseases (NCDs).

The basic framework involves projecting the epidemiological scenario in Uzbekistan from 2002 to 2030 and then estimating how many disability-adjusted life years (DALYs) might be averted with the Project. The projections made by WHO thus provide a useful counterfactual scenario of burden of disease in Uzbekistan without the project.⁶ The growth in burden of disease in Eastern Europe and Central Asia arises chiefly from population growth and the effects of tobacco.⁷ As in past analyses, benefits deriving from improved access to medical care tend to dominate other benefits, such as efficiencies in health delivery.

B. Description of Major Components

Component 1: Improving Health Service Delivery (estimated total cost: US\$82.17million equivalent). This component aims at expanding access of population to quality health care.

A first subcomponent—hospital services improvement—will finance (i) the provision of diagnostic, waste management equipment and supplies to at least 100 selected central rayon hospitals; (ii) foreign and local technical assistance (TA) on hospital service planning and revision of construction norms and standards; and (ii) development of health service referral guidelines and mechanisms. The Government will finance, under parallel financing, the upgrading of buildings and fixtures of the additional rayon hospitals and will bear the responsibility of the recurrent costs.

A second subcomponent—primary health care development—will expand, to a more limited extent, the provision of medical equipment and staff retraining at selected primary health care (PHC) facilities in rural areas. A third subcomponent—human resource quality enhancement—will strengthen the quality of care at the primary and secondary health care levels through improvement of the clinical skills and competence of health personnel, training approximately 1,000 rayon hospital doctors and 2,000 rayon hospital nurses in management of selected cardiovascular diseases, diabetes, and respiratory diseases following new clinical guidelines and treatment protocols that will be developed under the Project. Finally, it will provide, in rural PHC centers, continuous short training courses to approximately 5,700 doctors and 14,000 nurses on management of selected NCDs and other health conditions at the primary care level and also on referral guidelines to the secondary care level.

⁶ See http://www.who.int/healthinfo/global_burden_disease/estimates_country/en/index.html.

⁷ See Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Medicine*, 2006, 3:e442.

Component 2: Strengthening Health Financing and Management Reforms (estimated cost: US\$4.42 million equivalent). This component aims at (i) consolidating and institutionalizing health care financing and management reforms at the PHC level, and (ii) improving the hospital payment system at the rayon level by introducing cost and volume contracts in three selected rayon hospitals in Fergana oblast and block contracts in the rest of the rayon hospitals.

The component will finance (i) TA to develop the overall vision and strategy for the Health Sector Financing; (ii) TA and training to build capacity in the MOH and to develop National Health Accounts, analyze health sector expenditure, and develop medium-term projections; (iii) TA to develop and pilot cost-and-volume and block contracts for reimbursement of hospital services and its evaluation; (iv) training in financial and hospital management of staff at rural PHC clinics and RMUs; (v) acquisition of computers, IT equipment, and software development at selected rayon hospitals and MOH; (vi) a study of the causes for the low utilization of hospital services by the middle-aged and older populations; and (vii) study tours to countries with established case-based hospital financing.

Component 3: Institutional Strengthening of the NCD Prevention and Control System (estimated total cost: US\$2.98 million equivalent). This component aims to strengthen the capacity of Uzbekistan's public health institutions in the effective prevention and control of NCDs.

The first subcomponent—health promotion and NCD prevention—would build on current efforts to improve health promotion activities, with a particular focus on activities to address behaviors associated with increased risk for hypertension and diabetes. Planned activities include the development of training modules on the epidemiology of NCDs; promotion of a healthy lifestyle including nutrition; and health communication, followed by training of health promotion specialists at the republican, oblast, city, and rayon Institute of Health and Medical Statistics branches and provision of computer/multimedia equipment. Community-based health promotion activities focused on risk-factor reduction, including screening for hypertension and diabetes, will also be carried out in selected oblasts in collaboration with PHC providers. Broadcast and print media will also be used to communicate messages to the general population on prevention of hypertension, diabetes, and other dietary and lifestyle-related diseases including anemia.

A second subcomponent—strengthening health surveillance systems—would support the development of epidemiological surveillance (including behavioral risk factors) for NCDs.

Component 4: Project Management (estimated cost: US\$3.40 million equivalent). This component will finance administrative and fiduciary requirements, including expertise in project coordination, monitoring and evaluation, procurement, and financial management.

The table below presents of matrix of project components and subcomponents.

Table A6.1: Project Components and Subcomponents, Activities, and Intermediate Outcomes Component/subcomponent	Activities	Intermediate outcomes
1.1: Hospital services improvement	Equipment and upgrading of rayon hospital	Increased access to rayon hospital health services
1.2: PHC development	Medical equipment in rural PHC centers	Increased access to rural PHC health services
1.3: Human resource quality enhancement	Training of doctors and nurses at rayon hospital and rural PHC centers	Improved quality of care: adoption of disease-specific treatment and referral guidelines
2: Health financing strengthening and management reforms	Management information systems and training for financial management at PHC and hospitals	Consolidation/institutionalization of health financing reforms
	Implementation of hospital result-based financing pilot (Fergana oblast)	Reduced length of stay, improved bed occupancy in pilot hospitals
3.1: Health promotion and NCD prevention	Training of health personnel on NCD prevention and management	Improved quality of care: adoption of NCD prevention and management guidelines
	Community based health promotion activities	Reduced exposure to behavioral risk factors
3.2: Strengthening health surveillance systems	Population surveys on NCD risk factors	Improved knowledge of population risk factors
4: Project management	Operational cost of the CPIB	Timely, efficient, and transparent project execution
	Financial audits	

C. Economic Analysis Methods

The economic analysis is based on of the following assumptions.

Population Covered: The proposed prevention and promotion intervention would be implemented in the six oblasts covering 15.1 million people. Future population growth to 2030 uses the UN population projection totals (medium variant) for Uzbekistan as a whole.⁸

Discount Rates: Financial costs (project costs and efficiency savings) are discounted at a basic rate of 11 percent, to account for inflation in Uzbekistan (based on the Country Assistance Strategy estimates, 2008). A lower range of 8 percent is also applied. Lower discount rates mean that the present value of future costs and benefits would be greater. The future stream of annual DALYs saved (that is, benefits) is discounted at 3 percent (with an upper sensitivity analyses of 5 percent), per guidelines from WHO and the Disease Control Priorities (DCP-2) project.⁹

The economic analysis considers a number of direct and indirect benefits associated with the Project's interventions (see Table A.6.1).

Reduction in DALYs: DALYs, which represent the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability, have a built-in age-weighting and discount

⁸ Source: <http://www.un.org/esa/population/>.

⁹ See: <http://www.dcp2.org/>.

rate of 3 percent. The following Project subcomponents are expected to have an impact on the burden of diseases:

- Improved access to rayon hospital health services: subcomponent 1.1
- Improved access to rural PHC health services: subcomponent 1.2
- Improved quality of care: subcomponent 1.3
- Adoption of NCD prevention and promotion guidelines and reduced exposure to behavioral risk factors: subcomponent 3.1.

DALY reduction in each major disease category has been estimated for each intervention. Specifically, a 3 percent DALY reduction is linked with the project goals of expanding treatment guidelines for each specific disease, based on the presumed effectiveness from the DCP-2 and that the treatment guidelines are assumed to reach about 50 percent of the population who have physical access to hospitals, expanding by a further 15 percent as geographic expansion in access to hospitals occurs. The reduction in DALYs from expanded hospital coverage (rising from about 50 percent to 57 percent) is conservatively set at 1 percent across all diseases. Finally, the health promotion components are linked to a modest relative reduction of 2 to 4 percent in DALYs due to smoking, blood pressure, lack of physical activity, and obesity. These constituted, in 2002, about 13 percent, 20 percent, 5 percent, and 9 percent, respectively, of total DALYs in 2002. These reductions in diseases from the interventions of the project (better facilities, better training, and health promotion on NCDs) took the conservative values for interventions from the DCP-2.

Health Care Efficiency Gains: The Project's treatment guidelines and training might make services more efficient, but it is difficult to disentangle the costs saved from those arising from expanded services. Additional efficiency gains are ascribed from the hospital results-based financing pilot that will be implemented in three hospitals in the Fergana oblast under Component 2. However, because of the relatively small population covered in the pilot, the efficiency gains produced are negligible.

Counterfactual Scenario for DALYs: The baseline DALYs for 2011 were calculated for the various conditions from WHO estimates for the Eastern and Central Asia region, adjusted for the population size of the project (15.1 million people) and the age structure of Uzbekistan (from the UN Population Division) for the years 2010, 2015, and 2030. These include the forward projections of DALYs for 2016 and 2030. The baseline value of 2011 DALYs used the average of the WHO mortality rates for 2002 and 2015, adjusted for age structure of Uzbekistan for 2010. The projections in DALYs averted (that is, healthy life years gained) assumed that only half of the maximum benefit was achieved by 2016, with full benefits achieved by 2030. Moreover, the benefits of the project (that is, better training and health promotion) were assumed to continue (funded by the Government of Uzbekistan) from 2016 onward.

Valuation of DALYs used a very simple rule. Each DALY saved is valued at per capita income (using a starting value of about US\$1,142 for 2011). An upper, but still conservative, estimate values each year of life as three times per capita income, as per the DCP-2 and Copenhagen Consensus guidelines.¹⁰ Studies of valuation of life in the United States find a much higher ratio, and to demonstrate a more extreme effect, the sensitivity analysis tests valuation is at 15 times per capita income.

GDP Growth: An annual growth rate of 5 percent in real per capita GDP is used.¹¹

¹⁰ See: D. Jamison, P. Jha, and D. Bloom, "Copenhagen Consensus 2008 Challenge Paper: Diseases," 2008; <http://www.givewell.org/files/DWDA%202009/Stop%20TB/Copenhagen%20Consensus%20Paper-Diseases.pdf>.

¹¹ See: *World Development Indicators* (2010).

Project Investment and Recurrent Costs: The total financing of this Project is US\$321 million in nominal terms, which would be disbursed over a period of five years (October 1, 2011–September 30, 2016). Given cross benefits across project components (see below), the entire project costs (and not simply the components that are expected to yield measurable benefits) are used in the cost-benefit analyses. The recurrent costs are estimated as half of the final year costs from the Government of Uzbekistan (about US\$9.3 million in nominal terms), even though the project will mostly reequip and rehabilitate existing hospitals. Costs are discounted at 11 percent, with a lower range of 8 percent.

Aggregated and Marginal Benefits of the Interventions: In this project, interventions are integrated. For example, health benefits deriving from the adoption of NCD prevention, and management guidelines under subcomponent 3.1 (health promotion and NCD prevention) are coupled by the increased use of hospital services deriving from the investment under subcomponent 1.1 (hospital services improvement) and the better-quality care deriving from the training provided under subcomponent 1.3 (human resource quality enhancement). Thus, caution is required in interpreting the incremental health gains (DALYs saved) derived by each subcomponent.

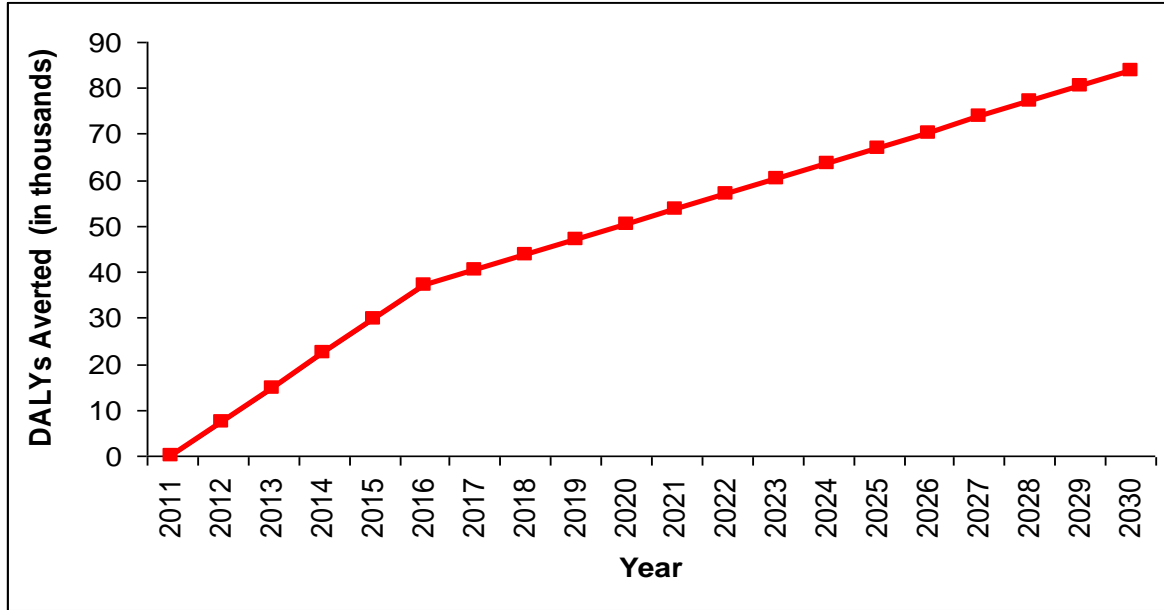
D. Summary Results

Table A6.2 and Figure A6.2 show the total DALYs averted in 2015 and 2030 and cumulatively. Consistent with the epidemiological profile for Uzbekistan and the project focus on NCD interventions, most of the DALYs averted are from reduced NCD burden. Indeed, about 40 percent of the reduced DALYs arise from reduced cardiovascular disease.

Table A6.2: Total DALYs (in '000s) Averted by 2015 and 2030, and Cumulative DALYs, Baseline Scenario

Cause/Year	2015	2030	2011–30 Cumulative
All causes	37	84	980
NCDs (% of total)	31 (84%)	72 (86%)	
Cardiovascular disease (% of total)	15 (40%)	35 (41%)	

Figure A6.1: Total DALYs Averted by Year of Project Compared to Europe and Central Asia Counterfactual Projections, Baseline Scenario



The overall results of the economic analyses (baseline scenario of 11 percent inflation rate, plus 3 percent discount rate for DALYs) are shown in Table A6.3.

The internal rate of return (IRR) for the baseline scenario is 24 percent, which exceeds the 11 percent discount rate. In other words, the difference between the IRR and the discount rate ensures that the health interventions proposed by the Project are economically profitable.

The net present value (NPV) and IRR analyses were quite sensitive to the value of a DALY (ranging from 1 to 3 times per capita GDP), which raises the rate of return nearly threefold (Table A6.4). In contrast, the IRR was only somewhat sensitive to the discount rate for DALYs and not very sensitive to the deflator (inflation) rate or to the discount rate for DALYs averted. With valuation of life near what is used in U.S. studies, the project IRR is unusually high. The rate of return is also not very sensitive to an arbitrary reduction of 50 percent in intervention effectiveness. However, because we used very modest effectiveness estimates, there is no major risk of overestimation of returns. For example, the overall reduction in DALYs from cardiovascular disease, the leading cause of death, is estimated at only about 5 percent over 20 years, whereas the U.S. interventions (prevention, specifically tobacco control), blood pressure management, and case management in hospitals have reduced CVD mortality by over 25 percent in the last two decades.

Table A6.3: Project Costs, Benefits, and Internal Rate of Return

Year	Direct/Indirect Benefits in '000s US\$ (2011 terms)	Investment Costs in '000s US\$ (2011 terms)	Net Benefits in '000s US\$
2011	—	17,629	(17,629)
2012	8,291	40,172	(31,881)
2013	16,910	64,527	(47,617)
2014	25,865	51,814	(25,949)
2015	35,165	54,648	(19,483)
2016	44,820	15,385	29,434
2017	49,781	4,925	44,856
2018	54,917	4,437	50,479
2019	60,231	3,998	56,234
2020	65,730	3,601	62,129
2021	71,419	3,245	68,174
2022	77,303	2,923	74,380
2023	83,387	2,633	80,753
2024	89,677	2,372	87,305
2025	96,180	2,137	94,043
2026	102,900	1,925	100,975
2027	109,845	1,735	108,111
2028	117,021	1,563	115,458
2029	124,433	1,408	123,025
2030	132,088	1,268	130,820
Total	1,365,962	282,347	1,083,616
Net Present Value (in '000s)			
11%			US\$189,636
8%			US\$289,576
		IRR	24.4%

Table A6.4: Sensitivity Analyses of Results

Variable (all values in '000s US\$)	Total Costs	Total Benefits (1 DALY=1 times GDP/cap)	Net benefits	Net Benefits with High Value (DALY=3 times GDP)	Net Benefits with High Value (DALY=15 times GDP)
Baseline scenario: Using deflator rate of 11% and DALY discount rate of 3%					
Values	282,347	1,365,962	1,083,616	3,810,464	20,171,554
NPV at 11%			189,636	932,122	5,387,037
IRR			24.4%	75.0%	584.0%
Scenario 2: Using deflator rate of 8% and DALY discount rate of 3%					
Values	313,644	1,366,948	1,053,304	3,780,152	N/A
NPV at 8%			289,576	1,311,057	
IRR			22.9%	73.1%	
Scenario 3: Using deflator of 11% and DALY discount of 5%					
Values	282,347	1,074,818	792,471	2,937,030	N/A
NPV at 11%			125,061	738,397	
IRR			21.0%	69.1%	
Scenario 4: Using deflator of 8% and DALY discount of 5%					
Values	313,644	1,075,803	762,159	2,906,719	N/A
NPV at 8%			195,535	1,025,473	
IRR			19.4%	65.3%	
Scenario 5: Using deflator rate of 11% and DALY discount rate of 3% and effectiveness halved by 50%					
Values	282,347	682,981	400,634	17,464,160	N/A
NPV at 11%			3,632	374,875	
IRR			11.3%	36.1%	
Scenario 6: Using deflator rate of 8% and DALY discount rate of 8%					
Values	313,644	769,658	456,014	1,988,283	N/A
NPV at 11%			93,404	719,081	
IRR			14.5%	56.9%	

E. Fiscal Impact and Sustainability

For fiscal year 2011, the public health budget for the MOH is estimated to be about US\$760 million, excluding external financing. Assuming that the MOH's budget and spending remain roughly the same relative to GDP over the next five years, the Government would have a large enough budget to sustain the recurrent costs, which are estimated generously for the project (Table A6.5).

Table A6.5: Fiscal Impact (in millions of US\$)

Variable/Year	2011	2012	2013	2014	2015	2016	Total
Cost of project	17.6	44.6	79.5	70.9	83.0	25.9	321.5
MOH annual budget	760.6	798.6	838.6	880.5	924.5	970.8	
% of MOH annual budget	2.3%	5.6%	9.5%	8.0%	9.0%	2.7%	
Uzbekistan GDP	30,424.4	31,945.6	33,542.9	35,220.0	36,981.0	38,830.1	
% of GDP	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	

Annex 7: Team Composition

World Bank staff and consultants who worked on the project:

Name	Title	Unit
Ghada Youness	Senior Counsel	LEGEM
Yuling Zhou	Senior Procurement Specialist	EC SO2
Fasliddin Rakhimov	Procurement Specialist	EC SO2
Susanna Hayrapetyan	Senior Health Specialist	EC SH1
Johanne Angers	Senior Operations Officer	EC SH1
Antonio Giuffrida	Senior Health Economist	EC SH1
Iqboljon Ahodjonov	HD Operations Officer	EC SH1
Gabriel Francis	Program Assistant	EC SHD
Gulnora Kamilova	Program Assistant	EC CUZ
Galina Alagardova	Financial Management Specialist	EC SO3
Wezi Marianne Msisha	Health Specialist	EC SH1
Johnson Appavoo	Operation Analyst, Environment	EC SOQ
Prabhat Jha	Health Economist, Consultant	



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