Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: PAD939

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US $ 214.73 MILLION

TO

UKRAINE

FOR A

SERVING PEOPLE, IMPROVING HEALTH PROJECT

February 10, 2015

Health, Nutrition and Population Global Practice
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Estimated exchange rate in 2015 in GoU budget)

Currency Unit = 1 UAH

17.61 UAH = US$ 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome	LEB	Life Expectancy at Birth
ACS	Acute Coronary Syndrome	M&E	Monitoring and Evaluation
AMI	Acute myocardial infarction	MDR-TB	Multi-Drug Resistant Tuberculosis
ARC	Autonomous Republic of Crimea	MoE	Ministry of Economy
BCSD	Blood Circulatory System Diseases	MoF	Ministry of Finance
BoD	Burden of Disease	MoH	Ministry of Health
CMU	Country Management Unit	MP	Monitoring Plan
CPI	Consumer Price Index	NCD	Non Communicable Disease
CPS	Country Partnership Strategy	NCR	National Cancer Registry
CSOs	Civil Society Organizations	NGO	Non-Government Organization
CVD	Cardiovascular Diseases	OECD	Organization for Economic Cooperation and Development
DOTs	Directly Observed Therapies		
DPC	Data Processing Center	OOP	Out of Pocket Payment
DRG	Diagnosis-related Group	OSA	Oblast State Administration
EBRD	European Bank for Reconstruction and Development	PA	Presidential Administration
		PAD	Project Appraisal Document
ECA	Europe and Central Asia	PCCIC	Primary Care Centered Integrated Care
ECAPDEV	Europe and Central Asia Region Capacity Development Trust Fund	PCSU	Project Consultancy Support Unit
		PCU	Project Coordination Unit
EMF	Environmental Management Framework	PDO	Project Development Objective
EMP	Environmental Management Plan	PHC	Primary Health Care
EMR	Electronic Medical Records	PHCs	Primary Health Centers
EPR	Electronic Patient Registry	POM	Project Operational Manual
EU	European Union	RBM	Results Based Management
FM	Financial Management	RF	Results Framework
FY	Fiscal Year	SBD	Standard Bidding Documents
GDP	Gross Domestic Product	SHCs	Secondary Health Centers
GoU	Government of Ukraine	SMU	Subproject Management Unit
HBP	High Blood Pressure	SoE	Statement of Expenditure
HD	Human Development	STD	Sexually Transmitted Disease
HIV	Human immunodeficiency virus	TA	Technical Assistance
HMIS	Health Management Information System	TAC	Technical Audit Consultant
		TB	Tuberculosis
IBRD	International Bank for Reconstruction and Development (World Bank)	TTL	Task Team Leader
		UAH	Ukrainian Hryvnia
IDA	International Development Association	UNDP	United Nations Development Program
IDUs	Injecting Drug Users	USAID	United States Agency for International Development
IFR	Quarterly Financial Report		
KPIs	Key Performance Indicators	WHO	World Health Organization

Regional Vice President:	Laura Tuck
Country Director:	Qimiao Fan
Senior Global Practice Director:	Timothy Grant Evans
ECA Practice Manager:	Daniel Dulitzky
Task Team Leader:	Paolo Belli

UKRAINE
Serving People, Improving Health Project
TABLE OF CONTENTS

PAD DATA SHEET

Ukraine

Serving People, Improving Health Project (P144893)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

ECSH1

Basic Information		
Project ID P144893	EA Category B - Partial Assessment	Team Leader Paolo Carlo Belli
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]	
Project Implementation Start Date 5-March-2015	Project Implementation End Date 1-June-2020	
Expected Effectiveness Date: 1-June-2015 Joint IFC No	Expected Closing Date: 30-September-2020	

Practice Manager	Senior GP Director	Country Director	Regional Vice President
Daniel Dulitzky	Timothy Evans	Qimiao Fan	Laura Tuck

Borrower: Ukraine			
Responsible Agency: Ministry of Health of Ukraine			
Contact:	Mr. Alexander Kvitashvili	Title:	Minister of Health
Telephone No.:	380957903419	Email:	minister@moz.gov.ua

Project Financing Data(in US $ Million)					
[X]	Loan	[ ]	Grant	[ ]	Guarantee
[ ]	Credit	[ ]	IDA Grant	[ ]	Other

Total Project Cost:	261.03	Total Bank Financing:	214.73[1]
Financing Gap:	0.00		

[1] The loan amount of US$214,729,839 is rounded up to 2 decimal points.

Financing Source	Amount
Borrower	46.3
International Bank for Reconstruction and Development	214.73
Total	261.03

Expected Disbursements (in US $ Million)

Fiscal Year	FY15	FY16	FY 17	FY 18	FY 19	FY 20	FY 21
Annual	1	15	40	58	56	40.73	4
Cumulative	1	16	56	114	170	210.73	214.73

Proposed Development Objective(s)

The Project Development Objectives are to improve the quality of health services in selected Oblasts, with special focus on primary and secondary prevention of cardiovascular diseases and cancer, and to enhance efficiency of the health care system.

Components

Component Name	Cost (US $ Millions)
Component 1: Improving Service Delivery at the Local Level	189.53
Component 2: Strengthening Ministry of Health Governance	20.2
Component 3: Project Implementation support and monito and evaluation	4.463
Commission 0.25%	0.537
Total	214.73

Institutional Data

Sector Board

Health, Nutrition and Population

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Health and other social services	Health	90		

Public Administration, Law, and Justice	Public administration- Health	10		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Human development	Health system performance	50
Human development	Injuries and non-communicable diseases	40
Public sector governance	Public expenditure, financial management and procurement	10
Total		100

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

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

Condition

Name: Adoption of Project Operational Manual	**Type: effectiveness condition**
Description of Condition: The POM has been finalized and adopted by MoH and selected Oblasts.	
Name: Cabinet of Ministers' Adoption of Subvention Resolution	**Type: effectiveness condition**
Description of Condition: The Borrower's Cabinet of Ministers has approved the Subvention Resolution prepared and finalized in accordance with paragraph 1(a) of Section I.D of Schedule 2 of the Loan Agreement.	
Name: Signing of at least five (5) Subsidiary Agreements by Oblasts	**Type: effectiveness condition**
Description: At least five Oblast Sub-Project Subsidiary Agreements, which are prepared in accordance with paragraph 1(b)(i) of Section I.D of Schedule 2 of the Loan Agreement, have been signed and legal opinions satisfactory to the Bank, covering the signed agreements have been issued.	
Name: An automated accounting system is in place at the PSCU	**Type: effectiveness condition**
Description: An automated accounting system, satisfactory to the Bank, is in place at the PSCU	
Name: Maintenance of PCSU, PCU, SMU	**Type: Disbursement condition**
Description: The Borrower shall maintain/cause to be established and maintained the following: Project Consultancy Support Unit, Project Coordination Unit and Sub-project Management Units	
Name: Safeguards Obligations	**Type: Disbursement condition**
Description: The Borrower shall ensure that the EMF and site-specific EMPs are implemented; shall ensure that no works under the Project involve involuntary taking of lands; and ensure that the TORs for any consultancy under Component 2(c) are satisfactory to the Bank.	
Name: Signing of the Sub-Project Subsidiary Agreement, and confirmation of the POM	**Type: Disbursement condition**
Description: For Selected Oblasts that have not signed subsidiary agreements and/or adopted the POM at the effectiveness stage, the signing of the Oblast Sub-Project Subsidiary Agreement and confirmation of the Oblast obligation to comply with the POM are disbursement conditions	

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Irina Babich	Senior Financial Management Specialist	Financial Management Specialist	GGODR
Paolo Belli	Program Leader	Team Lead	ECCU2
Nataliya Borodchuk	E T Consultant	E T Consultant	ECCUA
Dmitro Derkach	Senior Communications Officer	Communications Officer	ECCUA
Oleksandra Griaznova	Team Assistant	Team Assistant	ECCUA
Klavdiya Maksymenko	Social Development Specialist	Social Development Specialist	GSURR
Margaret Png	Lead Counsel	Lead Counsel	LEGLE
Zlatan Sabic	E T Consultant	IT Consultant	GHNDR
Luis Schwarz	Senior Finance Officer	Loan Operations	CTRLA
Iryna Shcherbyna	Public Sector Specialist	Public Sector Specialist	GGODR

Irina Shmeliova	Procurement Specialist	Procurement Specialist	GGODR
Alexei Slenzak	Senior Environmental Specialist	Environmental Specialist	GENDR
Yuliya Smolyar	Social Protection Specialist	Social Protection Specialist	GSPDR
Anastasia Soltis	Team Assistant	Team Assistant	ECCUA

Non-Bank Staff

Name	**Title**	**Office Phone**	**City**
Alona Goroshko	Consultant	+38-044-492-39-08	Kyiv, Ukraine
Arturo Alvarez	Senior Consultant	+34 954 282767	Sevilla, Spain
Antonio Duran	Senior Consultant	+34 954 282767	Sevilla, Spain
Tihomir Strizrep	Senior Consultant	+38516190480	Zagreb,Croatia

I. STRATEGIC CONTEXT

A. Country Context

1. **Currently, Ukraine is facing a severe macroeconomic crisis**. Following a sharp contraction in 2009, the economy entered a phase of short-lived recovery. However, in 2012 and 2013, Ukraine again experienced a period of stagnation (with growth rates of 0.2 percent and zero in 2012 and 2013 respectively), followed by a sharp decline in 2014 by around 7.5-8.0 percent, and the currency weakened by 48 percent against the US dollar (US$). Fiscal deficit is large, equal to 6.7% of GDP in 2013 and 10.1 percent of GDP in 2014 (including the Naftogaz operational deficit). Finally, the outlook remains clouded because of uncertainty arising from the ongoing armed conflict in the East and the situation in the financial sector.

2. **The new situation created by the change of government in late February 2014 has opened a window of opportunity to correct some of Ukraine's long-term structural problems**. Ukraine's public sector has been affected by structural weaknesses left unaddressed from the time of its independence. Large untargeted social transfers, significant quasi-fiscal subsidies in the energy and other sectors, inefficient public services, and widespread corruption have continuously threatened sustainability and eroded social trust. The public sector is large: government expenditures (consolidated budget plus social funds) accounted for 50.5 percent of GDP in 2013. At the same time, quality of many public services is poor and has been deteriorating. The events which occurred in the winter of 2014 showed how deep Ukrainians' longing for a more transparent, citizen-responsive, form of government is, and the new leadership which has emerged after these events has repeatedly expressed its commitment to address these structural weaknesses.[2]

3. **The unfinished, and in some respects, un-initiated reform agenda is vast**. Fiscal deficit needs to be reduced and public expenditure efficiency improved through a reduction in fiscal and quasi-fiscal deficits in the gas and district heating sectors, better targeted social assistance programs, and reforms to improve quality and efficiency of public services, including health and education services. The business environment needs to be improved, in particular by eliminating unnecessary regulations. All reforms need to be underpinned by a resolute commitment to improving governance and transparency.

4. **Levels of inequality and poverty are moderate in comparison with those in the region.** According to official statistics, income inequality has remained moderate by international standards (Gini coefficient of about 0.25 in 2012).[3] Ukraine uses multiple poverty measures based on absolute and relative poverty lines, but for international comparisons a poverty line of US$ 5 per day is used. According to this absolute measure[4],

[2] The Government commitment for key policy and institutional reforms is outlined in the Ukraine 2015-2017 Economic Recovery Plan. In terms of reform priorities, the document is broadly aligned with Ukraine's EU Association Agreement.
[3] Recorded inequality fell from a Gini coefficient of 0.29 at the beginning of the decade to 0.25 in 2012. Such low levels of inequality suggest that the survey is underestimating inequality, by not capturing the top end of the income distribution. Estimates of the under coverage of the distribution at the top vary and are as high as 30 percent.
[4] Using a relative definition of poverty (poor individuals are those with total expenditures per adult equivalent below 75 percent of the median or below 1,125 UAH per month in 2012) about 25 percent of the population was poor in 2012. Extreme relative poverty, measured as percentage of individuals with total expenditure per adult equivalent below 60 percent of the median, or below 900 UAH per month in 2012, was 11.2 percent.

the poverty rate declined from 14.7 in 2006 to 3.9 percent in 2012. Ukraine's UNDP Human Development Index, which considers GDP per capita, education attainment and health outcomes, stands at 0.74. It ranks 78th out of 186 countries (19th out of 29 countries in the ECA Region).

B. Sectoral and Institutional Context

5. **In spite of some progress, health outcomes are poor in overall terms** (especially when compared with the resources invested). According to data from the World Health Organization (WHO) between 1990 and 2011 infant mortality rate (IMR) decreased from 17 to 9 and under-5 mortality from 19 per 1,000 live births to 10.7. Over the same period, maternal mortality decreased from 49 per 100,000 live births to 32.[5] However, between 1970 and 2010 life expectancy at birth (LEB) increased by only one year, and it is currently 71.3 years (66.2 for men and 76.2 for women), approximately eleven years less than EU and six years lower than the WHO European region average.[6] Given that over the same period IMR and under-five mortality rates improved significantly, the lack of improvement of LEB reflects a worsening of adult health.

6. **Non-communicable diseases (NCDs[7]) are a leading cause of mortality and morbidity**, and, within NCDs, cardiovascular diseases and cancer are affecting people at a relatively young age. About 85 percent of all deaths in 2012 have been linked to cardiovascular disease, cancer and external causes, including accidents and poisoning.[8,9] About 4/5thof the "excess deaths" compared to EU countries' averages occur in or around the working age groups (age 15 to 64 for both males and females[10]), with a significant impact on the economy and on labor force productivity.

7. **The health system in Ukraine has not yet been reformed to respond to this changed burden of disease and the increasing domination by NCDs and chronic conditions.** The health service delivery system in place is still the one inherited from the Soviet Union, publicly financed and owned, hospital-centered, with services focused on individual acute treatments and minimal prevention. This system was essentially designed to fight infectious

[5] However, maternal mortality is possibly underestimated due to the punitive nature of a control system which encourages health workers to disguise maternal deaths as deaths caused by other causes. Child immunization levels for vaccine-preventable diseases have been falling since 2000 (for example, measles immunization coverage decreased from over 90 to less than 50 percent from 2000 to 2014).

[6] The latter includes the rich western European countries but also the Central Asian Republics of the former Soviet Union.

[7] NCDs are a group of conditions that includes cardiovascular disease, cancer, mental health problems, diabetes mellitus, chronic respiratory disease and musculoskeletal conditions.

[8] In 2013 66.5 percent of the deaths were due to cardiovascular diseases, 13.9 percent to cancer, and 6 percent to external causes such as accidents, injury homicide and suicide. Source: WHO – Regional Office for Europe, 2014 Ukraine: Data and statistics available at: http://www.euro.who.int/en/countries/ukraine/data-and-statistics.

[9] For a more detailed analysis of the health and demographic situation in Ukraine, see Annex 2, and World Bank, 2009 An Avoidable Tragedy: Combating Ukraine's Health Crisis.

[10] For example, Ukraine has one of the highest standardized death rates for: (i) CVDs among people aged 25 to 64 are 278.96 per 100,000 in Ukraine, more than five times the EU-15 rate of 48.52 per 100,000 in 2011; (ii) ischemic heart diseases for people aged 25 to 64 are 168.19 per 100,000 in Ukraine, more than seven times the EU-15 rate of 22.6 per 100,000 in 2011; (iii) external causes of injury and poisoning for people aged 25 to 64 are 117.28 per 100,000 in Ukraine, more than three times the EU-15 rate of 37.68 per 100,000 in 2011; and (iv) cancer of the cervix among women aged 25 to 64 is 7.17 per 100,000 in Ukraine, which is more than three times higher than the EU-15 average of 2.07 per 100,000 in 2011. Note that cervical cancer mortality is almost completely avoidable through screening and treating screening-detected cervical lesions.

diseases and traumas (which in general are single-cause and less determined by personal behavior), as well as issues related to mother and child health, at a time when communications were difficult and medical technology not expensive. The system has continuously proven ineffective in reducing the overwhelming burden of NCDs[11], and yet there have been no systematic attempts at restructuring it.

8. **Preventive primary care services, necessary to address NCDs, are underdeveloped.** The insufficient number of primary care doctors, the absence of a referral system, "care pathways", or post discharge care protocols contribute to costly (and avoidable) hospital admissions and readmissions.[12] Formal steps towards strengthening and reforming primary health care were supposed to be introduced from 2000, but never occurred. The first point of contact with the health system has continued essentially unreformed, and it mainly consists of urban and rural polyclinics; women's consultation clinics; rural physicians' ambulatories[13], polyclinics units in urban hospitals and outpatient departments in rural hospitals. Primary care physicians are available only in limited parts of the country, and are consulted only for minor complaints, since patients are used to obtain care from specialists without any formal referral. In fact, individuals are free to present themselves at any level of the healthcare system, and ask to be seen by a doctor. Diagnosis and treatments may not be appropriate, but services are provided if the patient pays (Lekhan et al., 2010).[14]

9. **Ukraine has an oversized, inefficient, hospital sector, in terms of both beds and the number of hospitals. Yet, their service delivery capacity is extremely limited.** Ukraine has 2,200 hospitals, 8,300 polyclinics, and over 400,000 hospital beds in the public sector[15], about 40 percent more beds per capita than the WHO European Region average. This hospital infrastructure was built on the assumption that every small territory should be self-sufficient in terms of health care (each oblast, municipality, and rayon[16]), which was probably correct in times of bad communication and poor transport (and low input costs), but it is now less justifiable both in terms of catchment population and investment optimization. In addition, such large hospital infrastructure is quite inefficient. For example, in 2013 the average length of stay in hospitals in Ukraine was 11.8 days, as opposed to an OECD average of 7.5, which is not a result of different medical needs, but rather linked to the perverse incentives embedded in the system (e.g. paying hospitals according to the number of beds and bed days creates an incentive to increase the length of

[11] Non communicable diseases are overwhelmingly determined by multi-causal factors, often accumulated over the years, and highly influenced by personal behaviors (for example, smoking, excessive drinking, and inappropriate diet). They can be more cost-effectively prevented, detected, and treated on an ambulatory basis and at home.

[12] Several studies highlighted a bias toward admission services where "only 35.7% of cases admitted to regional hospitals in Ukraine were in need of secondary level care" – See, for example, EPOS, NI-CO and ECORIS, 2008 EU funded project *Reforming Secondary Health Care in Ukraine: Background and Options*, the Synthesis Report.

[13] Primary Health Centers (PHC) in rural areas are available only in a limited number of regions within Ukraine, and have continued with a limited service portfolio including first aid, drug prescription (purchased on an out-of-pocket basis from private pharmacies), antenatal and postnatal care and immunization services. They are not able to provide the services needed to prevent and curb the main causes of disease, disability and death.

[14] Lekhan, V. Rudiy, V. and Richardson, E. 2010 *Ukraine: Health system review*. Health Systems in Transition, 2010; 12(8):xvii; 39

[15] By comparison, Spain, a country with similar population, has approximately 150,000 beds and yet substantially more hospital activity.

[16] These are regional, city, and district levels.

stay of a patient, even if it is not medically necessary). Thirdly, the service delivery capacity of this large hospital infrastructure is extremely limited. Small inpatient facilities, such as municipal (city) and rayon (district level) hospitals, and municipal single-disease hospitals (TB, STD, etc.) represent about 75 percent of hospital beds providing only very basic inpatient services. Oblast (regional level) hospitals, as well as specialized clinical and diagnostic centers of national research institutes, represent the remaining 25 percent of hospital beds (WHO-Euro, 2014).[17] Hospital polyclinics and rayon hospitals provide both primary and specialized care, while oblast and city hospitals haphazardly provide a mix of chronic care and specialized and super-specialized treatment for a number of medical specialties. Because of chronic lack of investment and other constraints, very few medical facilities are able to provide complex medical care (for example, modern cardiac surgery or cancer treatment).

10. **The Ministry of Health (MoH) has not exerted its stewardship function properly, in a decentralized environment.** During the deep economic and fiscal crisis of the 1990s, ownership and management of health facilities were devolved to local authorities.[18] In terms of financing, at present approximately two thirds of total government expenditure in health is channeled through local governments, and one third through central Ministries, including MoH. In the new decentralized environment, MoH should have developed the role of planner, coordinator, and evaluator of health services' standards and results, but local authorities at regional, city, district, and community levels should have assumed the role of implementing actors. Instead, the former has continued to impose extremely detailed input-based "norms" (on personnel, infrastructure, etc.) on all individual facilities, and has focused mainly on procuring (very inefficiently) inputs such as drugs for the national programs, while the latter have acted to a great extent in isolation, working with a myriad of isolated facilities, without clear mandates in terms of services' standards and results.

11. **Government funding for health has been maintained in line with that of countries at similar levels of socio-economic development. However, it is mainly used to maintain the current extensive delivery system at its minimal level of functionality.** In 2013 Government (central and local) health expenditure accounted for 12.2 percent of total consolidated budget expenditures or approximately 4.2 percent of GDP. Most government health financing comes from general taxation, and it is allocated according to inputs and mainly to cover recurrent costs (over 95 percent of total costs).[19] Compensation for individual doctors and nurses is mainly through salaries, which reflect seniority and level of specialization. Overall, the current financing mechanisms create inertia and discourage interventions that enhance efficiency, and opportunities to take advantage of less invasive technologies, new standards of care and more dynamic service modalities are lost.

[17]WHO - Regional Office for Europe, 2014, European Observatory on Health Systems and Policies, (draft) Ukraine HiT Summary. Previous version from 2005 is available at: http://www.euro.who.int/__data/assets/pdf_file/0010/98893/E84927sum.pdf.

[18] There are three tiers of local governments in Ukraine: the top tier has 24 oblasts (regions), the Autonomous Republic of Crimea, and two cities with special status: Kyiv and Sevastopol; the second tier has 488 rayons (or districts) and approximately 177 cities; the third tier consists in 12,000 small towns, settlements and villages.

[19] For example, the funding public hospitals receive is allocated according to line-item budgeting, and for each item such as energy, staff, etc. the total amount the hospital receives is dependent on their beds and bed days. Staff numbers are associated with beds based on national "staffing norms".

12. **High levels of out of pocket payments (OOPs) create a barrier to access health services for the poor and generate catastrophic expenses for those seeking urgent care, or those affected by chronic diseases that need to purchase medicines**. Private households' expenditure, mainly patients' OOPs at the point of service delivery, accounted for 3.26% of GDP in 2012.[20] This was equal to 42.4 percent of total health expenditures according to the Household Budget Surveys conducted that year, while pharmaceuticals and other medical appliances are primarily financed by households (at a level of approximately 90 percent). These high levels of OOP can cause catastrophic levels of health expenditure for those who seek care, and/or prevent households from seeking care. For example, according to a 2011 household survey, 22.6 percent of those who needed to buy medicines were not able to get them, primarily for affordability reasons, while the concentration index for utilization of inpatient services was 0.21, signaling severe inequality in utilization of hospital services in favor of the rich. Among the 40 percent poorest households, 10.2 percent reported spending more than 25 percent of their total non food expenditure on health.[21]

13. **All surveys show that the vast majority of citizens identify health as a top priority, and state that the government should do more and better for health**. For example, according to household surveys conducted in 2007 and 2010[22], the health sector has been consistently identified as the top sector in terms of priority and in terms of under-performance. At the same time, available information indicates that people are not yet able to "take care of their health" and are not aware of the risks associated with, for example, tobacco and alcohol consumption (smoking prevalence is above 50 percent among male adults). There is also a threatening tendency towards substance abuse among young people.

14. **Taken together, evidence shows that Ukraine is facing a health crisis and needs to undertake urgent, appropriate, and deep reforms to reverse the progressive deterioration of its citizens' health and in their trust of the system**. The overarching goal of these reforms should be to create a health system that is responsive to clients, transparent and fair in its financing, as well as efficient and effective in preventing and controlling NCDs. The specific reform measures need to include the following:

a. **Scaled-up preventive and primary care services**: the control of specific NCDs can only be achieved through prevention and early detection, by means of personal and population services (often called "clinical" and "public health" services respectively). The goal is to modify human behavior and to manage, within reasonable limits, the degenerative symptoms associated with NCDs (for example high blood pressure). This would mostly, but not exclusively, occur at the primary level.

b. **Enhanced coordination mechanisms across different levels of care,** by building continuous care pathways for diagnosis and treatment of all types of conditions, and at

[20] The rest (0.2 percent of GDP) is constituted by private insurance contributions.
[21] Despite these high levels of OOPs, utilization rates for both outpatient and inpatient services remain high, at least according to official statistics. One possible explanation is that, since there are minimal thresholds of utilization (or norms) for beds and outpatient services, hospital, polyclinic and local government administrators misreport bed utilization to make sure that those "norms" are met.
[22] *Life in Transition Surveys*, jointly implemented by the European Bank for Reconstruction and Development [EBRD] and the World Bank.

the same time to clearly define role and functions of each health facility/care provider within such a continuum.

c. **Resource allocation criteria and payment systems which reward health providers which are more efficient and patient responsive**. To achieve these objectives, public funding needs to be linked to performance and to effective services being provided to patients, and away from the input-based norms that currently drive the budgeting and allocation of resources at different levels.

d. **Current overcapacity in the hospital sector reduced, with the creation of hospital networks and network consolidation**. As a significant proportion of hospital admissions and/or stays are inappropriate, Ukraine has ample scope to reduce the number of beds and concentrate its admission services, while maintaining a coherent basket of services to respond to the needs of the population. At the same time, the country needs to invest more in selected facilities and their physical and human capital, and improve access to specialized services particularly for populations living far from the main urban centers.

e. **Enhanced data availability and utilization**. The manner in which health information is collected and managed in Ukraine needs to be improved (see Annex 2). Paradoxically, there are significant reporting requirements and plenty of data are generated at different levels of the system, but much of it is not used to inform decision making. It is also not audited and therefore is of poor quality.

f. **Reduced share of OOPs**. International experience suggests that there are tools for achieving this, for example through demand-side interventions such as legalizing copayments up to a certain threshold, increased public subsidies for essential drugs, and through supply-side interventions such as controlling new technologies and medicines or reforming drug price regulations, as well as punishing doctors who demand informal payments.

C. Higher Level Objectives to which the Project Contributes

15. **Improved efficiency of expenditure in health has been listed as one of the expected outcomes of the Country Partnership Strategy for Ukraine for the period FY12–FY16**. The CPS states the Bank's intention to build on past technical assistance program in the health sector in support of health reforms and to prepare a new lending operation to sustain initial reform efforts.

16. **The Project would contribute to the World Bank Group goals of reducing poverty and boosting shared prosperity in a sustainable way**. In addition, the Project would contribute to set the foundations for more inclusive growth in Ukraine, by contributing to develop stronger primary care and preventive services, and by indirectly addressing the issue of informal payments and excessive OOPs.

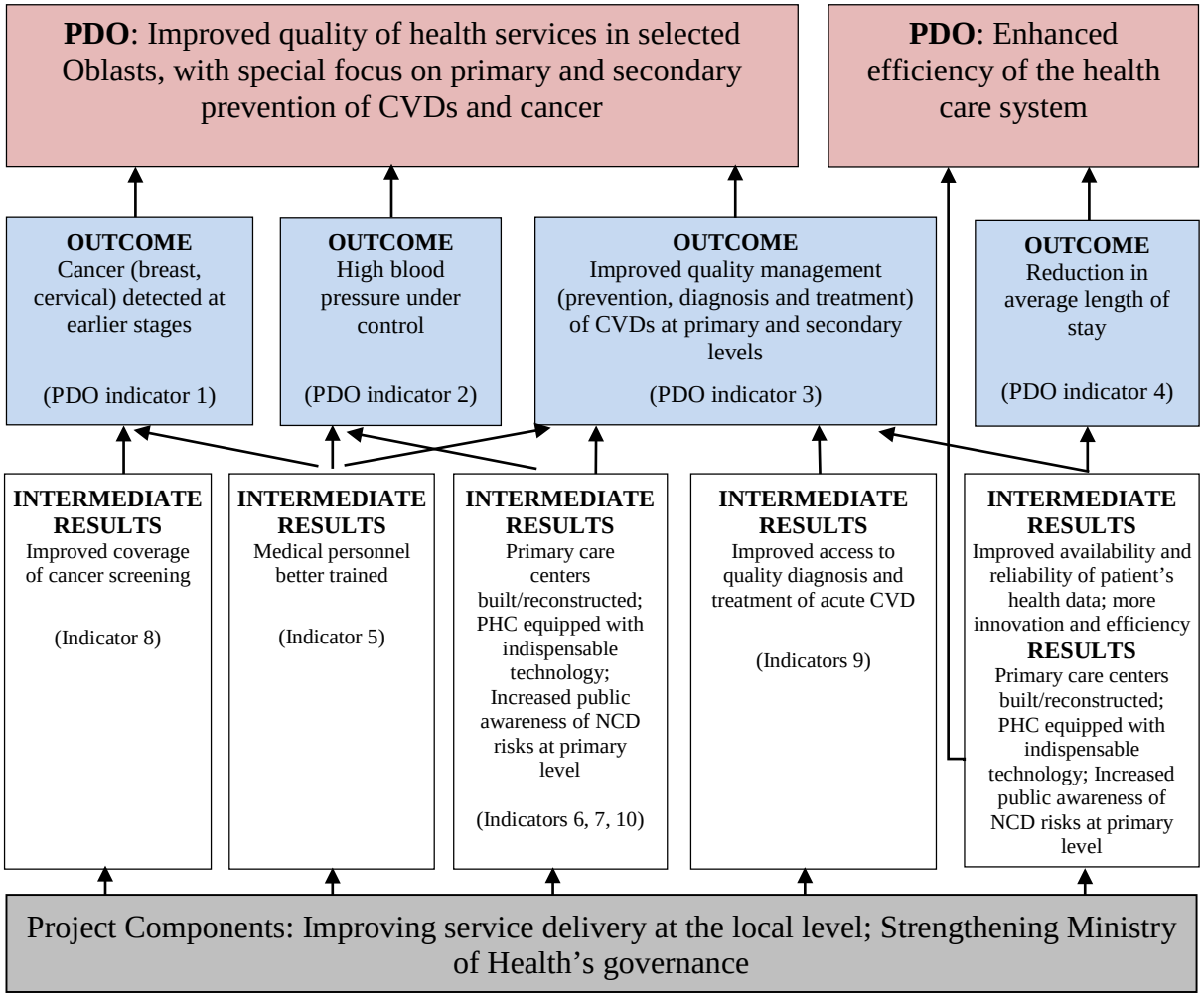
II. PROJECT DEVELOPMENT OBJECTIVE

A. PDO

17. **The proposed "Serving People, Improving Health" Project seeks to improve the quality of health services in selected Oblasts**[23], with special focus on primary and secondary prevention of cardiovascular diseases and cancer, and to enhance the efficiency of the health care system. These Project Development Objectives would be achieved by aligning the health service delivery model in selected Oblasts with the changed burden of disease, and by improving governance of Ukraine's MoH.

18. The project results chain is synthetized in Figure 1, from bottom to top.

Figure 1: Serving People, Improving Health Project



B. Project Beneficiaries

19. **While the proposed Project would benefit Ukrainian population residing in eight Oblasts, those who currently have less access to quality health services, such as rural population, would benefit the most**. Specific target groups for this project are men, for prevention and early detection of cardiovascular diseases, and women, for early detection

[23] The PAD uses capital initials to refer to local authorities (in other words, Oblast for example stands for Oblast level government), while it uses regular initials when referring to a specific geographical area.

and treatment of cancer. The PDO indicators listed below and in Annex 1 would be measured separately for men and women and for rural and urban population.

C. PDO Level Results Indicators

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

- PDO1: Cancer (breast, cervical) detected at earlier stages as measured by: a) Ratio of new in situ to new invasive cervical cancer increased from 0.79 to 0.88; b) Share of new breast cancer detected at stage I increased from 21.8 to 30 percent.
- PDO2: High blood pressure under control as measured by the percentage of patients between age 40 and 60 with hypertension achieving target level of blood pressure - 140/90mmHg increased by at least 20 percent.
- PDO3: Improved quality management (prevention, diagnosis and treatment) of CVDs at primary and secondary levels, as measured by: a) hospitalization rate for hypertension reduced from 5.8 to 4.8 per 1,000 population; b) number of patients who received stenting for acute myocardial infarction with ST segment elevation increased from 93.6 to 193.7 per 1,000,000 population.
- PDO4: Average in-patient length of stay decreased from 11.7 to 9.5 days.

III. PROJECT DESCRIPTION

A. Project Components

21. *Component 1*: **Improving service delivery at the local level** (estimated funding US$ 189.53 million). Under this component the Project would provide financing to selected Oblasts to carry out investment sub-projects aimed at prevention, early detection and treatment of cardiovascular diseases and cancer and at increasing efficiency of their health care delivery system ("Oblast Sub-projects"), including activities focused on improving primary health care, fighting cardiovascular diseases (CVDs) at the primary and secondary care levels, early cancer detection, and health delivery system rationalization.

22. **Oblasts of Ukraine were invited to submit proposals and, after a competitive process, eight Oblast sub-projects were selected**. In the first phase, a Committee created by MoH and including representatives of Ministry of Finance (MoF) and Ministry of Economic Development and Trade (MoE), as well as international experts from the World Bank, preselected 11 oblasts from 22 proposals received. The Committee evaluated Oblast project proposals according to a previously agreed scorecard. In the second phase, the Bank project preparation team engaged with all of the preselected Oblasts to improve their initial proposals. Oblasts were requested to show their ability to build a result and evidence based planning process. Four workshops were conducted in 2013 and 2014 to help Oblasts finalize their proposals. Because of the conflict situation and the different degree of readiness of the preselected Oblasts, eight Oblasts were finally selected to start implementation. Oblast proposals are summarized in Annex 2 and 6.

23. **The selected Oblasts are** Dnepropetrovsk, Poltava, Rivne, Vinnitsa, Volyn, Lviv, Zakarpatya and Zaporizhya, with a budget up to US$ 41 million funded by the Bank, plus

at least 10 percent Oblast co-financing. The eight sub-projects in the above Oblasts would start simultaneously, and the three smaller ones (Lviv, Zakarpatya and Zaporizhya) would finish after three years. It is intended that there would be a second round of smaller proposals to cover the last years of implementation, using the savings in all Project components, reallocation across Oblasts, and possibly additional financing. A mechanism for reallocation of Project proceeds from low performing Oblasts to better performing ones has been agreed, and is described in detail in the Project Operations Manual (POM). If one or more Oblasts fail to implement the agreed activities in a timely manner, funds would be transferred to better performing Oblasts upon decision of the MoH and the Bank.

24. *Component 2:* **Strengthening MoH governance** (estimated funding of US $ 20.2 million). All the activities in Component 2 have been clustered around five thematic areas, with MoH as implementing agency: Payment System Reform, e-Health[24]/Information Systems Development, Public Health, Information and Communication, and Capacity Building. In addition, a decision has been made to bundle the resources of the five subcomponents into a common pool.

a. *Payment Systems Reform*: a new hospital payment system based on Diagnostic Related Groups (DRGs) would be designed, piloted, and implemented in Ukraine (initial budget: US$ 9,436,835).[25,26]
b. *E-Health Development:* the Project would contribute to strengthen the availability of reliable and accurate health information at all levels, and the MoH stewardship role in e-Health development in Ukraine (initial budget: US$ 2,953,165).
c. *Public Health*: the Project would support the preparation and implementation of a strategy and action plan for development of public health services,[27] including stimulating primary prevention activities against relevant risk factors and strengthening disease surveillance with a focus on NCDs (initial budget: US$ 2,080,000).
d. *Information and Communication*: the Project would support information campaigns to keep up the reform momentum, receive feedback from Project beneficiaries, and it would invest in some specific communication tools, such as developing a web page on the reforms (initial budget: US$ 1,940,000).
e. *Capacity Building*: the Project would organize and carry out learning activities and events at national level focused on improving management of health services. It would also facilitate continuous learning in the selected Oblasts, through inter-

[24] E-Health can be defined as follows: the use of information and communication technologies (ICT) for health. In its broadest sense, eHealth is about improving the flow of information, through electronic means, to support the delivery of health services and the management of health systems.
[25] DRG is in essence a "per case" payment system that groups patients with homogeneous average costs based on the diagnoses and procedures performed in the hospital.
[26] The proposed Project would support the revision of the hospital records and information systems to collect all the necessary information, the establishment of the institutional infrastructure for DRG implementation, training in DRG coding and data analyses, procurement of the hardware for DRG activities and development of DRG software ("DRG grouper"). In addition, it is envisaged that the Project would contribute through TA to primary care payment reforms, building upon the three Oblast health reforms pilot which introduced a per capita based payment with a "bonus" based on achievement of specific performance indicators. USAID and the Global Fund are taking the lead in supporting reforms in primary care payment system, with specific attention to TB and HIV AIDS services to be delivered at primary care level. Opportunities to work jointly with USAID and the Global Fund on these primary care reforms in selected Oblasts (Poltava, Dnepropetrovsk) are being explored.
[27] The new public health strategy would be based on the recommendations of the Report "Establishment of a National Public Health Institute in Ukraine: Rapid Feasibility Assessment", August 2013.

Oblast learning and exposure to international experience in the areas of relevance (initial budget: US$ 3,790,000).

25. *Component 3*: **Project implementation support, and monitoring and evaluation,** (estimated funding US $ 4.463 million). This component would support the Project Consultancy Support Unit (PCSU) at national level, responsible for Project implementation support and technical assistance to the Oblasts. In addition, it would sponsor complementary data collection and analytical activities for monitoring results. Information from the existing Health Management Information System (HMIS) would be complemented through audit of medical records on a sample basis, as well as through evidence based on specific, ad hoc household and facility surveys. In addition, the Project would organize learning events to educate and promote better use of evidence for policy.

B. Project Financing

26. Table 1 presents the summary of Project costs, by component and source of financing:

Table 1: Project costs and breakdown of costs by component and source of financing:

USD 000,000	Bank Financing	Counterpart Financing	Total
Component 1	189.53	46.303	235.83
Component 2	20.2	-	20.2
Component 3	4.463	-	4.463
Front-end fee 0.25%	0.537		0.537
Total	214.730	46.303	**261.033**

C. Lessons Learned and Reflected in the Project Design

27. **The previous World Bank-financed project in the health sector in Ukraine** (Tuberculosis and HIV/AIDS Control Project, 2003-2009) did not achieve its objectives for two main reasons: a) there was no real buy-in from MoH on key strategic pillars of the project, such as the implementation of the direct observed treatment (DOTs) strategy for prevention and treatment of tuberculosis, or contracting out NGOs to reach out to marginalized groups such as injecting drug users (IDUs) for HIV AIDS prevention; and b) there were frequent changes in the Project team and Task Team Leader (TTL). Therefore, one key lesson learned is that the World Bank should not support reforms that do not have strong buy-in from government. In addition, the World Bank should ensure strong staff presence on the ground and continuity during implementation.

28. **In addition, experience shows that building institutional capacity takes time.** For this reason, an ECAPDEV Grant for Project preparation[28] (US $ 470,000) was made available to the MoH from March 2014. This was intended to contribute to enhancing MoH and Oblasts' implementation capacity and to prepare them before the Project becomes effective.

[28] This is at times referred to as Project Preparation Grant in the rest of the document.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

29. **As the central government`s agency responsible for the development of health policy, the MoH would have overall responsibility for implementing this Project**. In this capacity, the MoH would (i) maintain a strategic link between the implementation of health sector reforms and effective delivery of the Project; (ii) coordinate Project activities implemented at national and sub-national levels to make sure they are aligned with the PDO; (iii) liaise with the MoF, MoE, and other government agencies to enable smooth Project execution; (iv) coordinate monitoring and reporting under the Project, sending regular reports to the World Bank on progress achieved in the indicators which form part of the Results Framework; (v) monitor Project expenditures and costs, (vi) ensure the Project Operations Manual (POM) is updated as necessary; and (vii) prepare and distribute the consolidated progress reports and the final report to the World Bank and relevant government agencies. A **Deputy Minister of Health would be appointed as Project Manager** and a focal point for the World Bank and other stakeholders for Project-related matters.

30. The Head of the Project Consultancy Support Unit (PCSU) would be an independent consultant selected competitively and agreed upon by the Project Manager. All the PCSU members, including the PCSU Head, would be individual consultants selected under rules and procedures of the World Bank and contracted by the MoH. The PCSU Head would be the Project Coordinator in charge of day-to-day supervision of Project performance, and his level of seniority and powers need to be aligned as those of Head of Department. The PCSU consultants would provide technical support under the Project and would ensure compliance with the World Bank requirements for procurement, reporting, auditing and monitoring of the Project. Given the complexity of the Project, and large number of participating Oblasts, a strong PCSU is vital for successful project implementation. Therefore, the selection of the individual PCSU consultants would be subject to World Bank's prior review. For the coordination and technical implementation support of the Oblasts' subprojects under Component 1, the MoH would contract a consulting firm, which would complement the implementation support work carried out by the PCSU. The firm will provide intensive, qualified, continued and independent support to the oblasts and as well as PSCU in MoH on technical issues. The Team will also monitor the totality of the project, by establishing due coordination with the MoH in a number of areas.

31. **A Project Coordination Unit (PCU) would comprise managers (Head) of relevant MoH units (Health Financing Department, Public Health Department, etc.), or subordinated agencies (for example, Informatics Centre for e-Health activities), as per project activity lines**. The PCU would be consulted and would take strategic decisions on Components 2 of the Project. In addition, the PCU would be in charge of the fiduciary oversight role, including monitoring and review of the budgeting process, reporting, and audit arrangements. The PCU head would be the Deputy Minister appointed as Project Manager, and the Deputy Head would be the manager/head of MoH Department in charge of health system reforms. The PCSU Head would be part of the PCU.

32. **The Oblast State Administrations (OSAs) would have responsibility for the**

implementation of Component 1. The Health Departments in OSAs would lead the execution of sub-projects. In implementation, they would be supported by the Central PCSU and the external consultant firm as needed (the role of this consultancy is technical support, not day to day management). The Health Departments in OSAs would involve different departments, as needed, to ensure effective management of sub-projects.

33. **In addition, each participating Oblast would establish a Subproject Management Unit (SMU).** SMU is chaired by the Deputy Head of the Oblast State Administration who is in charge of health care policies as per her/his functions or by the manager of the Health Department within the Oblast State Administration. The SMU chair/head would manage SMU and bears personal responsibility for organization and fulfillment of the Project implementation tasks. SMUs would also be in charge of the fiduciary oversight role related to the respective Oblast, including monitoring and review of the budgeting process, reporting, and audit arrangements. To carry out Project implementation, the SMU head may use their existing staff and/or hire consultants (for example, a financial management and procurement specialists, technical expert and safeguards specialist as needed), to be attached to the Health Department. The World Bank would provide necessary training to all SMUs on fiduciary matters.

B. Results Monitoring and Evaluation

34. **Each of the Oblasts' subprojects includes provisions to collect performance data and one staff and/or consultant in each Oblast will be responsible for providing data on a number of results' indicators from the general RF list relevant for their Oblast-specific subproject**. Data would flow to the central PCSU Monitoring and Evaluation consultant who would coordinate timely collection, ensure accuracy of information, and provide necessary reports to the World Bank.

35. **The Project's e-Health and M&E subcomponents would contribute to improving the quality and reliability of the information and intelligence obtained regularly by the Oblast Health Departments and the MoH**. The indicators gathered through the existing health management information system (HMIS) would be audited and whenever possible complemented with data collected by other sources. Annex 7 presents a list of studies already agreed to validate the information received from the existing HMIS. The information audit and the planned household and facility surveys will be financed from Component 3 of the Project.

C. Sustainability

36. **Financial sustainability**: the Project does not envisage financial sustainability issues after its completion, and, if successful, would instead lead to reduced unit/service costs and greater efficiency in the organization of health services. Even when the Project constitutes about 20 percent of the total health expenditures in selected Oblasts,[29]most of the

29 Total government health expenditures for participating Oblasts was 2,676,715,937 UAH in 2012, and the average per Oblast was 267,671,593 UAH. According to these figures, the proposed Project would account for approximately 20 percent of the total Oblast health expenditure. This is a rough estimate, assuming all sub-projects are for 5 years.

investments would support the reshaping of the existing service delivery model, and the new equipment, premises and services should not generate significant additional recurrent costs.[30] The reorientation of the health system towards primary care and the reduction of unnecessary hospitalizations would generate significant savings.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table (see ORAF in Annex 4 for details)

Risk Category	Rating
Stakeholder Risk	**Moderate**
Implementing Agency Risk	
- Capacity	**Substantial**
- Governance	**Substantial**
Project Risk	
- Design	**Substantial**
- Social and Environmental	**Low**
- Program and Donor	**Low**
- Delivery Monitoring and Sustainability	**Moderate**
Overall Implementation Risk	**Substantial**

B. Overall Risk Rating Explanation

37. **A 'substantial' rating has been selected for Project implementation to reflect country, sector, design, and implementing agencies' risks**. The sector rating reflects the risk that necessary structural reforms are not implemented. The implementing agencies' rating reflects mainly the lack of experience of participating Oblasts in working with the World Bank.

VI. APPRAISAL SUMMARY

A. Economic Analysis

38. **If successful, the Project would contribute to the achievement of better results in terms of prevention, early detection and treatment of cardiovascular diseases and cancer in selected Oblasts**. As presented in previous sections and in Annex 2, in Ukraine the scope for improving health outcomes with cost-effective interventions is vast. However, it would be overly complicated and arbitrary to try to quantify the economic impact of such potential interventions and health improvements planned under the Project using a simple cost-effectiveness or cost-benefit analysis, because of the wide range of services the Project encompasses, and its focus also on intermediate outcomes.

39. **In addition, the proposed Project would improve efficiency mainly by shifting services towards outpatient based care and reducing unnecessary hospitalizations.**

30 If one restricted attention only to total capital expenditures, in 2012 these equaled 732,639,617 UAH per year in the participating Oblasts; an average of 81,404,401 UAH per year per Oblast. The estimated project financing for Component 1 is US $ 189.53 million over 5 years, which converts to an average of approximately 380,000,000 UAH per Oblast per year. Therefore, the Project would nearly increase fourfold the capital allocation for each of the selected Oblasts.

Strengthening primary care and outpatient specialist care is an essential pillar of the Project efficiency enhancement strategy. In addition, concentrating high complexity services not only improves efficiency, but also increases quality of care and patient safety and reduces surgical complications (Ham et al 2012).[31]

B. Technical

40. **Health indicators have been in what could be called a "red light" stage for years in Ukraine.** Poor health outcomes have been linked to poor health system performance[32] by research which found that between 1989 and 2006 avoidable mortality increased.[33] It reached a peak in 1995, up by 52.6% among men and 29.6% among women from its 1989 level, and then it started to slowly decrease between 1995 and 2006. Yet, in 2006 it was still 36% higher for men and 20% higher for women than rates in 1986, the base-level year (Lekhan et al., 2010).

41. **The selected subprojects proposed under Component 1 and the national level reform initiatives proposed under Component 2 reflect best International evidence, and are technically sound.** The priority interventions proposed, i.e., stepping up prevention, early detection and treatment of cardiovascular diseases and cancer, rationalizing hospital beds, enhancing primary health care services, and improving health sector governance by changing the resource allocation criteria, strengthening management capacity at all levels, and enhancing information flows, reflect the conclusions of a number of analyses and studies in the health sector carried out since 2005. Established international evidence shows that creating a primary care centered health system with strong links between different levels of care –with active case management and continuity between prevention, early detection, treatment, and follow up- is the most cost-effective strategy for non-communicable diseases and chronic conditions.

C. Financial Management

42. **A Financial Management (FM) assessment of the Project has been carried out**. The fiduciary risk of the project is assessed as High, and would be reduced to Substantial after the agreed actions are implemented. The main risks are related to the following: (i) complex structure of the Project, with one component being implemented by eight Oblasts, and thus extensive coordination effort required; (ii) large amount of planned contracts and their varying nature; (iii) fiduciary capacity of both the MoH and participating Oblasts is still being developed, and strong PCSU is not yet fully available to coordinate the effort; (iv) relatively weak performance of the MoH during implementation of the Project preparation Grant, including not always successful efforts to hire qualified consultants; (v) uncertainties related to efficient functioning of the State Treasury system and timeliness of project payments; (vi) volatile political situation leading to possible changes in responsible officials, which may cause delays in authorization of Project payment documents and other

31 Ham, C. Dixon, A. and Brooke, B., 2012 Transforming the delivery of health and social care; The case for fundamental change, The King's Fund.

32 Nolte, E. and McKee, M. 2008 *Measuring the Health of Nations: Updating an Earlier Analysis* Health Affairs Vol. 27(1): 58- 71.

33 Rates of avoidable ("amenable to health care") mortality are for example deaths due to diabetes under age 49; to leukemia under age 15; or to asthma under age 65 (Nolte et al., 2008).

project related activities.

43. **The FM arrangements would meet the minimum Bank requirements after the agreed actions are implemented.** The minimum set of actions includes (i) preparation of POM (condition for project effectiveness); (ii) Preparation of Cabinet of Ministers Resolution on the Use of Funds (condition of Negotiations) and adoption of these documents (condition of effectiveness); (iii) putting in place an automated accounting system at PCSU (condition of effectiveness); (iv) hiring more FM consultants at PCSU. Annex 3 covers an assessment of the MoH existing capacity, and actions needed to bring its capacity to the minimum acceptable level. Annex 3 also covers the capacity assessment of the eight participating Oblasts in the areas of their fiduciary responsibilities, as well as the flow of funds and division of responsibilities between MoH and the Oblasts for project implementation.

D. Procurement

44. **Procurement under the project would be conducted in accordance with the World Bank's procurement rules and procedures**, "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants" dated January 2011, revised July 2014; "Guidelines: Selection and Employment of Consultants Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011, revised July 2014, and the provisions stipulated in the legal agreement. The World Bank "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits," dated October 15, 2006 and revised in January, 2011, would also apply.

45. **Procurement under the project would be conducted by (i) the PCSU currently established under the MoH** to implement activities at the central level, and (ii) 8 Subproject Management Units (SMUs) established under Health Departments of 8 Oblast State Administrations (OSAs).

46. **The overall procurement risk is rated "High" and the residual risk is rated "Substantial" after implementation of the mitigation measures discussed and agreed.** The detailed procurement capacity assessment of the Beneficiaries is provided in the Procurement Risk Assessment Module (P-RAMS).

47. **Agreed mitigation measures to be completed during preparation are the following:**

a. Bank to assist Oblasts and MoH in preparing Procurement Plans for the whole period of the project implementation; and

b. Bank staff to conduct training on fiduciary requirements to all Oblasts;

c. FM arrangements would ensure timely payments to contractors/suppliers/consultants.

48. **Agreed mitigation measures to be completed by loan effectiveness:**

a. A Project Operational Manual would be elaborated and approved by MoH and each OSA.

b. Application of recently revised procedure for certification of medical goods and drugs would be clarified;

c. World Bank staff would conduct training on fiduciary requirements and specific procurement procedures to all SMUs.

49. **Agreed mitigation measures to be carried out throughout Project implementation:**

a. An experienced procurement consultant hired at PCSU would assist the Oblasts with procurement aspects throughout Project implementation;
b. A procurement consultant would be hired by each SMU;
c. A firm will be hired by MoH to help Oblasts with elaboration of technical specifications for medical products, conduct market researches and provide assistance during technical evaluation of bids;
d. The World Bank procurement team would provide continuous support and guidance to the PCSU procurement consultants and SMUs;
e. The World Bank task team would ensure relevant expertise is available to review the technical specifications for medical equipment;
f. Monitoring of the results would be carried out by local CSOs.

E. Environmental and Social (including Safeguards)

50. **Potential negative impacts of the proposed Project are predictable, small-scale and manageable**. These potential impacts are associated with rehabilitation and reconstruction of existing premises of hospitals, polyclinics, and primary care centers in sub-projects under Component 1. Overall the project is assigned a Category "B" rating, but it is expected that most of the sub-projects would be Environmental Category C (e.g. procurement of medical equipment, small-scale works on renovation, rehabilitation and reconstruction of existing premises). A sub-project involving a new building as a way to optimize the network of emergency cardiac services may require Environmental Category B (Vinnitsa Oblast). Any activities that may cause any permanent or temporary physical or economic displacement would be excluded from the project. Therefore the Involuntary Resettlement Policy OP4.12 is not triggered.

51. **The social impact of the proposed Project is expected to be positive, benefitting disproportionably the rural and more disadvantaged population**, who are currently excluded from accessing quality preventive and curative services.

F. World Bank Grievance Redress

52. **Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit

complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

COUNTRY: UKRAINE

Project Name: "Serving People, Improving Health" Project (P144893)

Project Development Objective: The proposed Serving People, Improving Health Project seeks to improve the quality of health services in selected Oblasts, with special focus on primary and secondary prevention of CVDs and cancer, and to enhance efficiency of the health care system.

Indicator Name	Core	Unit of Measure	Baseline [34]	Target Values					Frequency	Data Source	Responsibility for data collection [35]
				YR1 2015	YR2 2016	YR3 2017	YR4 2018	YR5 2019 End Target			
PDO LEVEL RESULTS INDICATORS											
PDO Indicator 1: Early detection of cervical and breast cancer as measured: a) Ratio of new in situ to new invasive cervical cancer [36] b) Share of new breast cancer detected at stage I		a) ratio b) % of all new breast cancer	a) 0.79 b) 21.8	a) 0.79 b) 22.0	a) 0.80 b) 24.0	a) 0.88 b) 30.0	-	-	Annual	Expert analysis of medical records and administrative data (Form 35, Form 7)	MoH, Oblast (Lviv)
PDO Indicator 2: High blood pressure under control as measured by the Share of patients aged 40-60 achieving target level of blood		% of patients aged 40-60 whose blood pressure is controlled (achived target level of BP) out of all patients aged	15.4 [37]	15.7	16	17.5	18	19	Annual	Expert analysis on medical records (Form 025/o)	MoH, Oblast (Pilot Oblasts except Lviv)

[34] Baseline is indicated for 2013 (the most recent data available), unless otherwise stated.

[35] Indicators are tracked either at the national or at regional level (for Oblasts, where relevant activities are planned). These oblasts are specified in column "Responsibility for data collection"

[36] In 2013 in Lviv oblast there were 181 cases detected at stage 0 (in situ) and 229 cases of invasive cancer (stages I-IV), the ratio is calculated as number of 0 stage cases divided by number of all invasive cancer cases

[37] The current baseline is based on data from Poltava Oblast. This baseline would be refined based on an expert analysis of medical documentation to be conducted during Year 1 of the Project.

pressure (measure is 140/90mmHg)		40-60 diagnosed with hypertension over past 12 months									
PDO Indicator 3: Improved quality management (prevention, early diagnosis and treatment) of CVDs at primary and secondary care measured as: *a)* reduction of hypertension-related hospitalization due to improved management of hypertension at out-patient and PHC level; b) number of patients who received stenting for acute myocardial infarction with ST segment elevation		a) Number per 1,000 population b) Number per 1,000,000 population	a) 5.8 b) 93.6	a) 5.7 b) 117.2	a) 5.4 b) 146.2	a) 5.2 b) 163.9	a) 5.0 b) 184.6	a) 4.8 b) 193.7	Annual	Administrative data (Form 20), (Form 110/o), reports from Oblasts	MoH, Oblasts a) Pilot Oblasts (except Lviv) b) Rivne, Dnepropetrovsk, Vinnitsa, Volyn, Zakarpatya
PDO Indicator 4: Average in-patient length of stay in hospitals		Days	11.7	11.6	11.5	11.0	10.5	9.5	Annual	Administrative data (Form 20)	MoH, Oblast
INTERMEDIATE RESULTS INDICATORS											
5. Health personnel receiving training	+	Number	0	1,929	9,820	14,749	20,480	24,937	Every 6 months	Reports from Oblasts	MoH, Oblasts (Pilot Oblasts)
6. Health facilities reconstructed, renovated, and equipped	+	Number	0	10	139	202	259	260	Every 6 months	Reports from Oblasts	MoH, Oblasts (Volyn, Dnepropetrovsk, Rivne, Vinnitsa)

7. % of primary health care facilities meeting the equipment norms for improved management of CVD (according to an explicit list)		% of primary care facilities in relevant Oblasts that fully matches the approved list of equipment out of all primary care facilities in the concerned Oblast	31[38]	33	36	40	45	55	Every 6 months	Reports from Oblasts	MoH, Oblasts (Pilot Oblasts except Lviv)
8. Number of cancer screening procedures performed: a) cervical cancer tests b) mammograms		Total number of procedures performed following specific protocols	a) 709,184 b) 20,893	a)710,000 b)22,000	a) 750,000 b) 48,000	a) 830,000 b)150,000	-	-	Every 6 months	Administrative data (Form 20, Cancer registry)	MoH, Oblast (Lviv)
9. Share of acute myocardial infarction with ST segment elevation diagnoses confirmed according to appropriate protocols in the previous 12 months		% of all new diagnoses of myocardial infarction with ST segment elevation diagnoses which are conforming to an appropriate protocol out of all new diagnoses of myocardial infarction with ST segment elevation in the previous 12 months	65[39]	66	68	72	75	78	Every 6 months	Expert analysis of medical records	MoH, Oblast (Dnepropetrovsk, Rivne, Vinnitsa, Volyn, Zakarpatya)
10. Share of primary care centers which have structured schools of health or similar initiatives working on educational goup activities related to		% of primary care centers in pilot Oblast	0	10	20	30	40	50	Every 6 months	Reports from Oblasts	MoH, Oblasts (Pilot Oblasts)

[38] Baseline is based on study conducted on medical records in Rivne oblast. This baseline will be refined based on a facility study planned for year 1 of the Project.

[39] Data is not collected via official statistics; baseline is indicated as indicator available from Rivne oblasts based on medical records study conducted. This baseline would be refined based on an expert analysis of medical documentation to be conducted during Year 1 of the Project

main NCDs' risk factors											
11. Critical e-Health standards approved by MoH		Text (yes/no)	No	First set of[40] standarts approved/ yes	Second set of[41] standarts approved/ yes			Two sets approved/ yes	Every 6 months	Project progress report from PCSU, expert assessment	MoH
12. Communication campaign designed and implemented at central level		Text (yes/no)	No					Yes	Every 6 months	Project progress report from PCSU	MoH
13. Availability of hospital beds		per 100,000 population	880	860	820	780	700	650	Every 6 months	Administrative data (Form 20)	MoH, Oblasts
14. Number of Oblasts that in any given year have implemented at least one productivity enhancing reform		Number of pilot Oblasts which introduced at least 1 reform in a given year (cumulative)	0	1	2	4	7	8	Every 6 months	Expert evaluation based on reports from Oblasts	MoH, Oblasts (Pilot oblasts)
15. Share of beneficiaries in participating oblasts reporting improvement in the access and quality of the targeted healthcare services		% of all people interviewed who report improvements in the quality and accessibility of services vis a vis previous survey	0 (baseline survey)	0	5 (first follow up survey)	10		20	Eevery two years	Survey	MoH, Oblasts

[40] Basic e-Health standards are approved by the MoH. These include: the electronic registry of patients (central), the regulations governing a nation-wide unique patient ID, the electronic medical record (in facilities), the identification of users of electronic resources, the basic data exchange in the health care sector, and the structure of specialized electronic health care registries.

[41] The architecture and functional standards of the information systems in the health care sector (at least: hospital and polyclinics) approved by MoH

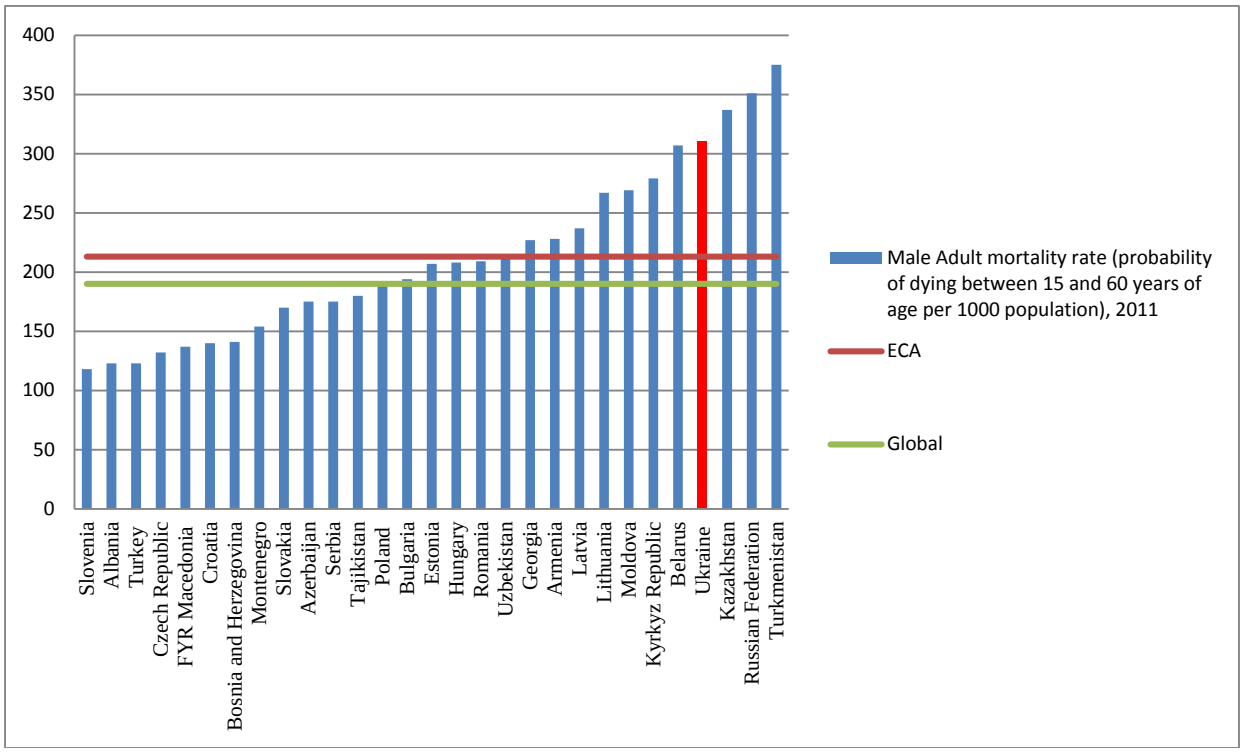
Annex 2: Detailed Project Description

COUNTRY: Ukraine

Background

2.1. **Ukraine remains one of the worst performers worldwide in terms of adult mortality** (see Figure 2.1 below), **and prevalence/incidence of non-communicable diseases.**[42] NCDs are the leading causes of mortality: in 2013, 66 percent of the deaths were due to cardiovascular diseases, 14 percent to cancer, and 6 percent to external causes such as accidents, injury, homicide and suicide. NCDs also account for bulk of morbidity and disability - 70% (of 20 million disability-adjusted life-years).

Figure 2.1: Adult (15–60 years) Male Mortality Rates per 1,000 Men



Source: World Health Organization, World Health Statistics, 2013

2.2. **Cancer** in Ukraine is characterized by very high lethality, especially at younger age.[43] In 2011 there were 169,030 new cases of cancer detected (370.7 per 100,000 population) and 84,949 deaths from cancer (186.3 per 100,000) registered. Among women the five most frequent types of cancer were breast cancer (20% of total incidence), non-melanoma skin (13%), uterus (9%), colon (7%) and cervix (6%) cancers. Among men the most frequently

[42] In 2011, the probability of death in the age group 15 - 60 (15q45) in Ukraine was 310 per 1,000 for males, and 120 per 1,000 for females, more than 50 percent higher than the European region average (World Health Statistics, 2013). Between 1970 and 2010 Ukraine moved from 73rd to 165th in the international ranking for adult male mortality, and from 25th to 122nd for adult female mortality.

[43] Age-specific cancer mortality indicators show a clear trend of mortality decreasing in older age groups.

detected were cancers of trachea, bronchus, lung (18%of total incidence), non-melanoma skin (10%), prostate (10%), stomach (8%) and colon (6%). Of those diagnosed in 2011 with cancer, only 68.9 percent received treatment within 12 months after their diagnosis; one-year survival rate was 67.5 percent.

2.3. **Ischemic Heart Disease** (IHD) is the first cause of death in Ukraine; in 2010 approximately two thirds of the total number of deaths was due to CVDs, and 67.6 percent of all CVD-caused deaths were due to IHD. The prevalence of IHD in 2010 was equal to 8,843,165 cases, with about 650,000 newly registered cases. Incidence and mortality from IHD have continuously increased over the last decade.

2.4. **Stroke** is another leading cause of mortality and disability in Ukraine. Over recent years stroke incidence has increased (from 282.9 per 100,000 in 2008 to 297 per 100,000 in 2011). By contrast, mortality from stroke has decreased, from 123,2 per 100,000 in 2009 to 86,7 per 100,000 in 2010, but it is still approximately twice as high as on average in EU countries.

2.5. **Hypertension** has an extremely high prevalence in Ukraine. As of 2011 there were more than 12 million people living with hypertension, and 5.2 million of them were people of working age. Many Ukrainians are not aware of being hypertensive: in 2009, according to the Ukraine Household Survey on Chronic Conditions, Lifestyle Factors and Health Care Utilization, 48% of men and 24% of women who were hypertensive were unaware of having elevated blood pressure.

2.6. **Other risk factors for CVDs are high as well**. According to the mentioned household survey 18% of respondents were obese and 29% were overweight. The prevalence of smoking is high – 36 percent of the total population (and 54 percent of men) aged 18-65 are current smokers; 31 percent of them smoke daily. Daily smokers smoke on average 18 cigarettes per day. The same study also shows that 20 percent of the total population self-reports as being heavy or binge drinkers (were having one or more days over the last month when they had at least 5 drinks). Over 80 percent of heavy or binge drinkers are men.

2.7. **The health system in Ukraine has not yet been reformed to respond to this high burden of disease, increasingly dominated by NCDs and chronic conditions**. The health service delivery system in place is still that one inherited from the Soviet Union, publicly financed and owned, hospital-centered, with services focused on individual acute treatments and minimal prevention. This system was essentially designed to fight infectious diseases and traumas (which in general are single-cause and less determined by personal behaviors), as well as issues related to mother and child health, at a time when communications were difficult and medical technology not expensive. The system has continuously proven ineffective in reducing the overwhelming burden of NCDs, and yet there have been no systematic attempts at restructuring it.

2.8. As explained in the main text**, an effective response to the current health crisis would require a new approach, based on scaled up prevention, reduction in risk factors, timely treatment and continuous follow-up**. A systematic analysis of mortality among working age

population in Ukraine[44] showed that more than half (55%) of deaths could have been avoided; these deaths were mainly caused to external causes and CVDs. The study split all avoidable deaths into three groups: I – avoidable deaths with prevention, II – avoidable deaths with earlier detection and treatment, and III – avoidable deaths with more effective and timely secondary and tertiary medical assistance. This analysis showed that 76% of avoidable deaths for men and 62% for women belonged to Group I and II, i.e. they happened due to lack/absence of prevention measures and late detection/treatment, while the rest were caused by poor medical services.

Recent policy developments

2.9. **In 2011 a reform pilot** was spearheaded by the Presidential Administration (PA) in three Oblasts (Dnepropetrovsk, Vinnitsa, and Donetsk) and in the city of Kyiv. The reform pilot included the separation of the budget for secondary care (at the Oblast level) and primary care (at the Rayon level), additional funds to primary care physicians, opening of several new primary care centers in rural and urban areas, and improvements in emergency services. The reform approach chosen was incremental and delivered mix results.

2.10. **The World Bank has supported the health sector reforms through a program of technical assistance**, and after 2011, through an Institutional Development Fund Grant managed by the Ukrainian Institute of Strategic Research. The Institute and the World Bank team conducted several workshops on key reform issues, including health financing reforms, primary care development, hospital reforms, and e-Health development.

2.11. **On December 26, 2012 the World Bank received a formal request from the Prime Minister of Ukraine to initiate the preparation of a new health system reform project**, to support and accelerate the reforms started in 2011 and to tackle the following three health priority areas:

a. Fighting NCDs, with an emphasis on prevention;
b. Improving quality and effectiveness of care;
c. Rightsizing and restructuring hospitals and secondary outpatient services.

2.12. **In agreement with the Government, the Project was designed with a focus on the Oblasts** -as opposed to just following centrally-defined guidelines. This reflects the decentralized nature of health service management, the size of the country and its demographic context, together with the remarkable variations in morbidity/mortality and in implementation capacity across different regions. A limited group of Oblasts showed a stronger commitment to reforms, and were preselected to implement the Project (see below).

2.13. **The events which occurred in the winter of 2014** showed how deep Ukrainians' longing for a more transparent, citizen-responsive, form of government is. Among other issues, the country's population expressed the urgency of reforming a health system that still fails to serve their needs and honor their aspirations in such sensitive areas as health, disease and disability. Over the spring and summer 2014, the Bank reengaged with the new leadership, and the Project design was adjusted to strengthen the planned activities, and add several initiatives to be led at

[44]Libanova E, 2007, *Mortality of working age population in Ukraine*

the center by the MoH.

The Serving People, Improving Health Project: objectives, design, and rationale

2.14. **The proposed Serving People, Improving Health Project seeks to improve the quality of health services in selected Oblasts, with special focus on primary and secondary prevention of cardiovascular diseases and cancer, and to enhance the efficiency of the health care system.** This Project Development Objective would be achieved by adapting the health service delivery model in selected Oblasts to the changed burden of disease, and by improving the governance of the Ukrainian MoH.

2.15. **For an implementation period of five years and a total amount of US$ 261.0 million (including counterpart financing)**, the Project involves three inter-linked components, with the following characteristics:

a. COMPONENT 1: **Improving service delivery at the local level**, with sub-projects in Vinnitsa, Volyn, Rivne, Poltava, Dnepropetrovsk, Lviv, Zakarpatya and Zaporizhya. Subprojects would a have duration of up to 5 years, and they would include at least 10 percent Oblast co-financing. Successful projects may be repeated and expanded after the initial years, and unsuccessful ones would be scaled down.

b. COMPONENT 2: **Strengthening MoH governance.** The MoH would be spearheading a number of initiatives intended to improve governance and to provide more proactive central support to the Oblasts. Such initiatives include efforts in the fields of information management (e-Health), provider payment mechanisms, public health interventions, capacity building, and information and communication.

c. COMPONENT 3: **Project Management, and Monitoring and Evaluation (M&E).** This would ensure thematic coordination of the entire Project, and M&E of results achieved. This component would:
   i. Contribute to address possible obstacles that arise during implementation;
   ii. Provide coordination and technical support to various Project implementing entities;
   iii. Monitor the efficient implementation of the Oblast sub-projects and the central initiatives;
   iv. Monitor Project results;
   v. Ensure funds are used for their intended purposes and that agreed deadlines are met;
   vi. Facilitate continuous learning in the selected Oblasts;
   vii. Facilitate inter-Oblast experience sharing and learning from international experiences;
   viii. Maintain the reform momentum in other areas of potential inter-dependence.

2.16. The table below summarizes the project costs by component:

Table 2.1: Project Costs and breakdown of costs by component and source of financing

USD 000,000	Bank financing	Counterpart Financing	Total
Component 1	189.53	46.303	235.83
Component 2	20.2	-	20.2
Component 3	4.463	-	4.463
Front-end fee 0.25%	0.537		0.537
Total	214.730	46.303	**261.033**

2.17. **Under Component 1 selected Oblasts would scale up and improve programs for CVDs and cancer prevention, early detection, and treatment, and modernize selected hospital services**. In addition to the equipment investments, these Oblasts will create quality assurance systems within hospitals and primary care centers, as well as standardize care pathways and treatment protocols for CVDs and cancer. Knowledge and skills of medical personnel will be enhanced, and innovative models of primary care provision based on outreach activities will be piloted. Finally, awareness of the population concerning the main risk factors and how to prevent CVDs and cancer will be increased.

2.18. Five Oblasts would receive a funding amount which would enable them to undertake more comprehensive investments in their health systems, while three other Oblasts would implement investments that are more limited in size and scope, but would nonetheless be able to benefit from all the capacity building activities implemented under the Project.

2.19. **Under Components 2 and 3, the MoH** would spearhead at the national level critical reforms that cannot be addressed only at the local level, and would provide coordination, stimulation, and monitoring of locally-implemented initiatives. In fact, the whole health system still functions under a strict framework of norms and standards, imposed by central government, and all health facilities are subordinated to the MoH in terms of compliance to these standards. Thus, the key regulatory and financing issues constraining service delivery results could hardly be addressed at the local level only.[45]

2.20. For example, one of the preconditions for successful reforms is the establishment of new resource allocation criteria for hospitals, promoting greater responsiveness and efficiency. Currently, hospitals are financed according to their inputs (mainly beds), and therefore in a way they are "encouraged" to be inefficient, because the best strategy for them to try to attract more resources is to expand the number of beds (which brings about also more staff, budget for consumables, etc.), independently of service delivery results. The resource allocation criteria are set centrally, and cannot be changed by individual local governments, and therefore the Project has designed a central subcomponent which will spearhead health financing reforms.

[45]For a more in-depth analysis, see: *"How is it working? Measuring governance in the health system in Ukraine."*

Detailed Project Description

Component 1: Improving service delivery at the local level

2.21. **Preparation Process to Date:** in March 2013 an invitation to submit proposals for a World Bank supported Project was sent to all 24 Oblast Authorities of Ukraine and to the Autonomous Republic of Crimea. The invitation required all Oblasts to follow a specific logical framework, whereby Oblasts needed to show their ability to build an evidence and results-based plan, with clear definition of objectives/goals and with activities/tasks and investments convincingly presented as cost effective strategies for achieving those goals. 22 Oblasts submitted proposals, and in May 2013 a Committee created by MoH and including representatives of MoF and MoE, as well as international experts from the World Bank, pre-selected 11 Oblasts.[46] The Committee evaluated Oblast proposals according to a previously agreed marking template/scorecard (which weighted situation analysis -30 percent-, priority setting -10 percent-, solution proposed -40 percent-, action plan -10 percent-, and Oblast specific variables -10 percent).

2.22. **In July 2013, a World Bank technical team started an intensive engagement with each of the 11 preselected Oblasts, to support further improvements in their proposals**. A three-day seminar was held in July 2013, and then the World Bank team colleagues visited all 11 Oblasts at least once over the summer and fall of 2013 together with MoH and PA representatives. Oblasts submitted revised proposals, and the World Bank organized a new full day seminar before the end of 2013. After this seminar, Donetsk Oblast was excluded because it was not responsive to the suggestions of the expert team to improve their proposal. After the forced interruption of Project preparation during the period January-March 2014, a new workshop was organized in April 2014 and all the selected Oblasts were visited again during summer-fall of 2014.

2.23. **The Autonomous Republic of Crimea and Luhansk Oblast were also among the Oblasts preselected in summer 2013**. However, as the conflict in Ukraine escalated, basic preconditions for Project preparation could not be guaranteed in these two regions. The funds originally allocated to finance Luhansk Oblast's subproject was the largest among all Oblasts (USD 42 million), and in May 2014 it was decided to temporarily categorize these funds as unallocated. The plan was to give these funds to Luhansk or to be utilized for reconstruction of essential medical infrastructure and medical services for conflict affected populations, in case of a peaceful solution to the conflict, or be used for future scaling up of successful Oblasts or new Oblasts' subprojects. However, during the appraisal mission in November 2014, the Ministry of Finance asked the World Bank to reduce the loan by the amount of the unallocated funds.

2.24. In summary, the amount allocated to each of the remaining eight Oblasts is as follows:

[46] Minutes of the 28 May 2013 meeting of the Technical Committee on Regional Proposals for Oblast Health Sector Reform Project (the name of the Project at that time) are available upon request.

Table 2.2: Total allocation by selected Oblast

Oblasts	Bank financing, USD	Oblast's budget	Total
Vinnitsa	32,850,400	6,861,350	39,711,750
Volyn	30,000,000	3,310,000	33,310,000
Dnepropetrovsk	40,000,000	27,314,370	67,314,370
Zakarpatya	6,529,600	523,500	7,053,100
Zaporizhya	4,000,000	400,000	4,400,000
Lviv	10,150,000	1,293,600	11,443,600
Poltava	41,000,000	4,100,000	45,100,000
Rivne	25,000,000	2,500,000	27,500,000
Not yet allocated	0	0	0
Total	**189,530,000**	**46,302,820**	**235,832,820**

2.25. **The eight sub-projects in the above Oblasts would start simultaneously, and the three smaller ones (Lviv, Zaporizhya, and Zakarpatya) are expected to finish after three years**. It is intended that there would be a second round of smaller proposals to cover the last years of implementation, using funds reallocated from any of the eight selected Oblasts which will have underperformed, and/or as additional financing. A mechanism for reallocation of Project proceeds from low performing Oblasts to better performing ones has been agreed, and would be described in the Project Operations Manual (POM).

2.26. **The eight selected Oblasts would carry out investment sub-projects** ("Oblast Sub-projects"), focused on improving primary health care; fighting cardiovascular diseases (CVDs) at the primary care level; fighting CVDs at the secondary and tertiary care levels; on early cancer detection; and on delivery system improvement and rationalization.

2.27. **Three features are emphasized in the selected subprojects:** first, clear definition of the objectives, indicators to signal progress towards the same objectives, and realistic targets. Second, a clear roadmap of activities and investments to achieve these objectives. The third feature is presenting viable implementation arrangements (for example, which activities, by whom, when, etc.).

2.28. **Dnepropetrovsk** [first goal]:one of the goals of this Oblast is to ensure adequate and equitable physical *access* to primary health care, especially in urban areas, by increasing the network of primary care facilities, equipping urban primary care centers, ensuring qualification of medical personnel, strengthening links between different levels of care (the referral system), and improving management.

2.29. **Poltava** proposal focuses on controlling arterial blood pressure in the 40-60 age groups. Their strategy revolves around the *effective* detection of people with high blood pressure in that target group and the subsequent non-drug and drug treatment of patients with detected

arterial hypertension.

2.30. **Zaporizhya, Volyn, Rivne, Zakarpatya** [first goal], **Dnepropetrovsk** [second goal] aim to improve access to quality prevention and early detection services for patients with cardiovascular disease at the primary care level. These Oblasts would strengthen the primary care network, purchase new equipment for PHC centers, and introduce explicit incentives to improve the detection and management of CVD patients. They would invest in training of medical personnel, through courses on prevention, detection and treatment of CVD patients.

2.31. **Vinnitsa** proposes to reduce mortality caused by acute conditions of CVD by improving access to quality care provision at secondary and tertiary care levels. Instead of spreading resources thinly, the Oblast has agreed to focus on upgrading one existing cardiac center in the capital of the Oblast by building and making fully operational a new premise where the current municipal hospital cardiac center will be placed. There would be investments in surgical and emergency care infrastructure and equipment in this one center, while prevention services would be strengthened at the primary care level.

2.32. **Volyn and Rivne** [second goal]: propose to increase *the quality* of care for acute CVD cases at secondary and tertiary levels. Again, applying principles of selectivity and concentration of hospital specialized acute services, the two Oblasts would invest in few hospitals to enhance their delivery capacity and quality of emergency care.

2.33. **Lviv** seeks to enhance access of the population to early cancer diagnosis services by introducing cervical and breast cancer screenings in Lviv Oblast health care practices. Additional goals include improving cancer treatment and raising public and medical community's awareness of oncology prevention.

2.34. **Dnepropetrovsk** [third goal] proposes to improve quality of care for patients at secondary care emergency services by selectively upgrading three emergency care units.

2.35. **Zakarpatya** [second goal] and **Volyn and Rivne** [third goal] aim to increase links between different levels of care, and create a more efficient and integrated, primary care-centered, health care delivery model.

Component 2: Improving MoH governance

2.36. **There are key constraints to improving health service delivery which cannot be tackled only at local level.** These include: poor information management systems, resource allocation criteria which are a disincentive to greater efficiency and responsiveness, the lack of a well-functioning public health system (for example, the absence of a surveillance system for NCDs), and no performance-based monitoring system for existing programs.

2.37. **The Project would implement some central initiatives to address these constraints at national level under Components 2 and 3 of the Project**. The overarching goals of these two components are to improve MoH governance and to ensure proper coordination and stimulation of Oblast level initiatives in the areas of financing and institutional reforms, as well

as in relation to e-Health development, public health and communications.

2.38. **Component 2 would be allocated funding of US$ 20.2 million. All the activities under this Component have been clustered around five thematic areas, or groups of activities**: Payment System Reforms, e-Health Development, Public Health, Information and Communication, and Capacity Building. Each of them has been assigned a tentative budget, but if one or more "clusters" fail to implement the agreed activities in a timely manner, funds would be reallocated to better performing ones.

2.39. **Payment System Reforms**: currently, budgets are allocated to local authorities according to population size formula, and then each local government is responsible for approving the health budget for their respective territory. De jure legislative procedure gives oblasts and other local governments some room to allocate resources according to their needs and performance, de facto the opportunities are limited given permanent budgetary constraints (protected budgetary lines often absorb major part of the resources), and strict regulations on the resources allocation criteria, which still follow mainly input-based norms.

2.40. **Under this subcomponent a new payment system for hospitals based on Diagnostic Related Groups would be piloted**, and legislative changes would be prepared for other health financing reforms,[47] following the MoH decision to adopt a new model of health financing. The Ministry also recognized that there would be a 4-5 years transition period to move to a completely new resource allocation criteria/payment system. The Project would prepare the ground for such transition by setting in place the information, institutional and legal/regulatory foundations necessary to establish the new resource allocation criteria/payment system.

2.41. **The new payment system would also require designing a new "arms-length", contractual relationship between purchasers and providers of health services**. Therefore, the reforms will require redefining the legal status and internal governance structure of hospitals. Within a DRG-based payment system for hospitals, it would also be critical to enhance the government's ability to provide explicit incentives to improve quality, to monitor readmissions and other forms of payment system gaming, and to set explicit provisions to control budgets (for example, volumes of care above the pre-agreed threshold may be reimbursed on a declining scale).

2.42. **The objectives of the Payment System Reforms** activities under the Project are as follows:

a. Prepare the ground and pilot a new hospital payment system that rewards hospitals based on the number of patients and the complexity of their diagnosis and treatment, according to the DRG patient classification system.
b. Design a new health financing strategy that would also reform primary and outpatient care payment systems, and provide incentives to treat patients at the lowest possible level where their diseases can be adequately detected and treated.
c. Design a legal, institutional framework and a contract template, starting from hospitals, which would set in place strategic purchasing and a clear purchaser-

[47] DRG is in essence a 'per case' payment system that group patients with homogeneous average costs based on the diagnoses and procedures performed in the hospital. DRG is intended to motivate providers to deliver patient care effectively, efficiently and without over utilization of services.

provider relationship between the MoH, the Oblasts, and the individual health care facilities.

2.43. **Initially, the Project would support revision and adjustment of the hospital records and information systems** to collect all the necessary information, establishment of the institutional infrastructure for DRG implementation, training in DRG coding and data analyses, procurement of the hardware for DRG activities and development of DRG software ('DRG grouper'). The MoH would use as a basis the DRG-system adopted in Australia, which would be procured directly from the Australian authorities. A detailed Investment Plan for the activities under the Payment System Reform subcomponent is available upon request.

2.44. **E-Health Development**: this subcomponent would strengthen the MoH stewardship role in the development of a better health information management system in Ukraine.

2.45. **Rationale**: Currently, the Ukrainian health system has an inefficient information management system, resulting in poor data *availability*, *accuracy* and *promptness*. The main reasons for this situation are the following [48]: (i) f*irst*, the system is mainly based on paper-based processes, making the process of primary data collection time-consuming and inefficient, data analysis difficult, and leading to lack of quality; (ii) s*econd*, there are incentives for data distortion, which come from the need to correspond to imposed norms/benchmarks; (iii) t*hird*, some of the statistical forms are outdated and inconvenient, while some essential health indicators are not tracked by the system; (iv) f*ourth*, the data is rarely used for decision-making at all levels of government.

2.46. **According to the current information management system in Ukraine, primary recording of medical information is conducted at the point of service delivery in specific paper-based "forms/templates" defined by MoH regulations**. Then, data are transferred vertically in the form of aggregated statistical forms to the level of government which the specific service provider who has generated the data is subordinated to (for most providers, it would be the Rayon or Municipality levels). Subsequently, data is further aggregated at Oblast level by the Health Statistics Departments of each Oblast State Administration, and then transferred to the MoH Center for Medical Statistics in Kyiv.[49] Other parallel channels exist for some reports on specific types of diseases (HIV/AIDS, cancer, TB, etc.), which "travel upwards" through a network of specialized facilities. Two additional channels deliver data on infectious disease and on medical investigations to the MoH Center for Medical Statistics, respectively, through the Sanitary and Epidemiological Services and the Medical Investigation Services. At each step of aggregation, the data collected are subjected to potential manipulation,[50] and some information is lost. As a result, the higher the level of aggregation, the lower the quality of data.

[48]For a more detailed analysis, see*: "How is it working? Measuring governance in the health system in Ukraine"*

[49] Aggregated medical statistics are produced automatically using the Medstat software; however, data are not stored in a single database for the whole country, but rather in regional and local databases. Horizontal data exchange is almost non-existent due to the absence of a single register of all generalized medical statistics and the fact that certain types of statistics bypass some parts of the medical administration "chain".

[50] There are formally designated agencies controlling the accuracy, reliability and completeness of primary records and statistics at different government levels (for instance, statistical units of local governments have the right to inspect medical records in their subordinate facilities). However, such data validation mechanisms do not yield good results. In addition, the calculation method for some core health indicators is not aligned with international practice.

2.47. **Central systems that would allow better integration and data collection/exchange are virtually nonexistent**. For example, Ukraine does not yet have an electronic patient registry system, or a system for tracking availability, functionality, and use of expensive medical equipment or medicines.

2.48. **In recent years, several new e-Health solutions have been implemented, mainly at the individual health facility level.** These are mostly dependent on the financial means and implementation capacity of specific local administrations and individual health care facility managers. However, there are no regulatory acts or standards governing the development of new information and communication technologies, and therefore -in the context of a completely open and unregulated environment in terms of the quality of e-Health solutions- some solutions implemented are low quality and unreliable.

2.49. **To correct the above situation in 2013 the MoH established an e-Health coordination group[51] which produced a new e-Health strategy and action plan**. The principles informing the e-Health strategy are the following:

a. *Decentralized development.* Ukraine is a relatively large country and has an extensive health care system in terms of number of stakeholders, health care facilities, health care professionals, and population to serve. Any attempt at centralized implementation of country-wide uniform e-Health solutions is likely to fail (for example, implementing a single primary health care software solution for all PHCs across the country would not be feasible). The successful implementation of new e-Health solutions needs to be decentralized to regions and individual facilities, allowing the operation of different ICT systems in different facilities (and regions) based on open market principles, but also allowing regions to take responsibility for their own e-Health development.

b. *Asynchronous development.* Different regions and different heath care facilities across Ukraine are at varying stages of institutional, managerial and technical readiness for utilization of new e-Health solutions. Therefore, implementation of new e-Health solutions "in strict order" throughout the country would face a number of obstacles, some of which would most probably be unresolvable. As such the e-Health implementation strategy in Ukraine needs to allow the development of different e-Health systems at different speed, asynchronous implementation of various systems at different levels, respecting regional differences in levels of readiness.

c. *Coordination.* Decentralized and asynchronous development does not mean uncoordinated development. On the contrary, it actually requires even closer coordination. The central level, the MoH, must employ strong coordination mechanisms that include strong regulatory underpinnings, as well as practical central systems that would support coordinated development at local level. To achieve such coordination, the strategy calls for the creation of a new e-Health architecture, termed an 'e-Health Development Framework,' with the following characteristics:
   - *A set of standards and regulations* that would define "rules of the game" that all

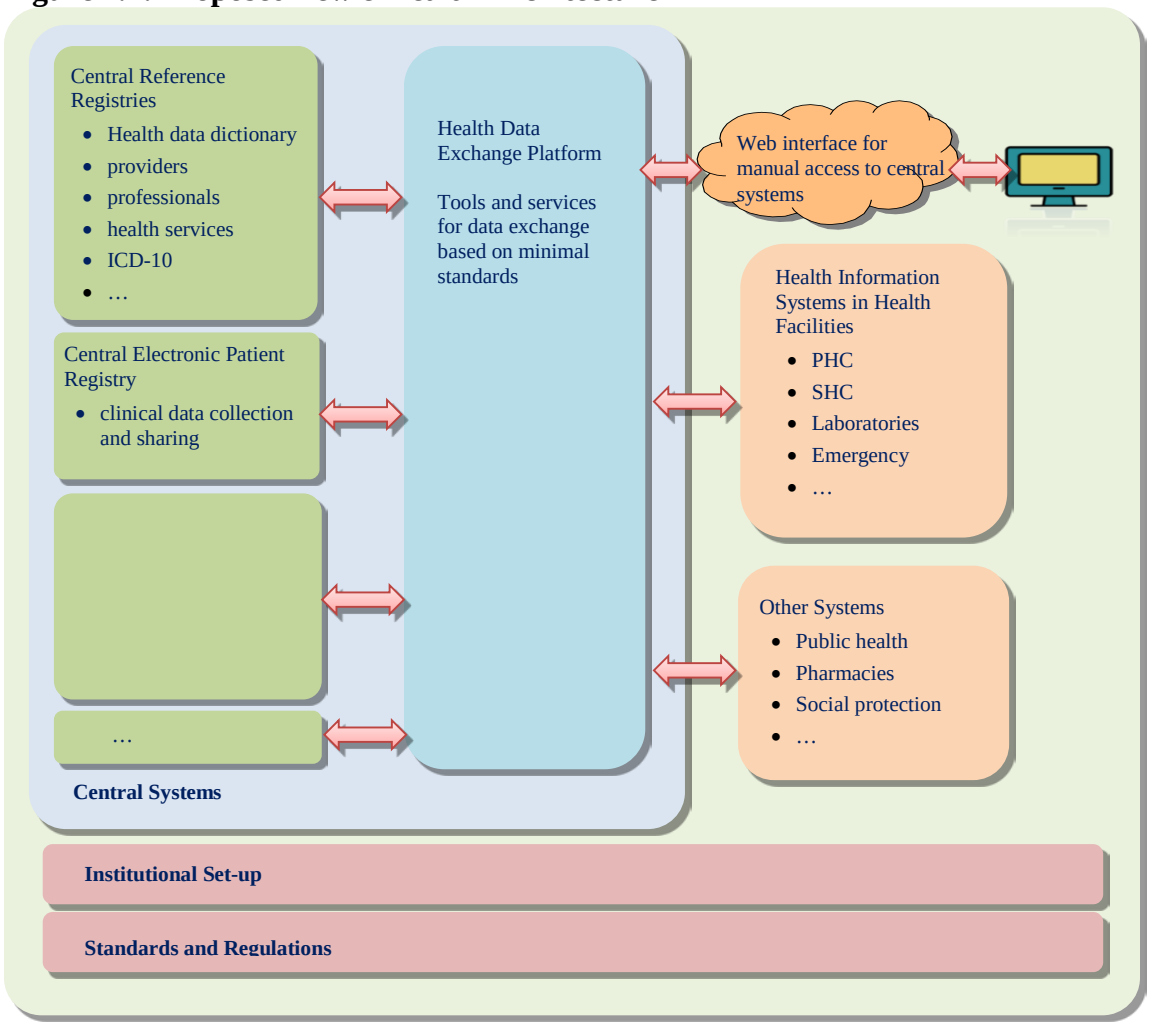
[51] The full title of the group is "the Coordination Council for IT Penetration"

"players" should respect in order to be part of the health care information space in Ukraine.

- *A coherent institutional framework* for e-Health development, with clear definition of responsibilities for governance, regulation, data quality management, and new e-Health solutions' implementation.
- *A set of central systems and services* that would allow data exchange based on interoperability standards and use of the same reference registries (see Figure 2.2 below).
- *Web interfaces to central systems and services* that would allow their use by health care authorities, facilities, and individual professionals that do not yet have computerized systems.

2.50. The proposed new e-Health architecture is presented in Figure 2.2 below:

Figure 2.2: Proposed new e-Health Architecture



2.51. **The Project would support the implementation of the e-Health strategy (and action plan) developed by the e-Health coordination group.** The overarching objective of the activities supported under the Project is to set the foundations for the improvement of

information management in the health sector in Ukraine. To fulfill its objective, the Project under this subcomponent (of Component 2) would pursue the following two goals:

Goal 1: To create a better regulatory and institutional environment that would coordinate, stimulate, and integrate the development of e-Health solutions at all levels (local and central).

Goal 2 (once Goal 1 is achieved): To improve the MoH stewardship capacity by introducing state-of-the-art central information systems, which would: (i) allow better integration and data collection/exchange and (ii) enhance the MoH capacity to plan, implement, and monitor health programs.

2.52. **The first goal with be achieved through the following activities**:

a. The creation of a new e-Health Development Framework (eHDF) that would define a new institutional arrangement with clear attribution of responsibilities, authority and incentives for: (i) e-Health policy making, regulation and standardization; (ii) health information analytics and clinical data quality management; and (iii) health information systems implementation and deployment at both national and regional levels.
b. The establishment of e-Health national compulsory standards and regulations, which would allow data integration and exchange.
c. The establishment of central reference registries: these registries would allow shared use of basic codes and data defined by appropriate standards and regulations. The registries would include: i) a health data dictionary; ii) a registry of health providers; iii) a registry of health professionals; iv) a registry of health services; and v) a diagnosis coding system (ICD-9, ICD-10).
d. Strengthening the capacity of health and IT specialists working in the health care sector, through: (i) development and implementation of new curricula for medical informatics, according to international best practices; (ii) organizing and conducting learning events on e-Health development; (iii) training and retraining of IT professionals in the health care sector; and (iv) improving IT staffing standards and regulations.

2.53. **The second of the two goals above (introduction of state-of-the-art central information systems) would be considered if and only if the first goal is achieved**. To achieve this second goal, the MoH would undertake the following activities:

a. Establishing a central data processing center (DPC) that would serve as a physical hosting platform for all central systems.
b. Creating a central data exchange and "integration bus" that would link different information systems, operating with different protocols, including systems provided by private companies (subject to the requirements of interoperability).
c. Developing a central electronic patient registry (EPR). This would be the new information system for collecting, registering, storing, updating, using and disseminating information

about individual patients and the medical care they received.[52,53]

d. Implementing the central health management information system (HMIS). This would collect, store, and provide analysis of administrative, financial and performance data.
e. Piloting a new ePrescription system that would ensure recording and administration of all prescribed medications. This would enable MoH to assess their efficacy, conformity with the official formulation, and to analyze their cost.

2.54. **Public Health,** which is the third subcomponent under Component 2, would support the development of a new institutional architecture for public health, as well as a new national strategy and action plan for prevention and control of NCDs. It would support the piloting of specific primary prevention initiatives, by strengthening patient groups, and financing public campaigns and other initiatives against smoking and excessive alcohol consumption. In addition, the investments planned under Public Health would build an NCD diseases surveillance system, and provide better information on the evolution of the main NCDs, starting from CVD and cancer. It was decided that US$1,500,000 from the public health component would be used to finance the World Health Organization through direct contracting to conduct technical assistance, carry out selected studies, and provide leadership on the implementation of the public health subcomponent.

2.55. **Information and Communication**. Under Information and Communication, a comprehensive coverage of the health care reforms through a range of media channels would be undertaken. The public awareness campaign would include: a) events for the media (press-conferences, press-clubs, press-tours, contests for journalists, etc.); b) the production and airing of radio and TV programs and segments within existing programs; c) social advertisements; d) surveys of the beneficiaries of specific Project initiatives to ascertain the perception of their impact. In addition, it is envisaged that over time citizens would access information on health care programs and on the performance of individual health care facilities. In addition, a process of continuous training on communication techniques would be established for managers and senior health professionals.

2.56. **The goals** are to increase the confidence of Ukrainian citizens in the state health care system by providing complete, objective and timely information on the progress and results of the health care reforms spearheaded by the Project. In addition, the subcomponent aims to provide venues for the citizens to criticize and positively contribute to the improvement of existing services.

[52]The creation of the EPR is governed by the following regulations: the Regulation on the Electronic Patient Register, as approved by the Resolution of the Cabinet of Ministers of Ukraine No. 546 dated June 06, 2012, the Order of the MoH of Ukraine dated August 30, 2012, No. 666 "On Approval of the Procedure for Maintenance of the Electronic Patient Register in the Oblasts of Vinnytsia, Dnipropetrovsk and Donetsk, and in the city of Kyiv", as registered at the Ministry of Justice on September 13, 2012, under No. 1579/2189a.

[53] The meeting of the MoH Coordinating Council for IT Penetration of May 14, 2013 approved the draft Terms of Reference for the EPR, stipulating that the EPR should be centralized in terms of key software and hardware elements, means of processing, data storage, telecommunications means and information security, and decentralized in terms of location of its users and related systems (in the health care institutions under the health care departments at all levels that are involved in the processes of provision of health care services). In other words, the EPR would not replace detailed electronic medical records (EMRs) in health care facilities – it would contain a subset of EMR data that would conform to national interoperability standards, allowing data exchange and use by authorized users across more than one health care facility.

2.57. **Capacity Building.** This would include learning events at national level focused on improving managerial capacity and quality of services; facilitating continuous learning in the concerned Oblasts, through inter-Oblasts learning and exposure to lessons from international experiences.

2.58. Under this subcomponent an independent Technical Audit Consultant (TAC) would also be hired, to be staffed with national and international consultants. Under the guidance and in cooperation with the MoH, the PCSU, the World Bank, the TAC would provide qualified, continuous, and independent implementation support to the Oblasts and the MoH on technical issues. The specific deliverables of this consultancy are the following:

a. Support Oblast sub-project implementation through field visits and at least one workshop with representatives per semester to review progress.
b. Periodic (at least every six months) Project Progress Reports for the duration of the project, to summarize implementation progress and the results achieved by each Oblast.

Component 3: Project Management, Monitoring and Evaluation

2.59. This component (estimated funding US $ 4.46 million) would finance the Project Consultancy Support Unit (PCSU) at national level in charge of Project supervision. In addition, it would finance monitoring activities, to be conducted with the support of complementary data collection and analysis activities.

2.60. The two subcomponents under this component would include the following:

a. **Project Management**: This subcomponent will support the consultants and operating costs of the PCSU. As explained in the main text and in Annex 3, the PCSU would provide fiduciary and operational support to the Oblasts and MoH (including the necessary financial/economic audit).[54]
b. **Monitoring and Evaluation:** the national framework for data collection, analysis, and reporting developed by MoH presents several crucial weaknesses and distortions, presented earlier in presenting the e-Health subcomponent. Therefore, the activities carried out under this subcomponent would:
    a. complement the official statistical data with ad hoc studies to define baselines, track the progress in Project implementation and results achievement;
    b. validate the official statistical data by means of audit of medical records on a sample basis;
    c. assess the institutional capacity to monitor system's performance, and build capacity to utilize evidence for decision-making at different levels of government (national, oblast, municipal), and among non-government t stake-holders (such as civil society, think tanks, etc.).

[54]The financial and economic audit of the Project would be carried out under this subcomponent once a year by a contracted party to be selected under a competitive bidding procedure. The objectives for the financial and economic audit are to detect deviations from the procurement budget; detect non-compliance with budgetary legislation; detect violations in book-keeping; detect violations in financial reporting to the World Bank; receipt of recommendations on corrective actions for elimination and/ or rectification of detected problems. The audit report would be submitted to the PCSU, the Oblasts' SMUs and the World Bank with a list of further prevention actions.

2.61. Expected outcome of the M&E activities within the Project would include availability of more reliable data for Project monitoring and assessment, as well as enhanced capacity of different levels of government in organizing the data collection and using the information collected.

Annex 3: Implementation Arrangements

COUNTRY: UKRAINE

Serving People, Improving Health Project

Project Institutional and Implementation Arrangements:

3.1 **As the central government`s agency responsible for the development of health policy, the MoH would have overall responsibility for implementing this Project**. In this capacity, the MoH would: (i) maintain a strategic link between the implementation of health sector reforms and effective delivery of the Project; (ii) coordinate Project activities implemented at national and sub-national levels to make sure they are aligned with the PDO; (iii) liaise with the Ministry of Finance, Ministry of Economy and other government agencies to enable smooth Project execution; (iv) coordinate monitoring and reporting under the Project, sending regular reports to the World Bank on progress achieved in the indicators which form part of the Results Framework; (v) monitor Project expenditures and costs, (vi) ensure the Project Operations Manual (POM) is updated as necessary; (vii) prepare and distribute the consolidated progress reports and the final report to the World Bank and relevant government agencies. The **Deputy Minister of Health would be appointed as Project Manager** and a focal point for the World Bank and other stakeholders for Project-related matters.

3.2 **The Head of the Project Consultancy Support Unit (PCSU) would be an independent consultant who is selected competitively and agreed upon by the Project Manager.** All the PCSU members, including the PCSU Head, would be individual consultants selected under rules and procedures of the World Bank and contracted by the MoH. The PCSU Head would be the Project Coordinator in charge of day-to-day supervision of Project implementation, and her/his level of seniority and powers need to be aligned as those of Head of department. The PCSU consultants would provide technical support under the Project and would ensure compliance with the World Bank requirements for procurement, reporting, auditing and monitoring of the Project. Given the complexity of the Project, and large number of participating Oblasts, a strong PCSU is vital for successful project implementation. Therefore, the selection of the individual consultants of PSCU would be subject to World Bank's prior review. The PCSU composition is shaped in accordance with the key objectives to be fulfilled over the Project period. For the coordination and technical implementation support of Component 1, the PCSU would contract a consulting firm that would provide regular technical support for the implementation of the Oblasts' subprojects.

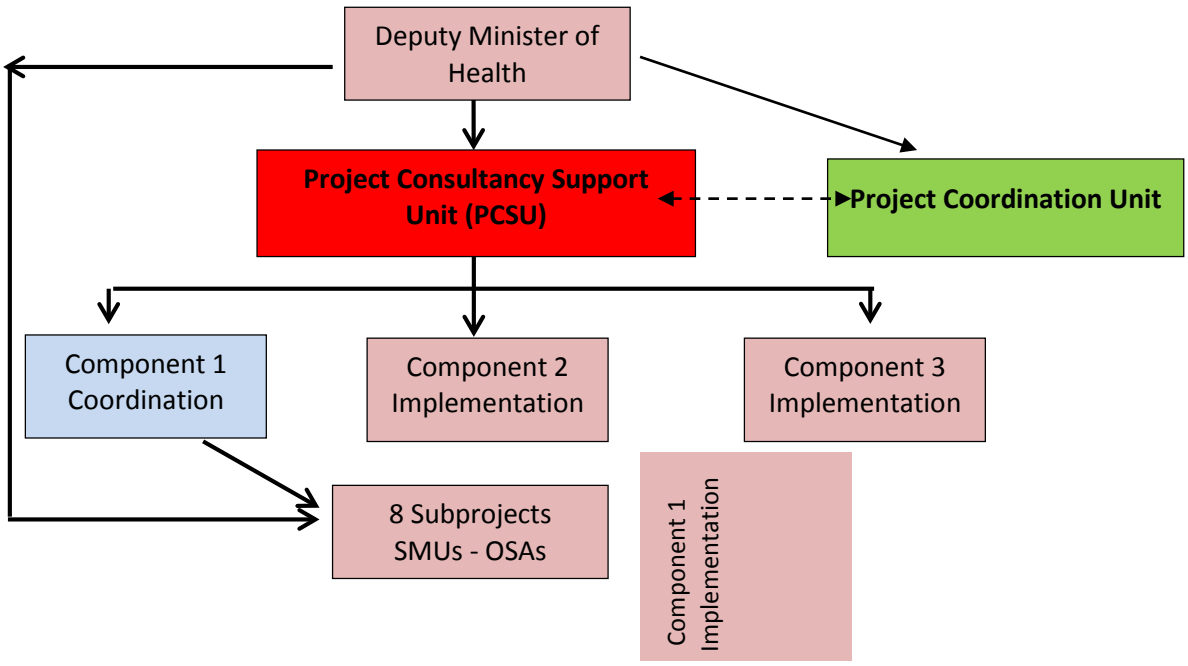
3.3 **A Project Coordination Unit (PCU) would comprise managers (Head) of relevant MoH units (Health Financing Department, Public Health Department, etc.), or subordinated agencies** (for example, Informatics Centre for e-Health activities), as per project activity lines. The PCU would be consulted and would take strategic decisions on Components 2 and 3 of the Project. The PCU head would be the Deputy Minister appointed as Project Manager, and the Deputy Head would be the manager/head of MoH Department in charge of health system reforms. The PCSU Head would be part of the PCU.

3.4 **The Oblast State Administrations (OSAs) would have responsibility for the implementation of Component 1**. The Health Departments in each OSA would lead the execution

of each Oblast sub-project. In implementation, they would be supported by the Central PCSU. The Health Departments in OSAs would involve different departments, as needed, to ensure effective management of sub-projects.

3.5 **Each participating Oblast would establish a Sub-project Management Unit (SMU).** SMU is chaired by the Deputy Head of the Oblast State Administration who is in charge of health care policies as per his functions or by the manager of the Health Department within the Oblast State Administration. The SMU chair/head would manage the SMU and bears personal responsibility for organization and fulfillment of Project implementation. To carry out Project implementation, the SMU Head may use their existing staff and/or hire consultants (for example, a financial management and procurement specialists, technical expert and safeguards specialist as needed), to be attached to the Health Department. The World Bank would provide necessary training to all SMUs on fiduciary matters.

Figure 3.1: Project Implementation Arrangements



3.6 At the central level, inter-sectorial coordination with the Ministry of Economic Development and Trade and the Ministry of Finance would be carried out through quarterly reviews of the portfolio of World Bank projects in Ukraine, chaired by the Ministry of Economic Development and Trade.

3.7 **By the time the Project comes into effect, the PCSU in MoH would have prepared the following**:

- A report with a revised implementation schedule and action plan for implementation of

Project central activities as well as selected Oblasts' sub-projects;
- Materials for monitoring of all central level Project activities and sub-projects in the selected Oblasts (in particular, this should establish the Framework of Results Indicators with baseline and arrangements for data collection for each indicator);
- Working plan(s) for coordination of Oblasts as they implement their projects. This would include: field visits to the regions and at least one workshop per semester with Oblasts representatives in order to support their sub-project implementation;
- A finalized Project Operational Manual.

3.8 **The Project Operational Manual (POM) would set out detailed implementation procedures, and the distribution of tasks/responsibilities between the central and regional level implementing entities**. It would include Project description and implementation plans for each component, procurement, financial management and disbursement procedures as well as arrangements for environmental safeguards and monitoring of Project implementation and results.

Financial Management, Disbursements and Procurement

Financial Management

3.9 **A Financial Management (FM) assessment of the Project has being carried out.** The fiduciary risk rating of the Project is assessed as **High,** and would be reduced to **Substantial** after the mitigation measures are put in place. The main risks are related to the following: (i) complex structure of the project, with one component being implemented by eight Oblasts, and thus extensive coordination effort required; (ii) large amount of planned contracts and their varying nature; (iii) fiduciary capacity of both the MoH and participating Oblasts still being developed; (iv) relatively weak performance of the MoH during implementation of the ongoing Project Preparation Grant; (v) uncertainties related to efficient functioning of the State Treasury system and timeliness of project payments; (vi) volatile political situation leading to possible frequent changes in responsible officials. The FM arrangements would meet the World Bank's minimum requirements after the agreed actions, highlighted below, are implemented. The FM assessment covers an assessment of the MoH existing capacity, and actions needed to bring its capacity to the minimum acceptable level, including its capacity to implement Components 2 and 3, and to oversee and facilitate implementation of Component 1. In addition, the FM assessment covers the capacity assessment of the eight participating Oblasts in relation to their fiduciary responsibilities, flow of funds, and division of responsibilities between MoH and the Oblasts.

3.10 **The FM arrangements and disbursement arrangements for the Project are being designed using a default option of maximizing the use of existing institutional systems**. The Project would rely on elements of existing systems including: budgeting, staffing, accounting, reporting, and auditing, although actions would be required in many of these areas to bring them to an acceptable level, as described in more detail below.

3.11 **The Capacity of MoH has been strengthened by establishing a central PCSU, which already includes a financial consultant hired for Project Preparation Grant implementation**. Further, one or two more FM consultants would be hired at the initial stages of Project implementation. These consultants would contribute to coordination of the fiduciary aspects of Component 1 with participating Oblasts as well as implementation of Components 2 and 3. Strong

PCSU is of high importance for overall project success, and selection of PCSU consultants would be monitored by the Bank. Each Oblast has established a SMU, which, working closely with the PCSU, would be responsible for FM aspects of their respective sub-project under Component 1, including fiduciary oversight role of its respective portion of Component 1, and including management of flow of funds. Existing financial staff in each Oblast was nominated to work on FM arrangements, and additional FM consultants would be hired at the initial stages of project implementation to support the existing staff. The fiduciary staff of the PCSU and SMUs is receiving capacity development support from the World Bank, and further periodic training is planned, to address specific needs at each stage of Project implementation. The fiduciary oversight role of the project, including monitoring overall financial accountability, at both national and Oblast level, will be with the PCU. Detailed implementation procedures, distribution of tasks and responsibilities between central and Oblast level staff would be described in POM. The draft POM has been prepared, but it needs further elaboration, particularly related to clarifying procedures at the oblast level. The final POM will therefore need additional review and approval of the World Bank. *The final POM is to be adopted by the MOH and the Oblasts prior to project coming into effect.*

3.12 **The flow of funds to Oblasts would be executed through a subvention mechanism**. The subvention would be channeled to the Oblast level only (with the exception of Vinnitsa Oblast where beneficiary is Vinnitsa city too), and the Oblast would make all payments, including where beneficiaries are lower level entities. Therefore the Project funds would be initially deposited into a designated account in US $ opened in UkrEximBank in the name of the State Treasury, then after currency conversion would be transferred to MoH State Treasury account in UAH; from this account funds under Component 1 would be channeled to the respective accounts of participating Oblasts in the State Treasury. The above mechanism would be detailed in the Cabinet of Ministers Resolution on the Use of Funds. *The above document was drafted by Ministry of Health and agreed with Ministry of Finance, and will be adopted prior to the Project coming into effect.*

3.13 **The Project would be implemented following the national procedures for budgeting, and project funds would be included in the special fund of the State Budget**. To enable timely and full processing of Project payments, sufficient funds need to be allocated in the State Budget and MoH would be responsible for the project budgeting procedures, with the help of its PCSU and with inputs from Oblasts. Co-financing payments would also need to be included in the respective Oblast and lower budgets to enable actual funding of co-financing activities. The system of the State Treasury payments was confirmed as functioning reliably, and providing a robust set of checks and balances. However, in recent months, Project Preparation Grant payments have, on occasion, been delayed by the State Treasury, and MoH accounts in the State Treasury were arrested for extended periods of time. This situation would need to be closely monitored during project implementation by MoH, and may require involvement of the World Bank to help in resolving such issues.

3.14 **The Project's system of internal controls would include the existing checks and balances that are already in place in the State Treasury System, as well as additional procedures that would be specified in the Cabinet of Ministers Resolution and Decree on the Use of Funds**. Further controls to ensure use of funds for the agreed purposes, as well as high quality accounting and reporting, would include periodic reconciliations, reviews, authorizations, assignment of

duties, etc. All these FM dimensions are being detailed in the POM.

3.15 **The FM requirements would include the quarterly unaudited financial reports (UIFRs), to be submitted within 45 days of the end of each quarter, starting from the quarter in which the first disbursements occur**. The consolidated Project IFRs would be prepared by the PCSU with inputs from SMUs (each SMU would prepare inputs to the consolidated IFRs for its respective sub-project). In addition to project funds, all SMUs would be required to report on levels of co-financing. As co-financing is channeled separately from loan funds, and can be provided by either Oblasts or by lower levels, co-financing would be reported separately, based on formats agreed with the World Bank. An automated accounting and reporting system is being developed and will be installed at the PCSU and SMUs to facilitate maintenance of relevant project records, and preparation and consolidation of project reports, including consolidation of information on co-financing. *This automated accounting and reporting system would be in place before the Project comes into effect*.

3.16 **The audit of consolidated Project financial statements would be carried out annually by an independent auditor acceptable to the Bank, based on agreed TORs**. The independent auditor will be contracted by MoH, and the auditor will work with the MoH as well as conduct visits to all or selected oblasts to ensure sufficient coverage. The audit reports would be made publicly available based on requirements of the World Bank Information Disclosure Policy.

3.17 **FM implementation support would include full scope FM supervision of the Project at least twice a year at the initial stages of Project implementation**. The frequency may be further revised based on the updated risk assessment. Each FM supervision mission would be aimed at continuing building implementation capacity for the Project, and include a review of arrangements at MoH as well as a site visit to one or several Oblasts.

3.18 **Budgeting and Funds Flow.** The Project proceeds would be reflected in the state budget, as a special fund. They would be channeled through the National Treasury System. Two budget programs would be opened for: (i) activities under Components 2 and 3 with MoH as the budget holder and (ii) inter-budgetary transfers (subventions; see above) under Component 1 for execution of sub-projects by OSAs. An annual Project consolidated budget would be prepared by MoH with the assistance of the PCSU based on information received from the Oblasts, and submitted to MoF for verification and incorporation into the budget law for respective year.

Disbursements

3.19 **Traditional disbursement procedures would be used in the Project for Advances, Reimbursements, Direct Payments and Special Commitments. IBRD funds would be disbursed in US $ to the Project Designated Accounts. These accounts would be opened by the State Treasury Service in UkrEximBank for the Project.** Based on Project needs, MoH would prepare requests to transfer a portion of the funds to State Treasury Service US $ account in UkrEximBank. These accounts in UkrEximBank would be used to arrange for payments in non-UAH currency to foreign suppliers, or these funds would be converted into UAH to be deposited into MoH registration accounts in the State Treasury Service in UAH and used to arrange for payments to national suppliers. A portion of the funds would be transferred in UAH from MoH

account in the State Treasury Service to the accounts of Oblasts in the State Treasury Service, upon the request of Oblasts.

3.20 Payments from the MoH US $ account in UkrEximBank and its UAH registration account in the State Treasury Service would be authorized by MoH. Payments from the Oblasts account in the State Treasury Service would be authorized by the Oblasts only. Reports to document expenditures would be prepared by MoH for all the expenditures paid by all Oblasts and MoH, using the sample Statement of Expenditure (SOE) format attached to the Disbursement Letter. The Designated Account limit as well as the minimum application size would be determined in the Project Disbursement Letter. Direct Payment and Special Commitment Payment mechanisms would follow the standard World Bank procedures.

Procurement

3.21 **The PCSU in MoH would manage procurement of Components 2 and 3 and would be responsible for assisting the implementing agencies in the Oblasts** (Oblast State Administrations supported by SMUs) **to carry out procurement in accordance with agreed procedures**. The PCSU would be composed of qualified procurement staff, with support from consultants familiar with World Bank projects.

3.22 **The responsibility for procurement management under Component 1 would rest with the Oblast State Administrations (OSAs)**. They would create tender committees and would coordinate their activities with their relevant departments. Consultants would be hired for regional SMUs to assist with the preparation of procurement documentation, the procurement process and contract management. The Oblast Health Departments, supported by SMUs, would handle procurement of goods and consulting services.

3.23 **A Procurement Manual would be prepared as a part of the POM.** It would describe implementation arrangements at oblast level, including involvement of OSAs' Civil Construction Departments and technical experts from medical institutions; delegation of approval authority; internal guidelines for recordkeeping of procurement documents; anticorruption guidelines and provisions related to disclosure of conflict of interests; and a code of ethics for the Evaluation Committee members. It would also outline the arrangements for close collaboration between procurement and FM specialists in planning expenditures, the responsibilities of the beneficiary technical experts in elaboration of the technical requirements of the bidding documents, evaluation of bids, and acceptance of goods and works. This would include, in addition to the procurement procedures, reference to the Standard Bidding Documents (SBD) to be used for each procurement method.

3.24 **Applicable Guidelines.** Procurement for the proposed Project would be carried out in accordance with the World Bank Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, published in January 2011 and revised in July 2014; Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, published in January 2011 and revised in July 2014, and Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits, dated October 15, 2006 and revised in January,

2011.

3.25 **The PCSU of the MoH is composed of externally hired, experienced consultants helping the Ministry at the preparation and implementation stages**. Two experienced procurement consultants have been hired for the PCSU, one to help with procurement aspects of implementation of the Project components at central level and one to support SMUs at Oblast level. The Bank specialist and procurement consultants in PCSU and SMUs would provide continuous assistance to Oblasts in conducting procurement, and help MoH with implementation of the components at central level.

3.26 **An assessment of procurement capacity was conducted for participating Oblasts** through field visits to all 8 Oblasts. The assessment considered current and past procurement practices (based on procedures, administrative and operating manuals and standard procurement documents used, as well as the experience of the Ministry and of each selected Oblast), the capacity of relevant staff responsible for procurement; and the relationship between the procurement office and the technical/engineering, administrative, and financial departments. The assessment concluded that Oblasts have different capacities, and some limited experience in conducting public procurement; they do not have any experience with international procurement. However, all of them have staff trained in national procurement rules, formally established evaluation committees, and experience in applying the rules of the Ukraine Public Procurement Law.

3.27 The risks are mainly related to:

- Implementation arrangements which do not allow bundling of procurement conducted by different Oblasts. This is because the supply of medical equipment is linked in most cases to the readiness of facilities, which have to be renovated first;
- A number of Small Works which have to be completed before equipment is supplied and the need to coordinate these different types of procurement (in some Oblasts);
- In some Oblasts, lack of clarity around the internal distribution of responsibilities between different departments of OSAs (Health and Civil Works) and the beneficiaries (Health sector institutions);
- Lack of clarity concerning the revised certification requirements for medical equipment which represent a significant proportion of planned investments under the Project;
- Lack of experience with international rules for procurement;
- Untimely payments to the contractors/suppliers/consultants linked to complicated arrangements for payments through the Treasury system and the risk of frozen accounts because of the trial cases for non-payments under contracts completed in 2012 (in some of the Oblasts);

3.28 The above risks would be mitigated through:

- Establishing clear rules and procedures for sub-project implementation in the POM;
- Providing training and on-going support to the SMUs;
- Hiring a firm to assist Oblasts with elaboration of technical specifications for medical products, conduct market researches and provide assistance during technical evaluation of bids;

- Clarifying procedures for certification;
- Establishing adequate FM arrangements allowing timely payments to the contractors/ suppliers/consultants.
- The procurement plans and implementation arrangements for procurement have been discussed with all Oblasts and with PCSU. The draft procurement plan is finalized and implementation arrangements would be reflected in the Project Operational Manual.

3.29 **Summary Procurement Plan**: a draft Procurement Plan was discussed with each participating Oblast and PCSU during appraisal. The agreed initial Procurement Plan would be disclosed on the World Bank's external website upon completion of negotiations. During Project implementation, the Procurement Plan would be updated, as needed, in agreement with the World Bank project team to reflect the actual Project implementation needs.

3.30 **It is planned to hire WHO on a single source basis** for providing consulting services on assessment of public health systems, development of the Strategy and National Action Plan for public health; formation and support research plan; development of integrated care models and their evaluation involving primary care. The estimated cost for this assignment is $1.5 mln. This single source selection is justified by the fact that WHO is the leading technical agency on public health issues and uniquely positioned to carry out this task effectively.

3.31 **The Licenses for DRG system will be procured as Direct Contracting from the Australian** Independent Hospital Pricing Authority, which is part of the Australian Government. The estimated cost is $350,000. The direct contracting is justified by the choice of the Ministry of Health to adopt the Australian DRG "grouper" for Ukraine, which requires acquiring and using this License.

Prior Review Threshold:

	Procurement Method	Procurement Method Threshold	Prior Review Threshold	Comment
1.	ICB	US $1 mln for goods $ 5 mln for Works	All	
2.	NCB	<US $1 mln for goods <US $ 5 mln for Works	First by PCSU and each SMU First by PCSU and each SMU	
3.	Shopping	<US $100K for goods <US $200K for works	First by PCSU and each SMU First by PCSU and each SMU	
	Direct Contracting	n/a	n/a	All contracts would be subject to prior review

3.32 **Short list comprising entirely of national consultants**: A short list of consultants for services, estimated to cost less than $300,000 equivalent per contract, may be entirely comprised of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

3.33 The CQ application threshold is <US $300,000 equivalent per contract.

3.34 All technical specifications and TORs would be subject to the World Bank prior review. Detailed procurement documentation would be maintained by each SMU and the PCSU in the Project files. The detailed Procurement Plan, once agreed with MoH and OSAs, should be published in the Bank website in accordance with the Guidelines.

3.35 Prior Review Threshold: Selection decisions subject to Prior Review by Bank as stated in Appendix 1 to the Guidelines Selection and Employment of Consultants:

	Selection Method	Prior Review Threshold	Comment
1.	Competitive Methods (Firms)	>US $ 100,000	and first selection by any method irrespective of the size of the contract
2.	Individual Consultants	> US $ 50,000	and all individual consultants selected for the project management at central and local levels
3.	Single Source (firms and Individuals)	n/a	All contracts would be subject to prior review

Summary of Procurement Plan

Component 1

Ref. No.	Description of Assignment	Estimated Cost US $ mln.	Procurement Method	Review by World Bank(Prior / Post)	Comments
Zakarpatya US $ 6,53 mln					
1	Medical equipment and Equipment for cardiology hospital (Hryst)	4.17	ICB	yes	Goods
2	Furniture for cardiology hospital (Hryst) and Oblast Clinical Cardiology	0.05	Sh	Yes	Goods
3	Software for Register of patients	0.23	NCB	yes	
4	Computer equipment, Integrated Information Security System	0.30	NCB	no	Goods
5	Special-purpose medical vehicles	1.60	ICB	yes	Goods
6	Training	0.04		yes	
7	SMU and operating costs	0.13		yes	
Zaporizhya US $ 4 mln					
1	Medical equipment for primary care facilities	1.97	ICB	yes	
2.	Furniture for primary care facilities	0.78	NCB	yes	
3	IT equipment	0.33	NCB	no	
4.	Multimedia equipment	0.08	Sh	yes	
5	Software	0.09	Sh	no	
6	IT security system	0.15	NCB	no	
7	Training	0.48		yes	

8	SMU and operating costs	0.12		yes	
Volyn US $30 mln					
1	Renovation of Facilities	9.75	NCB	yes	Works (in 4 stages)
2	Medical equipment and drugs	18.7	ICB	yes	Multiple packages. Supply connected to readiness of the facilities
3	PR campaign and training	0.99		yes	Multiple packages
4	SMU and operating costs	0.56		yes	
Rivne $25 mln					
1	Renovation of Facilities	12.71	NCB	yes	Multiple packages for small works (in 4 stages)
2	Medical and computer equipment, software	9.57	ICB	yes	Multiple packages. Supply connected to readiness of the facilities
3	Supply of 18 wheel drive ambulances of B class	1.39	ICB	yes	
4	PR campaign and training	0.74		yes	Multiple packages
5	SMU and operating costs	0.58		yes	Multiple packages
Lviv US $10.15 mln					
1	Medical equipment	9.76	ICB	yes	
2	PR campaign and training	0.2		yes	Multiple packages
3	SMU and operating costs	0.19		yes	Multiple packages
Dnepropetrovsk US $40 mln					
1	Renovation of Facilities	22.38	ICB/NCB	yes	Multiple packages for small works (in 4 stages)
2	Medical and computer equipment	16.78	ICB	yes	Multiple packages Supply connected to readiness of the facilities
3	PR campaign and Training	0.29		yes	Multiple packages
4	SMU and operating costs	0.55		yes	Multiple packages

Poltava US $ 41 mln					
1	Medical equipment	33.5	ICB	yes	Multiple packages
2	Ambulances and Cars	2.3	ICB	yes	
3	IT equipment	3	ICB	yes	
4	PR campaign and training	1.3		Yes	Multiple packages
5	SMU and operating costs	0.9		yes	
Vinnitsa US $ 32.85 mln					
1	Engineering and consulting supervision	0.5	QCBS	yes	
2	Construction of Hospital	15.35	ICB	yes	Large works
3	Medical equipment for Hospital	11.86	ICB	yes	Multiple packages Supply connected to readiness of the facilities
4	Medical equipment for primary care centers	3.17	ICB	yes	Multiple packages
5	Computers and software, Integrated Information Security System	0.74	NCB	yes	Multiple packages
6	Training and information campaign	0,37		yes	Multiple packages
7	SMU and operating costs	0.86		yes	Multiple packages

Component 2

Consulting services						
Central e-Health subcomponent	Development of standards and legal acts of eHealth	816,765	CS	QCBS	1	yes
	Development and approval of a national standard - functional requirements for hospital information systems of health care	120,000	CS	CQ	1	no
	Development of Technical specifications for reference registers central level	291,809	CS	CQ	1	yes
	Consultant for implementation of eHealth component	72,000	CS	IC	1	yes

	Consultant for development of the legal framework of the implementation of eHealth component	72,000	CS	IC	1	no
DRG	Shaping of legal fundamentals for implementation of the diagnosis related groups (DRG) system and a new financing mechanism based on it in Ukraine	90,228	CS	CQ	1	yes
	International Consultant coordination of system DRG	180,000	CS	IC	1	yes
	Consultant coordinate implementation of a new financial mechanism	180,000	CS	IC	1	yes
Public Health	Strengthening capacity in public health. Preparation and training primary care services on primary prevention and influence the determinants of health	400,000	CS	QCBS	1	yes
	WHO - Assessment of public health systems, the development of the Strategy and National Action Plan, the formation of a national system, the formation of regional and sub-regional plans. Formation and support research plan. Development of integrated care models and their evaluation involving primary care.	1,500,000	CS	SSS	1	yes
	Consultant for Public Health	180,000	CS	IC	1	yes
Information and communication support	Testing the basic variant of the Reform Information and Communication Support Strategy	30,000	CS	CQ	1	yes
	Monitoring and evaluation of the IC campaign	50,000	CS	CQ	1	no
	Implementation of information and communication support of the campaigns within Improving Health Services for the Population Project (including Public Health component)	1,680,000	CS	QCBS	1	yes
	Consultant for communications support reforms	180,000	CS	IC	1	yes
Organizational	Consulting on services for cardiovascular issues	150,000	CS	CQ	1	yes
	Consulting services in oncology	100,000	CS	CQ	1	yes

	Support Agency project	2,100,000	CS	QCBS	1	yes
	Development of continuous professional development managers in health care	290,000	CS	CQ	1	yes
	Implementation of continuous professional development managers in health care	510,000	CS	QCBS		yes
	Consultant on organizational capacity building	180,000	CS	IC	1	yes
	Specialist organizational capacity building	80,000	CS	IC	1	yes
Monitoring and evaluation	Expert research to supplement official medical statistics Oncology, collecting data for the indicators matrix results and verify the data (initial investigation)	140,000	CS	CQ	1	yes
	Expert research to supplement official medical statistics Oncology, collecting data for the indicators matrix results and verify the data (medium-term investigation)	150,000	CS	CQ	1	no
	Expert research to supplement official medical statistics Oncology, collecting data for the indicators matrix results and verify the data (final investigation)	190,000	CS	CQ	1	no
	Organizational evaluation of medical information and develop strategies aimed at streamlining and strengthening of the system (within three years of the project)	180,000	CS	CQ	1	no
	Research - Survey (A. STEP study methodology developed by WHO for evaluating the quality cardiovascular diseases diagnosis and management of patients) (initial investigation)	200,000	CS	CQ	1	yes
	Research - Survey (A. STEP study methodology developed by WHO for evaluating the quality cardiovascular diseases diagnosis and management of patients) (final investigation)	200,000	CS	CQ	1	no

	Sub-total:	**10,312,802**				
Goods						
DRG	Procurement of a license for the DRG system	360,389	G	DC	1	yes
	Furniture procurement (furniture for e-Health Center and PCSU)	39,694	G	SH	1	yes
	Computers and office equipment procurement (for e-Health Center, 100 pilot health care means computers and equipment for hotline call center operations support)	464,306	G	ICB	1	yes
	Sub-total:	**864,389**				
Non-consulting services						
eHealth	Development and implementation of a central registry reference eHealth	1,451,766	TS	ICB	1	yes
DRG	Phase one of introduction of new DRG system which includes training, software development for the Ministry of Health, and the pilot implementation of the new payment system in 100 HCF	1,864,158	TS	ICB	1	yes
	Full implementation of the new DRG-based financing mechanism in Ukraine (second phase) for secondary and tertiary (inpatient) care facilities	6,762,060	TS	ICB	1	yes
Monitoring and evaluation	The two-day seminars on all actors sub-regional and sub-component of the central level (about 160 participants) - at the beginning of the project and 2 per year for 5 years Project	223,012	TS	SH	5	yes/no
	Sub-total:	**10,300,996**				
Works						
eHealth	Reconstruction of premises for the Center for data processing eHealth	85,295	W	SH	1	no
	Sub-total:	**85,295**				
Training						

Organizational Capacity Building	Study tours (for effective implementation (main themes: project management, procurement management, financial) and study tours to Europe and Central Asia	380,000	TR		multi	yes
e-Health	Training for harmonization of international standards of information technology healthcare and for ensuring departmental certification	43,530	TR		multi	yes
	Sub-total:	**423,530**				
	TOTAL SUB-PROJECT 2	**21,987,012**				

Component 3

1.1	Consultants to the Project advisory support unit	1,806,000	CS	IC	multi	yes/no
1.2	Project Coordinator (PCSU)	240,000	CS	IC	1	yes
1.3	Consultant for coordination of sub-regions implementation	210,000	CS	IC	1	yes
1.4	Consultant for Planning and Finance Reporting Project	192,000	CS	IC	1	no
1.5	Consultant for Planning and Finance Reporting Project for sub-projects	150,000	CS	IC	1	no
1.6	Consultant on accounting and treasury coordination	132,000	CS	IC	1	no
1.7	Procurement Consultant	192,000	CS	IC	1	no
1.8	Procurement Consultant for sub-projects coordination	150,000	CS	IC	1	no
1.9	Civil engineer	150,000	CS	IC	1	no
1.10	MIS Consultant	120,000	CS	IC	1	no
1.11	Monitoring and evaluation Consultant	150,000	CS	IC	1	no
1.12	Office Manager - Translator	120,000	CS	IC	1	no
2	Translation services	265,000	CS	IC	3	yes/no
3	Project audit	400,000	CS	LCS	multi	yes/no
4	Office premises rental (400 m2/USD250/month) (number=months)	180,000	OC		1	yes
5	Stationery procurement (paper, folders, cartridge, pencils, files and etc.)	25,000	OC		1	no
	TOTAL SUB-PROJECT 3	**2,676,000**				

TOTAL THREE COMPONENTS	**214,193, 012**

3.36 **Post-review percentages and frequency:** In addition to the prior review to be carried out by the World Bank, the Project team recommends post-review of at least 20 percent of the total number of contracts signed which were not subject to prior review. Procurement documents would be kept readily available for the World Bank's ex-post review during supervision missions or at any other points in time. It is expected that post reviews would be conducted every 6 months. A post review report would be prepared and filed in the procurement post review system.

3.37 **Post-review percentages and frequency:** In addition to the prior review to be carried out by the World Bank, the Project team recommends post-review of at least 20 percent of the total number of contracts signed which were not subject to prior review. Procurement documents would be kept readily available for the World Bank's ex-post review during supervision missions or at any other points in time. It is expected that post reviews would be conducted every 6 months. A post review report would be prepared and filed in the procurement post review system.

Environmental and Social (including safeguards)

3.38 **Potential negative impacts of the proposed Project are predictable, small-scale and manageable.** Overall the project is assigned a Category "B" rating, but it is expected that most of the sub-projects under Component 1 will produce limited impacts associated with the rehabilitation and reconstruction of existing premises of hospitals, polyclinics, and primary care centers. It is expected that most of these sub-projects would be Environmental Category C (e.g. procurement of medical equipment, small-scale works on renovation, rehabilitation and reconstruction of existing premises). A sub-project involving the construction of a new hospital may require Environmental Category B (Vinnitsa Oblast).

3.39 **ECAPDEV Grant resources have been mobilized to develop the necessary environmental and social safeguards and capacity building activities.** This includes an Environmental Screening for the proposed Project that would consider and analyze the environmental implications of Project investments, including their longer term impact. Furthermore, an Environmental Management Framework (EMF) has been prepared and publicly discussed and disclosed, as per the World Bank requirements. The purpose of this EMF is to identify environmental safeguard issues affecting the selected Project sites, and to direct the formulation of more detailed and specific Environmental Management Plans (EMPs). These would then be developed for each participating sub-project at a later stage, if needed.

3.40 **The EMF and environmental assessment documents, including Environmental Management Plans (EMPs) and Monitoring Plans (MPs) are developed by sub-project implementing agencies,** i.e. the Oblast State Administrations. They would ensure Project compliance with Ukraine's national environmental legislation as well as with the World Bank's environmental safeguard policy (Environmental Assessment OP/BP/GP 4.01).

3.41 Special attention would be given to: (i) the environmental implications of civil works involving the physical rehabilitation, construction, and reconstruction of the selected health facilities in participating Oblasts; and (ii) the environmental impact of operating these facilities, including, but not limited to, bio-safety concerns and waste disposal.

3.42 **Any sub-projects requiring physical and economic displacement would be strictly avoided.** The implementing agencies would be duly informed about the provisions of the OP4.12 and about the consequences of non-compliance.

3.43 **The outputs of the above mentioned Environment Screening as well as environmental documentation prepared at the Project preparation phase would feed into the respective chapter/s of the Project Operational Manual.**

Monitoring & Evaluation

3.44 **Data collection and analysis strategies would rely on the national statistics system as much as possible, and would be complemented with additional data collection instruments to fill the gaps, whenever necessary.** Data would be collected at Oblast and national levels. The project would ideally aim to obtain information not only on 'participating' Oblasts, but also on the group of 'non-participating' Oblasts, which would be used as a counterfactual when evaluating the project effectiveness.[55]

3.45 **The final list of indicators presented in Annex 1 (Results Framework) can be divided into three groups, based on approaches to data collection**:

a. Indicators and data which are being collected by the existing health statistics system, and for which a baseline already exists.
b. Indicators that would require changes in the existing health statistics system, including updating statistical forms. In the case of this second group, MoH is in the process of fine tuning administrative data collection forms, so that a baseline can be made available before Project implementation.
c. Indicators, for which data are not collected by the existing statistics system, and therefore additional data collection mechanisms are suggested. For example, although high blood pressure (HBP) is seen as one of the prime causes of CVD mortality and MoH has started addressing the issue, effectiveness of screening and treatment remains a 'black box' - no data is collected right now; hence an indicator, 'share of patients, achieving target level of blood pressure (140/90 mm/Hg) out of all patients diagnosed with hypertension' would be assessed through audit of a sample of clinical records. A plan for data collection for this PDO indicator is presented in Annex 7.

3.46 **A consultant or regular staff from each Oblast/subcomponent would provide information on the PDO indicators from the Results Framework relevant for the Oblast's sub-project as stated in Annex1 at least once a year, and at least once every six months for**

[55] DID (difference in difference) approach could be applied comparing changes in outcomes in participating oblasts with non-participating Oblasts. This would help to control for time variant unobservable characteristics.

the intermediate results indicators. Data would flow to a MoH official responsible for project statistics and the PCSU Monitoring and Evaluation consultant, who would coordinate timely collection and ensure accuracy of information. A detailed description of institutional arrangement would be provided in Operational Manual, together with a description of data collection pathways and the methodology.

3.47 **Mitigation measures would be taken as necessary.** To mitigate the problems noted above, indicators gathered through the existing health management information system would be audited on a sample basis, and whenever possible cross-checked with data collected by other sources.[56] Annex 7 presents a list of studies already agreed to validate and complement the information received from the existing HMIS. In the Monitoring and Evaluation and Public health subcomponents, the Project would also put in place the conditions for improving in the CVD and cancer-related information systems.

3.48 **Monitoring of ultimate impact indicators**: In addition to the Results Framework presented in Annex 1, which outlines outcome and intermediate outcomes/outputs that could be directly attributable to the Project and achieved through Project activities, the Project aims to monitor *high-level* health and health system impact indicators, to which the Project is seeking to contribute.

3.49 **Generally such impact indicators (for example, mortality and disability) cannot be attributed to the Project alone,** as they result from collective action of society, the country government and diverse development partners, individuals, households and other factors (e.g. such as road safety, level of pollution, inequality)[57,58]. Moreover, some high-level health outcomes may be better visible over the longer term. Thus, the Project cannot be held accountable or set specific quantitative targets relative to these impact indicators. Nevertheless, several Oblasts decided to keep track of some of these critical impact indicators (see Annex 6), and they will be tracked as well at the national level over the duration of the Project, to assess the ultimate impact of the reforms and the specific activities spearheaded by the Project. The Project would also aim to improve data collection practices for these final impact indicators, in order to reflect best international practices (e.g. implement tracking of 5-year cancer survival rate, 30-days intra-hospital fatality).

[56] For example, data on CVDs prevalence and incidence is collected also by the Cardio Institute of Strazesko.
[57] In fact, in OECD countries for example, indicators related to healthcare "explain" between 44% and 57% of the variance in life expectancy as a measure of health, the rest being attributable to nonmedical determinants (Arah OA et al, (2006), Conceptual framework for the OECD health care quality indicators project. International Journal of Quality Health Care, 18(Suppl.1): 5-13).
[58] In Western Europe around half of life expectancy increases in recent decades stemmed from improved health care, and there remains significant mortality from causes amenable to health care, suggesting potential tangible benefits (Figueras J, McKee M, Lessof L, Duran A and Menabde N (2008) Health systems, health and wealth: assessing the case for investing in health systems, Background document for the Tallinn Conference, WHO EURO).

Figure 3.2: Project Results' Chain

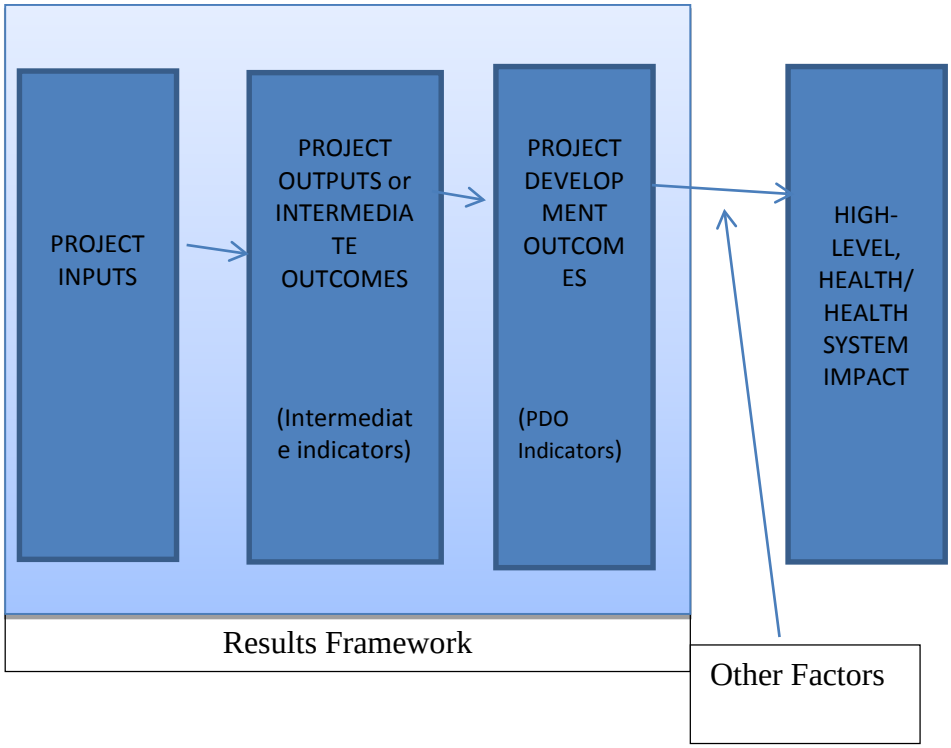


Table 3.1: Health impact/health system indicators

Indicator Name	Oblast	Unit of Measure	Baseline[59]	YR 5 2019[60]	Frequency	Data Source	Responsibility for data collection
1.1. Mortality from non-communicable[61](NCD) diseases (overall (o) and disaggregated by: gender(m, f), age, rural/urban(r, u))	All pilot oblasts [62]	rate per 100 thousand population	2012: (o)1212 (m) 1199 (f) 1224 (u) 1071 (r) 1431	Baseline minus 8%	Annual	Form C-8, State Statistics Department	MoH
1.2. Mortality from cardio-vascular diseases (CVD) (overall (o) and disaggregated by: groups of CVDs, gender (m, f), age, rural/urban (r, u))	All pilot oblasts (except Lviv)	rate per 100 thousand population	2012: (o) 987 (m) 904 (f) 1059 (u) 967 (r) 1201	Baseline minus 7%	Annual	Form C-8, State Statistics Department	MoH
1.3 Intra-hospital fatality rate[63] from CVDs (overall (a) and for myocardial infarction (b) and stroke(c)	All pilot oblasts (except Lviv)	%	(a) 3.48 (b) 12.94 (c) 18.77	(a) 4.45 (b) 13.50 (c) 20.54	Annual	Form 20, MoH, table 3220	MoH
1.4. Five-year cancer survival rate -Cervical cancer (a) -Breast cancer (b)	Pilot oblast – Lviv	%	Not yet measured [64] *Alternative indicator:* 1-year cancer lethality rate, 2012 (a)13.6 ; (b) 9.2	 (a) 12.7 (b) 8.1	Annual	National Cancer Registry	MoH
1.5 Share of the poorest 40% HH spending more than 25% of their totalnon food expenditure on health	National (n)	%	2011: 10.2%	7%	Annual	Households' living conditions survey, State Statistics Department	MoH

[59] Baseline is indicated for 2013 (the most recent data available), unless otherwise stated.

[60] Stated targets reflect merely a desirable outcome level, any causal relationship and attribution to the project should be interpreted with caution

[61] Non-communicable disease include the following categories(according to ICD-10 classification): cancer (C00-D48) , diabetes (E00-E90), cardiovascular diseases (I00-I99), digestive diseases(K00-K93) , skin diseases(L00-L99), musculoskeletal (M00-M99)and congenital anomalies (Q00-Q99), based on World Development Indicators definition.

[62] Averages of relevant oblasts are included in this table. For detailed disaggregation by oblasts, age and additional disaggregation criteria see the attached Excel file. Non-pilot oblasts would serve as a control group.

[63] Intra-hospital case fatality rate is calculated as a share of those who died in hospitals from CVD out of those who were admitted to hospitals with CVD. This indicator should be replaced with the 30-days hospital mortality/case fatality rate, which is currently not yet measured in Ukraine.

[64] Generally 5 year survival rate is considered as a first choice when an integrated indicator of cancer diagnosis and treatment is to be chosen. However in the case of Ukraine it is not calculated regularly and for all oblasts, because of low patients tracking rates. Therefore '1 year cancer lethality rate' is used as an alternative indicator for which the baseline can be established (2012, cervical – 13.6; breast -9.2). In parallel the Project would aim to improve cancer data collection system, specifically ensure that "5-year mortality rate "is assessed at national and oblast level.

Annex 4: Operational Risk Assessment Framework (ORAF)

Ukraine: Serving People, Improving Health Project (P144893)

Risks

1. Project Stakeholder Risks						
1.1 Stakeholder Risk	Rating	Moderate				
Risk Description: 1.1.1 The new Government, established in November 2014, is committed to changing the health care system. However, there is no clear vision yet on how the system should be reformed. 1.1.2 Health Reforms are a strategic priority of the Government of Ukraine. However, there is always a risk that Government priorities may change, and specifically that GoU would avoid difficult choices, such as hospital reforms. The rapidly changing situation which started in late February 2014 has still not stabilized. All these changes add a strong element of uncertainty to the process of reform. 1.1.3 Oblasts who were not selected for subprojects may feel forsaken and put pressure on the MoH, opposing policy initiatives supported by the Project. 1.1.4 The selected Oblasts may prove reluctant, or unable to implement the reforms they proposed, because of changes in leadership, or other reasons. Engaging all local authorities in the reform process is also a challenge. The decentralization reforms planned and the substantially reduced role of the center under those reforms may make it much more difficult to involve (in coordinated networks) those	**Risk Management:** 1.1.1 and 1.1.2.: To date the Government's approach to health sector reforms has been incremental and cautious, and this would probably not change in the short term under the new leadership. However, a new "Concept of Health Reforms" that MoH developed in May-June 2014 and was further elaborated by an Expert Group during the Fall of 2014 is in line with the strategic reform directions (health financing, e-Health, public health, etc.) planned under the Project and described in this PAD. The MoH and other stakeholders understand the necessity of modernizing the delivery system, and improving efficiency and quality of services. Risks of complete policy reversals or complete paralysis in the reform process at this stage are moderate. The World Bank is continuously supporting the policy dialogue to help MoH clarify its vision for reforms based on best international evidence.				
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
	Risk Management: 1.1.3. The Bank and the MoH have led the selection process transparently and openly by defining clear selection criteria and engaging a group of independent local and international experts to evaluate the subproject proposals. Moreover, the Project envisages a second round of subproject selection which would give other Oblasts a chance to benefit down the road.					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
	Risk Management: 1.1.4: The design of the selection process (based on independent evaluation of the applications) has ensured that the selected participating Oblasts have greater capacity and demonstrated interest in working with the World Bank. The MoH is now taking a more proactive role in further harnessing Oblasts' proposed activities and reforms. The Project would not go "below" the Oblast level, and only Oblasts would be chosen as implementing agencies (with the exception of Vinnitsa). The Oblasts would take responsibility for engaging lower level authorities.					

municipalities and other local governments that would not benefit directly from the main Project investments.	Resp: Both	Status: In Progress	Stage: Implement-ation	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
1.1.5 Patients and the population at large may not support the proposed reforms. Specifically, patients' resistance to health sector optimization is rather high. The regular reaction by citizens to closure of health care facilities is to protest. This implies a reputational risk for the World Bank as the institution supporting the "closure of hospitals".	**Risk Management:** 1.1.5: The team plans to work with civil society organizations to facilitate effective beneficiary participation in monitoring the impact of the Project. The Project would include a communication campaign aimed at raising the population's awareness of the ongoing reforms. Messages would be kept simple, so that everyone may understand them. For example, it would be emphasized that reforms aim at shifting resources from empty beds towards essential medicines. This campaign would also emphasize the improvement of service quality that would result from consolidation of specialized services, and changes in service quality would be documented during project implementation by regular surveys. Since the majority of prejudices toward the systematic changes needed in health care are caused by lack of knowledge and a poor past implementation record, the Project's communication activities and good implementation would help address the concerns.					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
3. Implementing Agency (IA) Risks (including Fiduciary Risks)						
3.1 Capacity	Rating	Substantial				
Risk Description: 3.1.1. The implementing agencies for the proposed project would be participating Oblasts and MoH. Some Oblasts may have insufficient implementation capacity, which, together with their lack of experience in working with the World Bank, may slow implementation. Another risk is lack of experience of the World Bank's procurement and FM systems.	**Risk Management:** 3.1.1.1.: All sub-projects in Component 1 were defined at Oblast level, rather than imposed from above. The feasibility of the proposed sub-projects was one of the key criteria for Oblast selection. 3.1.1.2: In preparing their proposal for the Project, selected Oblasts demonstrated commitment and good capacity. 3.1.1.3: Oblast level training in FM and procurement was and will be undertaken based on the FM/procurement assessments. One training event on fiduciary arrangements already took place in April 2014, and another one in November 2014. Several other training events on the World Bank's fiduciary system would be carried out during Project implementation.					
3.1.2. The MoH capacity is a concern. The Ministry has been depleted of some of its best people over twenty years or more. Because of the low levels of compensation, high work pressures and other factors, most capable health professionals prefer to work in	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
	Risk Management: 3.1.2.1: The MoH and the World Bank have already taken several steps to increase capacity, such as establishing a working group on Health Reform in the MoH and an Expert Group to contribute to the reform process. Using a Project preparation					

the private sector, or in other institutions. Moreover, frequent changes in leadership have been accompanied by changes in all managerial positions, thus further threatening continuity and institutional memory.	grant, the Ministry has created a Project Consultancy Support Unit, staffed with consultants paid at market rates that are coordinating all Project preparation activities. 3.1.2.2.: The World Bank preparation team has used a Project Preparation Grant to carry out intensive capacity building activities. This includes on fiduciary aspects. Under Component 3 of the Project capacity building activities on both technical as well as managerial and fiduciary matters would continue through the life of the Project 3.1.1.3.: Finally, a central PCSU and Oblast level SMUs are created and would be continuously strengthened during Project implementation. A Project Operational Manual would be prepared and it would document all implementation arrangements in detail.					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
3.2 Governance	Rating	Substantial				
Risk Description: 3.2.1 The current political instability and possible changes in MoH management may further affect the Government's commitment to introduce changes to health care delivery. 3.2.2 Stewardship, governance and management capacity are critical issues. The experience with pilots and with recent legislation initiatives has been mixed.	**Risk Management:** 3.2.1: The World Bank Team works closely with middle-level authorities who are usually not affected by management changes and constitute the institutional memory of the MoH and Oblasts. 3.2.2: The Capacity building, public health, e-Health and Project monitoring activities planned under Components 2 and 3 of the Project are meant to improve governance. In addition, through the selection process, the capacity of the Oblasts participating in the Project has been strengthened.					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
	Risk Management: 3.3.2: The Project does not envisage any procurement of pharmaceuticals. Nonetheless, the World Bank is actively engaged with National authorities in reforming procurement rules for pharmaceuticals to stimulate competition, transparency, eliminate possible conflicts of interest and increase value for money paid for medicines.					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
4. Project Risks						
4.1 Design	Rating	Substantial				
Risk Description:	**Risk Management:**					

<table>
<tr><td rowspan="3">4.1.1 Sustainability: Given the long tradition of input-based planning in Ukraine, the belief among health professionals and administrators that system modernization simply requires additional funding for the sector, including the purchase of sophisticated equipment, is widespread. This in turn could lead to imbalanced project designs (in essence, disproportionately large capital expenses without proper attention to ensuring improvements in service delivery, increased efficiency, and reduction in waste and duplications).

4.1.2 The Project includes three priority areas (fighting NCDs; improving the quality of primary and secondary care services; and rightsizing hospitals), to be implemented across multiple Oblasts. Several subcomponents would also be implemented at a central level. There are design risks associated with the complexity and the Project multiple components.</td><td colspan="6">4.1.1: Based on the international experience that input-based approaches tend to fail, including in health, the proposed Project has been designed with a “results-oriented approach.” As such, participating Oblasts were first requested to clearly define the results they intended to pursue through the Project, together with indicators and targets to measure progress, and a clear road-map of activities and investments to achieve them. Results would continuously be measured, and this would allow learning in technical terms what works and what does not in the Ukrainian context. Throughout the Project preparation process specific conditions were defined for participation in the Project. Among other conditions, Oblasts had to justify cost-effectiveness of their proposed purchases of equipment, cars, computers, etc.</td></tr>
<tr><td>Resp: Both</td><td>Status: In Progress</td><td>Stage: Both</td><td>Recurrent: ☑</td><td>Due Date:</td><td>Frequency: CONTINUOUS</td></tr>
<tr><td colspan="6">Risk Management:

4.1.2.1: Performance indicators were clearly defined both for MoH-led and Oblast-led activities. A robust monitoring strategy is in place to monitor results.

4.1.2.2: A team of professional consultants (see Annex 3, Institutional Arrangements, and Annex 2, description of Capacity Building subcomponent) would work on supporting Project implementation on full-time basis both at central and regional levels.

4.1.2.2: The Bank has an active partnership with WHO to jointly provide technical assistance for improved project implementation and results.</td></tr>
<tr><td>Resp: Both</td><td>Status: In Progress</td><td>Stage: Both</td><td>Recurrent: ☑</td><td>Due Date:</td><td>Frequency: CONTINUOUS</td></tr>
<tr><td>4.2 Social and Environmental</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td rowspan="2">Risk Description:

4.2 Identified subprojects violate the World Bank’s safeguards policies.</td><td colspan="6">Risk Management:

4.2.1: No land acquisition is expected. All sites would be located on government-owned land. There are no illegal occupiers or squatters on expected project sites. The feasibility study for the cardiac center in Vinnitsa would include social and environmental impact assessments consistent with the Bank’s safeguards requirements.

4.2.2: A safeguards specialist (working under the PCSU) would provide assistance to Project implementers in line with EA requirements and the Environmental Management Plan, as well as monitoring possible environmental and social risks.

4.2.3: The Project would mainly support renovation of already existing premises.</td></tr>
<tr><td>Resp: Both</td><td>Status: In Progress</td><td>Stage: Both</td><td>Recurrent: ☑</td><td>Due Date:</td><td>Frequency: CONTINUOUS</td></tr>
<tr><td>4.3 Program and Donor</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td>Risk Description:</td><td colspan="6">Risk Management:</td></tr>
</table>

4.3 Uncoordinated donor positions in the sector could negatively affect proposed project preparation and implementation.	4.3 The World Bank and the donors (WHO, Global Fund, USAID, other Bilaterals) are in agreement on priority reforms in the sector. Coordination of activities of all donors in the area of health sector reforms is given priority attention and is working well.					
	Resp: Bank	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
4.4 Delivery Monitoring and Sustainability	Rating	Moderate				
Risk Description: 4.4.1 The data collection procedures in health care are considered to be time-consuming for staff. The process is largely not computerized (see Annex 2). The need to track Project performance indicators may be perceived as additional workload for staff. 4.4.2 Given the inertia around health care in Ukraine, combined with low implementation capacity, the sustainability of the Project achievements are at risk.	**Risk Management:** 4.4.1.1: Participating Oblasts have and would continue to receive necessary training and support on monitoring and evaluation from the World Bank team and PCSU Consultants. Monitoring results would continue to be a key pillar in the World Bank implementation support strategy. Survey tools have been designed to monitor service improvements, and complement the information from the HMIS. 4.4.1.2: The e-Health central subcomponent would set the preconditions to improve accessibility to reliable, timely data at all levels.					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: ☑	Due Date:	Frequency: CONTINUOUS
	Risk Management: 4.4.2: The events which occurred in the winter of 2014 showed how deep Ukrainians longing for a more transparent, citizen-responsive, form of government is. Among other issues, the country's population expressed the urgency of reforming a health system that still fails to serve their needs and honor their aspirations in such sensitive areas as health, disease and disability. The new government will not be able to continue with the "inertia" of the past. In addition, civil society organizations and think tanks would be involved during Project implementation to ensure effective monitoring of the results.					
	Resp: Both	Status: Not Yet Due	Stage: Implemen-tation	Recurrent:	Due Date: 30-Dec-2019	Frequency:
Overall Implementation Risk: Substantial						
Risk Description: Based on the country, sector, implementing agencies, and Project design risks (see above) the overall implementation risk is substantial.						

Annex 5: Implementation Support Plan

UKRAINE

Serving People, Improving Health Project

Strategy and Approach for Implementation Support

5.1 **The Implementation Support Plan would respond to the complexity of Project.** The MoH and selected Oblasts would be responsible for the implementation of Project activities and the achievement of planned results. The World Bank would provide technical and fiduciary advice on Project implementation. It would help MoH and Oblasts overcome obstacles to the achievement of results, and would monitor the Project's progress.

5.2 **Technical support before project starts.** In order to finalize the Project design the World Bank provided an ECAPDEV Grant to the MoH (US $ 470,000). The grant enhanced implementation capacity of MoH and regional Health Care Departments of selected Oblasts. Technical support was also provided by World Bank staff and hired consultants through a number of missions to Ukraine in the second half of 2013 and in 2014.

5.3 **Implementation support.** Once the Project starts, the implementation support role would mainly be delegated to the Project Consultancy Support Unit (PCSU). This would be responsible for fiduciary and technical implementation support to all project implementing entities. The Project implementation at the Oblast level would be supported by Subproject Management Units, created within every participating Oblast's Health Department. This would be responsible for Component 1 implementation. Establishing the PCSU and SMUs would help address the issues of both low implementation capacity and sustainability. Technical assistance, when needed, would be managed by the Oblasts, but may be complemented by the technical audit consultant (TAC) selected at the center, and financed under the Capacity Building central subcomponent.

5.4 An explicit, detailed description of responsibilities and coordination between the regional and national levels is summarized in Annex 3, and would be described in detail in the Project Operational Manual.

5.5 **Monitoring and Evaluation support.** The Project was designed using a results-oriented approach. Performance and progress would be measured according to the Results framework (Annex 1). The PCSU and SMUs would be responsible for the Project's monitoring and evaluation functions, working closely with health authorities from MoH and the Oblast Healthcare Departments.

5.6 **Procurement support.** The Project implementation involves procurement and construction activities. The procurement procedures would be subject to control by both the Government and the World Bank. The World Bank procurement team would provide assistance and guidance to the PCSU and Oblasts in procuring goods, consultants and infrastructure, ensuring timely preparation of the procurement plan and bidding documents. Participating Oblasts would have the opportunity to hire specialists responsible for procurement and/or construction in their SMUs. Training on

fiduciary aspects would be organized for Project PCSU and SMUs consultants in charge of procurement, with support from the World Bank Project Implementation Support team.

5.7 **The Environmental and Social Safeguards.** Specialists would provide assistance in compliance with the World Bank Environmental requirements. They would monitor potential environmental impacts related to the repair of health care facilities.

5.8 **Formal biannual Performance Review**: Every June and January, following the report from the Technical Audit Consultant and the PCSU Coordinator, the MoH and the World Bank would organize a formal review of past performance and would discuss plans for the upcoming semester with all selected Oblasts.

5.9 **Reallocation of Project proceeds among participating Oblasts:** As a result of the biannual review, the MoH and the World Bank may agree to reallocate Project funds from low performing Oblasts to better performing ones. Through this mechanism, if one or more Oblasts fail to implement agreed activities in a timely manner, some or all of the funds would be transferred to better performing Oblasts.

Implementation Support Plan

5.10 **The tentative schedule and costs of implementation support during different phases of the Project would be as follows:**

Time	*Focus*	*Skills Needed*	*Resource Estimate (US $)*
0-12 months	Procurement	Procurement specialist	15,000
	Monitoring and evaluation	M&E specialist	15,000
	Technical support	Environmental and Social Safeguards Specialists, Task manager, Financial Management Specialist, Technical specialists	70,000
	Capacity building	Technical specialists	30,000
12-36 months	Procurement	Procurement specialist	15,000
	Monitoring and evaluation	M&E specialist	15,000
	Technical support	Environmental and Social Safeguards Specialists, Task manager, Financial Management Specialist, Technical specialists	50,000
	Capacity building	Technical specialists	40,000
36-60 months	Procurement	Procurement specialist	15,000
	Monitoring and evaluation	M&E specialist	15,000
	Technical support	Environmental and Social Safeguards Specialists, Task manager, Financial Management Specialist, Technical specialists	70,000
	Capacity building	Technical specialists	40,000

Skills Mix Required

Skills Needed	*Number of Staff Weeks*	*Number of Trips*	*Comments*
Task Team Leader	15		TTL is based in Kiev
Financial Management Specialist	5		
M&E specialist	4		
Environmental and Social Safeguards Specialists	2		
Procurement specialist	5		
Technical specialists	7		
Social Development Specialist	2		
Specialist on PR and external communications	3		

Partners

Name	*Institution/Country*	*Role*
WHO	Ukraine	a. Support in Public Health component implementation
USAID	Ukraine	b. Support to DRG implementation and primary care strengthening

Annex 6: Short summary of oblasts' proposals

COUNTRY: UKRAINE

Serving People, Improving Health Project

6.1. Dnepropetrovsk oblast

Project title: Health Care system reform in Dnepropetrovsk oblast
Priority area:
Improving overall primary health care
Fighting cardio-vascular disease at primary care level
Fighting cardio-vascular disease at secondary care level
Project duration: 5 years (Type A)
Budget: $40,000,000

6.1.1. Context

Dnepropetrovsk oblast was one of selected pilot oblast for medical reform started in 2011 by the Presidential Administration and MoH. Within the reform period (2011-2014) the primary and secondary care were administratively and financially divided, with new ambulatories being open and equipped for CVD management. Primary care is now being funded by local (rayon and municipal) budgets, while secondary care is financed via oblast budget. This funding mechanism gives an opportunity for hospitals network optimization, which now is initiated in oblast. Electronic patients' registry and enhancement of clinical pathways were introduced within the pilot reform.

Despite some successes in terms of health outcomes and funding optimization, there still are problems in access of population to health care (in rural areas coverage of primary care is at 89%, while in urban – only 30%[65]), insufficient number of physicians and nurses (as of 2012 there were 450 physicians working in ambulatories, which represented 19% of total need in oblast), low level of modern technology availability.

6.1.2. Project Objectives

1. Ensure equitable geographical access to primary health care
   1.1 Extend the network of family ambulatories in 2 cities with low PHC coverage
   1.2 Provide indispensable equipment (including equipment for CVDs screening)
   1.3 Provide training/retraining of doctors and nurses who would work in family ambulatories
2. Improve quality of care at the primary level for patients with CVDs
   2.1 Increase knowledge of medical staff on prevention, detection and treatment of CVDs
   2.2 Use of effective prevention and treatment approaches for patients with CVDs
3. Introduce incentives for health workers based on performance. Improve quality of care at the secondary level for patients with CVDs
   3.1 Establish 3 hospitals of intensive care, specialized on AMI and stroke

[65] As of 2012

3.2 Provide training on angiography, stenting and bypass during AMI or stroke for doctors
3.3 Expend the use of modern technology in treatment of AMI and stroke

6.1.3. **Key Expected Results**

- Level of hospitalization of patients with CVD decreased from 4,7% to 3,5%
- Incidence of AMI decreased from 13,9 to 10,0 per 10,000 population
- Incidence of stroke decreased from 23,7 to 21,0 per 10,000 population
- In-hospital fatality rate from AMI decreased from 11,1% to 8,6%
- In-hospital fatality rate from stroke decreased from 19,2% to 11,7%

6.2. Vinnitsa oblast

Project title: Development of health care system in Vinnitsa oblast, aimed for improving medical care to patients with CVDs
Priority area:
Fighting cardio-vascular disease at primary care level
Fighting cardio-vascular disease at secondary care level
Project duration: 5 years (Type A)
Budget: $32,850,400

6.2.1. Context

Prevalence of CVD in Vinnitsa oblast is higher than average for Ukraine. During 2012 about 34,000 patients were hospitalized with ischemic heart disease and 1,451 – with acute myocardial infarction. Only 42% of these patients were staying in specialized departments, while others were receiving treatment in departments of general medicine with rather low effectiveness.

There is only one hospital in Vinnitsa oblast providing specialized treatment for patients with acute CVD conditions, which has necessary equipment and trained staff. However, the capacity of this hospital is lower than the current need; for instance, the actual number of stentings for acute myocardial infarction represents only 11% of all cases for which this procedure was required according to the local protocol; only 12-15% of patient with acute CVD-retated condition are brought to this specialized hospital within 3.5 hours from the first ambulance call. Only 26% of all patients with AMI received thrombolysis on a pre-hospital phase out of all patient who needed it.

6.2.2. Project Objectives

1. Reduce mortality caused by acute conditions of cardiovascular disease by improving the quality of medical care provided at the secondary level
   1.1 Improve management of patients flow for patients with acute CVD conditions
   1.2 Enhance quality of treatment provided at secondary level (by improving staff skills and concentrating equipment in Regional Center for Cardio-Vascular Pathology built within the Project)
2. Reduce number of cases of acute myocardial infarction in the working age population by improving prevention at the primary level
   2.1. Improve management of patients flow for patients with CVD

2.2. Assure early detection of CVDs
2.3. Implement educational programs for patients with CVDs

6.2.3. **Key Expected Results**

- Mortality from ACS[66] reduced by 15%
- Intra-hospital fatality rate from CVDs decreased by 12%
- Intra-hospital fatality rate from AMI decreased by 10%
- AMI incidence decreased by 8%

6.3. Lviv oblast

Project title: Cancer prevention and introduction of modern antitumor technologies in Lviv oblast in the process of health care reform
Priority area: Early cancer detection
Project duration: 3 years (Type B)
Budget: $10,150,000

6.3.1. Context

Cancer incidence in Lviv oblast is growing steadily since 1993, as of 2013 it had increased by 40% compared to 1993 levels. Out of all new cases of cancer in Lviv oblast in 2012, 9.2% were breast cancer, 5.6% - cervix cancer. The two main issues for Lviv oblasts and for Ukraine overall are late cancer detection and high mortality.

In 2013 in total 229 cases of cervix cancer were detected at invasive stages and 181 cases at stage 0. The ratio of stage 0 incidence to stages I-IV is 0.79, which is rather low compared to international standards.[67] The screening coverage is about 50% of female population; the process is completely paper-based, which impedes application of the differentiated approach of screening to different age groups.

Breast cancer is the most prevalent type of cancer among women (23% of all new cancer cases) and the first leading cause of cancer-related death (14% of the deaths from cancer) among women. In 2013 in total 758 cases of breast cancer were diagnosed, out of which 165 cases were detected at stage I (21.8%). Current screening coverage in Lviv oblast does not exceed 5% of total female population. As of today the mammography can only be done in Lviv city.

6.3.2. Project Objectives

1. Improve accessibility to early detection of breast and cervix cancer
   1.1. Introduce a system of screening and monitoring of breast and cervix cancer, that include development of guidelines, relevant to guideline implementation training activities

[66] Acute coronary syndrome (ACS) refers to a group of conditions due to decreased blood flow in the coronary arteries such that part of the heart muscle is unable to function properly or dies.[1] The most common symptom is chest pain, often radiating to the left arm or angle of the jaw, pressure-like in character, and associated with nausea and sweating. Acute coronary syndrome usually occurs as a result of one of three problems: ST elevation myocardial infarction (30%), non ST elevation myocardial infarction (25%), or unstable angina (38%).
[67] For instance, in Ireland this ratio was 6.7 for cases detected in 1994-2009 - *Cancer Trends No 12. Cancers of the cervix and uterus. National Cancer Registry Ireland*

and improving the awareness of health care workers and therefore potential health care consumers about cancer prevention and cancer-related risks

1.2. Introduce the e-register of female population and create the integrated computer-based information system on screening and diagnosis of breast and cervix cancer to be used in female consultation departments[68], inter-district screening centers, cytological labs and Lviv oblast oncological center

1.3. Create inter-district screening centers in 4 cities of Lviv oblast with supplies and equipment for both breast and cervix cancer screening

1.4. Improve level on knowledge on early cancer detection among doctors from female consultation departments and inter-district screening centers, enhance skills on mammography, ultrasound and MRT procedures performance

1.5. Improve general knowledge of doctors from primary and secondary level on cancer prevention and diagnosis

2. Enhance quality and effectiveness of cancer treatment
   - *2.1. Introduce modern technology of cancer treatment in Lviv oblast oncological center and inter-district screening centers*
   - *2.2. Improve level of knowledge on use of modern equipment for doctors inter-district screening centers and Lviv oblast oncological center*
   - *2.3. Enhance knowledge and skills on organ-saving surgery for mammologists and onco-gynecologist*
   - *2.4. Introduce risk-assessment software to predict further cancer development and possible risks*
3. Increase level of knowledge on cancer prevention and treatment among population
   - *3.1. Developing and implementation of information campaigns on early cancer detection*
   - *3.2. Organize schools of health for patients with cancer*

6.3.3. **Key Expected Results**

- Ratio of in situ cancers (stage 0) to all invasive cancers (stages I-IV) would increase from 0.79 to 0.88
- Breast cancer detection at stage I would increase from 21.8% to 30%
- Number of screening procedures for cervical cancer would increase from 685,120 in 2013 to 830,000 in 2017; for breast cancer – from 20,893 in 2013 to 150,000 in 2017.

6.4.**Poltava oblast**

Project title: Arterial blood pressure control for patients aged 40 to 60 in Poltava region
Priority area:
Fighting cardio-vascular disease at primary care level
Project duration: 5 years (Type A)
Budget: $41,000,000

6.4.1. **Context**

Similar to other oblasts, CVDs are the most prevalent type of diseases in Poltava oblast with hypertension accounting for 48% of all diagnosed CVDs in 2013. CVDs are the first leading cause of deaths – in 2012 67% of deaths were caused by CVDs.

[68]Female consultation departments are outpatient departments of policlinics or maternity hospitals in charge of treatment, prevention and antenatal care

Although Poltava oblast was not selected as one of the pilot regions for the pilot health reforms (2011-2014), some steps toward reform were done by local government: primary and secondary care level were divided into separate entities, 34 centers of primary care[69] (managing 313 ambulatories and 629 health posts[70]) were created, the process on computerization of health facilities was launched (including introduction of e-register, patients card and e-prescription). Within the process of health system rationalization some of rayon and city district hospitals were reorganized into primary care, long-term care and social facilities; number of beds has been decreased by 4.5%.

6.4.2. **Project Objectives**

1. Enhance detection of hypertension among population from 40 to 60 years old
   - 1.1. *Develop local protocol on hypertension diagnosis and management*
   - 1.2. *Provide training to primary health care workers on new protocol recommendations and requirements*
   - 1.3. *Provide necessary equipment for hypertension screening*
   - 1.4. *Organize blood pressure measurement in the target group Introduce e-register of patients who passed screening*
2. Ensure control of blood pressure for patients with hypertension
   - 2.1. *Provide non-drug treatment for patients with hypertension*
   - 2.2. *Provide drug treatment for patients with hypertension*
     - 2.2.1. *Provide drugs for patients via primary care facilities*
     - 2.2.2. *Ensure control of medications intake*

6.4.3. **Key Expected Results**

- 90% of target group (aged 40-60) is covered with at least one blood pressure measurement in a year
- 80% of patients with diagnosed hypertension (aged 40-60) have blood pressure under control.

6.5.**Rivne oblast**

Project title: Enhancing effectiveness of treatment and prevention of CVDs in Rivne Oblast
Priority area:
Fighting cardio-vascular disease at primary care level
Fighting cardio-vascular disease at secondary care level
Project duration: 5 years (Type A)
Budget: $25,000,000

6.5.1. **Context**

[69] Centers of primary care do not provide services to population. They are in charge of management of ambulatories.
[70] Small facilities with only 1 doctor or 1 nurse who provide services, usually poorly equipped.

Cardio-vascular diseases are the most prevalent among oblast population, and hypertension accounts for almost half of all cases of CVDs. Over the last 10 years prevalence of CVDs has doubled.

The oblast health care system is not working effectively and efficiently: the access to care is low due to the low level of urbanization (53% of population lives in rural area), poor transport connection in oblast (territory has many swamps, floods occur often in spring), insufficient number of ambulatories. As of 2013 there were 157 ambulatories in Rive oblast, out of which only 12 had equipment for CVD detection.

The secondary care for patients with CVD is currently provided in rayon hospitals and Rivne oblasts hospital. The cardiology departments are having outdated and dilapidated equipment: in Rivne oblast hospital over last 5 years angiograph has broken 17 times, of which 2 occurred during the surgery, putting the patients' life under great risk.

6.5.2. **Project Objectives**

1. Improve co-operation of primary, secondary and tertiary levels in provision care for CVD patients
   - 1.1. *Develop and implement clinical guidelines on diagnostic and treatment of CVD*
   - 1.2. *Improve doctors' knowledge on diagnosis and treatment of CVD*
   - 1.3. *Create integrated e-register of patients with CVD*
   - 1.4.*Re-organization of existing feldsher points into family physician centers*
   - 1.5.*Increase the range of services provided on all level by introducing required technology*
   - 1.6.*Introduce rating of Centers of primary care performance to motivate high quality of services*
   - 1.7.*Provide modern technology for CVD treatment to cardiology department of Rivne oblasts hospital*
2. Improve oblast-level awareness of cardio-vascular diseases prevention
   - 2.1. *Provide communication support of project implementation and main principles of fighting CVDs*
   - 2.2. *Improve coordination of fighting CVDs between different levels of care*

6.5.3. **Key Expected Results**

- Mortality from CVD decreased from 117.6 to 116.3 per 10,000 population
- CVD-related disability incidence decreased from 11 to 9.7 per 10,000 population
- Number of stentings for patients with AMI increased from 124 to 240 per year
- Number of patients who receive stenting as prevention of artery occlusion increased from 132 to 240 per year.

6.6. **Volyn oblast**

Project title: Improving quality of care for patients with cardio-vascular diseases

Priority area:

Fighting cardio-vascular disease at primary care level

Fighting cardio-vascular disease at secondary care level
Project duration: 5 years (Type A)
Budget: $30,000,000

6.6.1. **Context**

Similar to other regions of Ukraine, in Volyn oblast CVDs are the most prevalent type of disease, about half of all detected CVDs is hypertension; a third is ischemic heart disease.

Current system of primary care facilities in Volyn oblast is incapable to assure access to care due to unequal location of ambulatories and poor transport connection. Insufficient number of vehicles impedes timely delivery of patients to secondary level. Absence of required equipment for diagnosis in rayon and municipal hospitals does not allow effective and timely referral of patients to tertiary care. Currently secondary treatment of CVD is provided in 15 rayon hospitals with poor equipment and low level of staff qualification. Reorganization of some of these departments is planned for next years. Tertiary care is provided in cardiology department of Volyn oblasts hospital.

The management of CVDs is now regulated by national cardiology protocol, which is often not followed by doctors due to low level of equipment, low qualification of doctors. Other problems related to management of CVD are absence of clear patients' path-ways. Both issues could be addressed by introduction of local protocols on diagnosis and treatment of CVDs.

6.6.2. **Project Objectives**

1. Improve quality of care for patients with CVD
   - 1.1. *Strengthen system of treatment provision according to different levels of care*
   - 1.2. *Increase population awareness of CVDs prevention, diagnosis and treatment*
   - 1.3. *Create the e-register of patients with CVD*
   - 1.4. *Increase the range of services provided at the primary level*
2. Improve access to treatment of CVDs
   - 2.1. *Improve access to treatment of CVDs at the primary level*
     - *2.1.1. Open additional 85 ambulatories in Volyn oblast*
     - *2.1.2. Increase frequency visits doctor's visits to patients with CVDs*
   - 2.2. *Improve quality and access of care at the secondary level*
     - *2.2.1. Concentrate secondary care of CVD into 6 specialized cardiology departments*
     - *2.2.2. Provide specialized cardiology departments with required equipment*
   - 2.3. *Improve quality and access of care at the tertiary level*
     - *2.3.1. Provide cardiology department of Volyn oblasts hospital with required equipment*

6.6.3. **Key Expected Results**

- Average distance to ambulatory decreased from 13 km in rural areas and 17 km in urban areas to average 8.2 km
- Intra-hospital fatality from CVD decreased from 2.2% to 1.8%
- Number of stentings for patients with AMI increased from 20 to 300 per year

6.7.**Zakarpatya oblast**

Project title: Improving timeliness and quality of care for patients with CVD
Priority area:
Emergency services and hospital system rationalization and governance
Fighting cardio-vascular disease at primary care level
Fighting cardio-vascular disease at secondary care level
Project duration: 2 and ½ years (Type B)
Budget: $6,529,600

6.7.1. Context

The majority of oblast population lives in rural area – 62.8%; about 80% of the oblast area is covered with mountains, and the roads are in rather poor condition. The oblast central city Uzhgorod with majority of medical services is situated on the westernmost point of oblast (and Ukraine). Thus, the majority of oblast inhabitants live far away from specialized health care (some of the settlements are at a distance of 280 kilometers from Uzhgorod). Other critical issues of the oblast healthcare are low level of primary and emergency care staff knowledge on diagnosis and management of CVD, low level of equipment availability and low level of IT penetration. The primary health care remains underdeveloped.

Mortality from CVD is still the major cause of deaths in the adult population in Zakarpatya oblast. Among CVD-related deaths the leading cause is ischemic heart disease.

6.7.2. Project Objectives

1. Improve quality of prevention, diagnosis and treatment of CVD (in particular, ischemic heart disease with a focus on acute coronary syndrome) at the level of primary care
   - 1.1. *Improve clinical quality of care through clinical protocols development and implementation*
   - 1.2. *Enhance primary care doctors' knowledge on prevention, diagnosis and treatment of* ischemic heart disease
   - 1.3. *Provide equipment for CVD diagnosis*
   - 1.4. *Introduce integrated e-register of patients with* ischemic heart disease
   - 1.5. *Ensuring individual treatment performance via support of e-register*
2. Improve access and quality of treatment for patients with ACS
   - 2.1. *Open the cardiac interventional surgery department in Hryst[71] city rayon hospital*
   - 2.2. *Improve quality of care in Zakarpatya oblast hospital*
     - *2.2.1. Provide necessary equipment for cardiac surgery department*
   - 2.3. *Improve accessibility and quality of emergency care quality for patients with ACS*
     - *2.3.1. Provide training on cardiology, neurology and reanimation for medical staff working in emergency care*
     - *2.3.2. Provide ambulances with necessary equipment (electric cardiographers and defibrillators)*
   - 2.4. *Improve knowledge and skills of interventional cardiologist involving international expertize on the basis of both Zakarpatya departments and international hospitals.*

[71]Hryst city is the central city of one of rayon of the Zakarpatya oblast. It is situated in the middle of the oblast territory. Having specialized cardiology department in this city would help to decrease the time of patients' delivery to hospital.

6.7.3. **Key Expected Results**

- 75% of oblast population is covered with check-up for CVD
- Share of patients with ACS delivered to the hospital within the therapeutic window increased from 6% to 20%
- Average length of stay for patients with ACS decreased from 17.6 to 12 days

6.8.**Zaporizhya oblast**

Project title: Improving access and quality of primary care for patients with CVD
Priority area:
Improving overall primary health care
Fighting cardio-vascular disease at primary care level
Project duration: 2 years (Type B)
Budget: $4,000,000

6.8.1. **Context**

Cardio-vascular diseases represent the first leading cause of mortality and morbidity. The most prevalent CVDs are hypertension, ischemic heart disease, AMI and stroke. Over past several years incidence of these diseases has been growing (for instance, incidence of hypertension has grown by 12.6% in past 3 years).

Key issues of health care provision of oblast are concentration of services at the secondary and tertiary levels with primary care being unequally developed in different rayon of oblast. Generally ambulatories are poorly equipped; very few are having computer-based information system. Patients with CVD usually refer to health care facilities too late and address directly doctors from secondary level, often avoiding referring to primary level.

6.8.2. **Project Objectives**

1. Strengthen the network of primary health care centers for improving services aimed at prevention, diagnosis and treatment CVD
   - 1.1. *Improve quality of care at the primary level for patients with hypertension and ischemic heart disease*
     - *1.1.1. Develop local protocols of hypertension and ischemic heart disease diagnosis and treatment*
     - *1.1.2. Provide doctors with training on hypertension and* ischemic heart disease *diagnosis and treatment*
     - *1.1.3. Organize yearly check-ups for population*
     - *1.1.4. Introduce a system of continuous professional development of primary care physicians, including basics of entrepreneurship activities*
     - *1.1.5. Stimulate implementation of national hypertension program by higher coverage of patients with prescriptions*
     - *1.1.6. Improve access to the primary health care via providing necessary equipment to ambulatories and developing of common informational space on the level of primary care center*
     - *1.1.7. Introduce incentives systems for doctors to stimulate high performance*

2. Launch public awareness campaign on accessibility to primary care and opportunities to receive services in ambulatories
    2.1. *Provide communication support of project implementation*
        2.1.1. Monitor public opinion on reforming primary health care

6.8.3. **Key Expected Results**

- Number of hospitalizations of patients with hypertension decreased by 10%
- Number of hospitalizations of patients with ischemic heart disease decreased by 10%

Annex 7. Additional data collection plans for PDO indicators

COUNTRY: UKRAINE

7.1 PDO Indicator 1: Early detection of cervical and breast cancer:

a) Ratio of new in situ to new invasive cervical cancer

b) Share of new breast cancer detected at stage I

Acording to national level statisctics early cancer detection indicators are in line with developed countries performance. For instance, breast cancer cases at stage I and II in Ukraine as of 2013 accounted for 77.1%, while in UK the same indicator represented 86%[72]. Knowing there are some systematic incentives for data misreporting, the team suggests to hold additional validation study of patients' medical records to validate available statistical information.

Description of the study

Research objectives:

1. Validate the ratio of new in situ to new invasive cervical cancer in Lviv oblast in 2013
2. Validate the share of new breast cancer detected at stage I in Lviv oblast in 2013

Population:

1. All reported cases of in situ and invasive cervical cancer in Lviv oblast in 2013 – total of 410 cases were detected: 181 cases at stage 0 (in situ) and 229 cases of invasive cervical cancer
2. All reported cases of breast cancer in Lviv oblast in 2013 – total of 748 cases were detected

Sampling strategy: census study

Sample volume:

Given the small population, it is recommended to hold a census, not sample-based, study. Thus, the number of analyzed cases would account for 410 cervical cancer cases, and 748 for breast cancer cases.

Method of data collection: Analysis of medical records (Form 35)

Arrangement of data collection: The study would be designed and conducted by the central PCSU by contracting an international consultant to develop the methodology and independent national consultants (oncologists) to collect the data during the first year of Project implementation. Summary report to be written by international consultant with inputs from national consultants.

Type of resources	Estimated number	Cost per 1 unit	Estimated cost
Methodology development (days)	10	$300	$3,000

[72] http://www.cancerresearchuk.org/cancer-info/cancerstats/types/breast/incidence/#stage

Working days for data collection (days)	120	$40	$4,800
Daily allowance	120	$55	$6,600
Data processing	5	$20	$100
Short summary report	5	$100	$5,000
			$19,500

7.2 PDO Indicator 2: Share of patients between 40 and 60 years old achieving target level of blood pressure (measure is 140/90mmHg)

The indicator tracks the % of patients between 40 and 60 with diagnosed hypertension achieving target level of blood pressure. In the situation of outdated and paper-based HMIS, this information is neither tracked by official medical statistics, nor available in aggregated format from other sources.
The indicators can be tracked by an ad-hoc study of medical records of patients untill an "institutional" solution will be found. Only people having access to and utilizing health services are tracked by this indicator.

Description of the study

Research objective:
Study achievement of target level of blood pressure (by patients diagnosed within past 12 months)

Population:
Patients diagnosed with hypertension within past 12 months at primary level and outpatient secondary level facilities in pilot oblasts (Vinnista, Volyn, Zakarpattya, Zaporizhzha, Dnipro, Poltava, Rivne)

Sample: in order to calculate the sample size primary analysis of statisctical information of hypertension incidence is required in each oblast. Estimated number of medical records analyzed in each oblast is 400 per each oblast, 3,200 in total.

Method of data collection:Analysis of medical record Form 025/o

Arrangement of data collection:The study would be designed and conducted by PCSU by contracting an international consultant to finalize the methodology and independent national consultants (cardiologists) to collect the data during first year of the Project implementation.

Estimated resources required:

Type of resources	Estimated number	Cost per 1 unit	Estimated cost
Methodology development (days)	10	$300	$3,000
Working days for data collection (days)	160	$40	$6,400
Daily allowance	160	$50	$8,000
Data processing	5	$20	$100

Short summary report	5	$100	$5,000
			$22,500

7.3 Intermediate Indicator 9: Share of acute myocardial infarction with ST segment elevation diagnoses confirmed according to appropriate protocols in the previous 12 months

According to the local protocol STEMI diagnostic requires confirmation of 2 out of 3 conditions: long pain (over 20 minutes), changes reflected in ECG, presence of biochemical markers of myocardial necrosis. Since current statistical system does not collect data on diagnosis accuracy, the analysis of medical records could be used to collect the data for the base-line.

Description of the study

Research objective*:*

1. Define accuracy of STEMI diagnosis in 5 pilot oblasts in the previous 12 months

1.2 *Additional objective:* Review of stenting procedures given to patients with STEMI

Method of data collection:Analysis of medical record of patients with STEMI (Emergency care paient card – Form 110/o, Card of inpatient patient – Form 066)

Sample: As of 2013, in 5 pilot oblasts there were 9,848 AMIs. Aiming to have the data with 5% confidence interval and 95% confidence level would require to have a total sample of 1,476 cards analysed. The cases analysed would be those occurred within 12 months prior to study start (most like December 2013 – December 2014).

	# of AMI	*Sample*
Vinnitsa	1,437	303
Volyn	841	264
Dnepropetrovsk	5,651	360
Zakarpatya	982	276
Rivne	937	273
	9,848	**1476**

Arrangement of data collection: The study would be designed and conducted by PCSU by contracting 3 independent consultants (cardiologists) during first year of the Project implementation. Consultants would be responsible for providing assisstance to PIU in developing the study methodology, on-site selection of medical records, on-site data collection (filling-in the developed form), data processing and short summary report writing.

Additional resources required:

Type of resources	Estimated number	Cost per 1 unit	Estimated cost
Methodology development (days)	10	$300	$3,000
Working days for data collection (days)	100	$40	$4,000
Daily allowance	100	$50	$5,000

Data processing	5	$20	$100
Short summary report	5	$100	$5,000
			$17,100