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No. 2

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF HEALTH, REPUBLIC OF UZBEKISTAN

THE STUDY ON THE RESTRUCTURING OF HEALTH AND MEDICAL SYSTEM IN THE REPUBLIC OF UZBEKISTAN

FINAL REPORT
SUMMARY

DECEMBER 2003

SYSTEM SCIENCE CONSULTANTS INC.

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Contents of Final Report

Summary
Main Report (including Appendices)
Supporting Report
Data Book

Foreign exchange rate
USD 1.00=UZS 980 in November 2002 (Main Report Chapter 16 Priority Programs)
USD 1.00=JPY 120 in November 2002 (Main Report Chapter 16 Priority Programs)

PREFACE

In response to the request of the Government of the Republic of Uzbekistan, the Government of Japan agreed to conduct the Study on the Restructuring of Health and Medical System in the Republic of Uzbekistan, and entrusted the Study to Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team consisted of 9 members and headed by Mr. Hiroshi Abo, System Science Consultants Inc. six times between November 2002 and November 2003. In addition, JICA set up an advisory committee headed by Mr. Hiroya Ogata, Professor of Graduate School of Medicine, Kyushu University between November 2002 and November 2003, which examined the study from specialist and technical points of view.

The team held discussions with the officials concerned of the Government of Uzbekistan and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Uzbekistan for their close cooperation extended to the Team.

December, 2003

Kazuhisa Matsuoka
Vice-President
Japan International Cooperation Agency

December, 2003

Mr. Kazuhisa Matsuoka
Vice-President
Japan International Cooperation Agency (JICA)

LETTER OF TRANSMITTAL

Dear Sir,

We have pleasure to submit you the final report entitled "The Study on the Restructuring of Health and Medical System in the Republic of Uzbekistan".

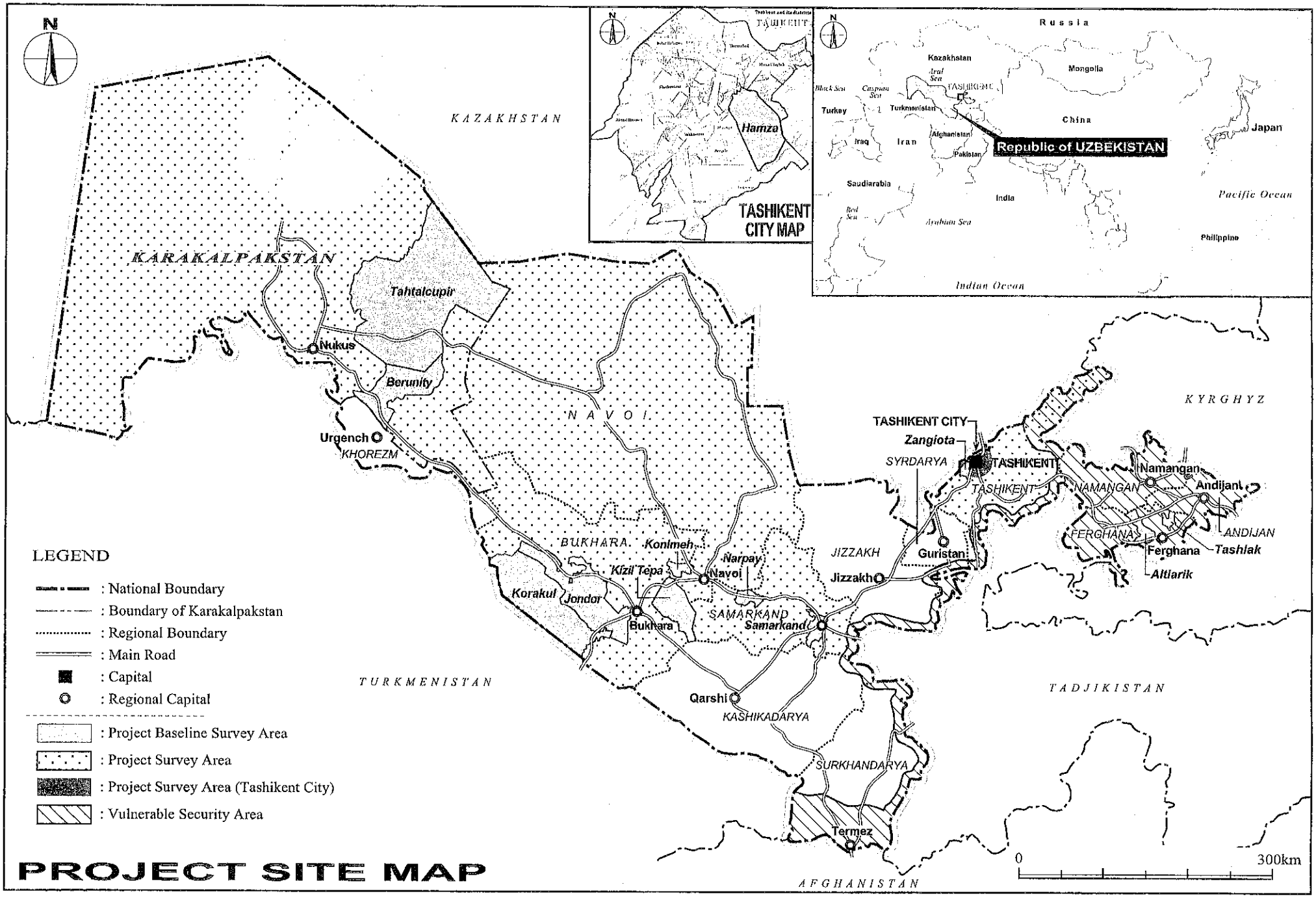
The report includes detailed analysis and recommendations on each health sector, and the results of the Baseline survey conducted in six Oblasts. Reflecting these outputs, a Master Plan was formulated, presenting six priority programs.

The report consists of the Summary Report, Main Report, Supporting Report and Data Book. The Summary Report summarizes the results of all the studies. The Main Report contains results of study conducted over two phases, and the Master Plan including prioritized projects. The Supporting Report includes details of investigation and the Data Book contains the analysis of the results of the Baseline survey.

All members of the Study Team wish to express grateful acknowledgment to the personnel of your Agency, Ministry of Foreign Affairs, Ministry of Health, Labor and Welfare and Embassy of Japan in Uzbekistan for all assistance extended to the Study Team. The Study Team sincerely hopes that the results of the study will contribute to the future improvement of health and medical system in particular and to socioeconomic development of Uzbekistan.

Sincerely,

Hiroshi Abo
Team Leader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Afghanistan
Pakistan
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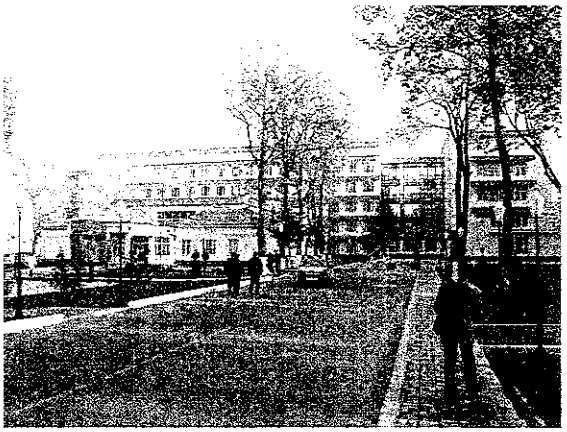
India
Pacific Ocean
Red Sea
Arabian Sea
Philippine
Indian Ocean
LEGEND
: National Boundary
: Boundary of Karakalpakstan
: Regional Boundary
: Main Road
: Capital
: Regional Capital
: Project Baseline Survey Area
: Project Survey Area
: Project Survey Area (Tashikent City)
: Vulnerable Security Area
PROJECT SITE MAP

Photo 1: Medical Facilities

■ **Oblast Maternal Hospital (Navoi City)**

Hospitals of oblast level (general and specialized) are usually large buildings and keep hundreds beds, to cover oblast population. Different specialists work to provide tertiary level health care.

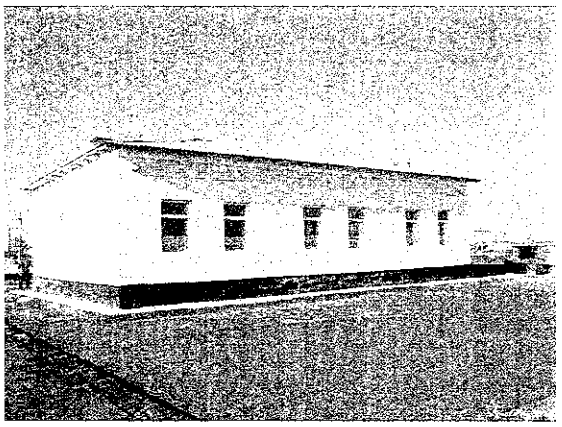


■ **Republican Emergency Center (Tashkent City)**

This center is recently established as a core of emergency care stating in 1week free of charge in treatment.

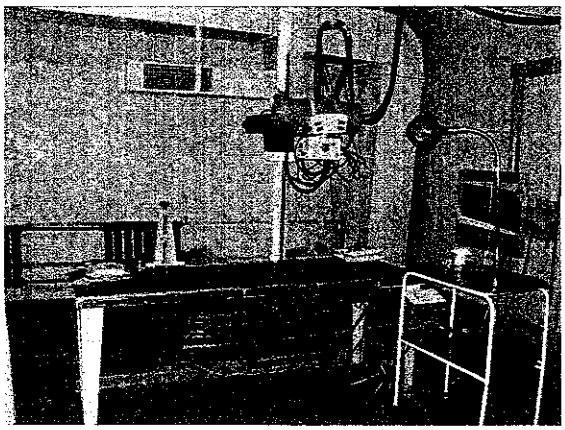
■ **Rayon Central Hospital (Ferghana Oblast)**

As a secondary facility level, RCH treats inpatient in each specialized department. Most of RCH is complex buildings in adjacent zone. Not only referred patients, but also many patients come directly.



■ **Renewal SVP (Karakalpakstan)**

Under the health reform, SVP is established as a PHC facility on community base. Trained GP and nurse are allocated and optimal equipment and essential drug will be supply.



■ **X-Ray in Oblast Hospital (Ferghana Oblast)**

Most of the medical equipment is remained since supplied in 1980s, and it becomes superannuated. Medical staff looks after it well, but consumables are limited and diagnosis level is restrained.

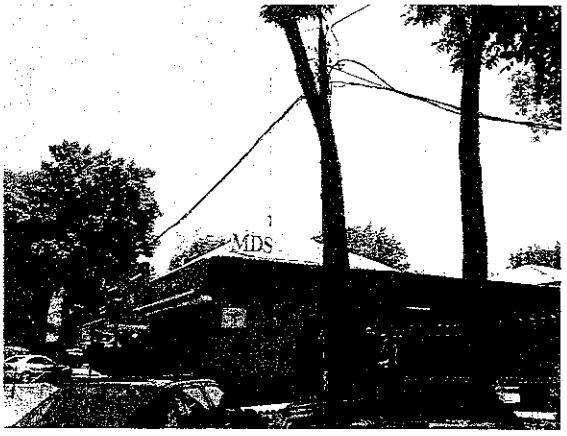
■ **Laboratory in SVP (Tashkent Oblast)**

Some of SVPs are supplied minimum equipment, such as microscope, centrifuge and spectrophotometer. SVP is expected to be a primary diagnosis base for epidemiological survey in the future.

Photo 2: Health Environment

■**Tubeculosis Center (Tashkent City)**

As one of specialized reseach institutes, TB center has own referral system. Also has a function to treat inpatients who are detected and referred from other general hospitals.

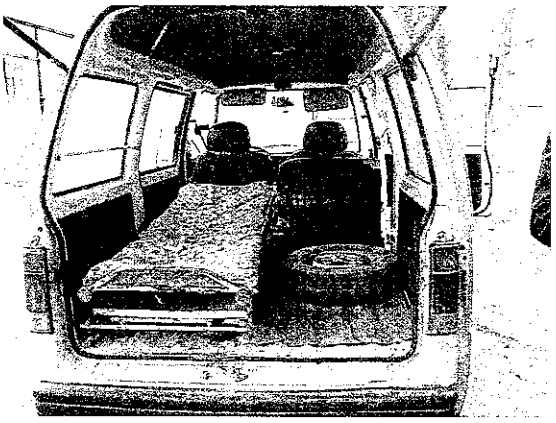


■**Private Clinics: MDS (Tashkent City)**

MDS keeps a highest technology for diagnosis in Tashkent, using CT and MRI. Linking with enterprises, MDS tries to formurate private insurance.

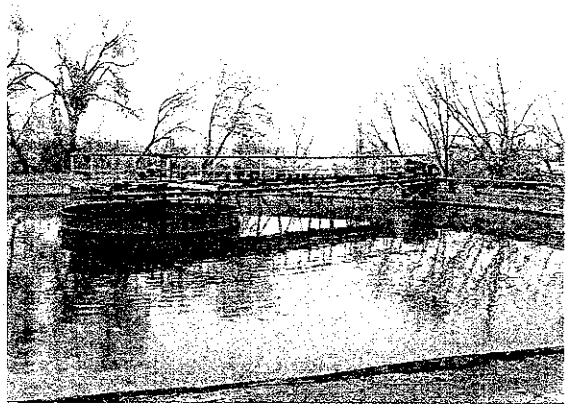
■**Waiting Hall in Policlinics (Tashkent City)**

Policlinic treats outpatient in urban area having a few specialists. Sometimes policlinic stands by neighboring rayon hospital.



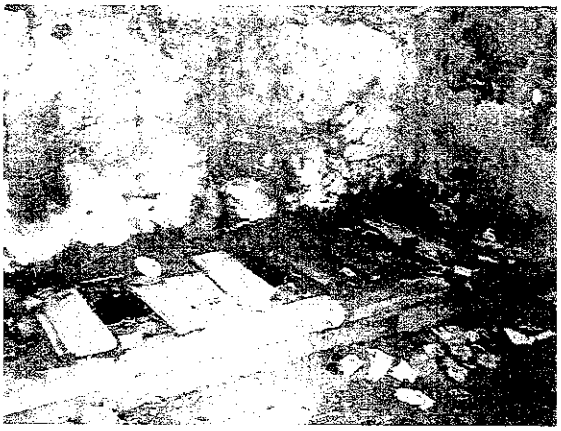
■**Ambulance (Karakalpakstan)**

Most of ambulances is pooled in Ambulance Station for urgent "03" call. Also hospitals keep ambulance to refer patient. Carrying equipment is quite simple and poor, due to the purpose is transportation.



■**Waterworks (Tashkent City)**

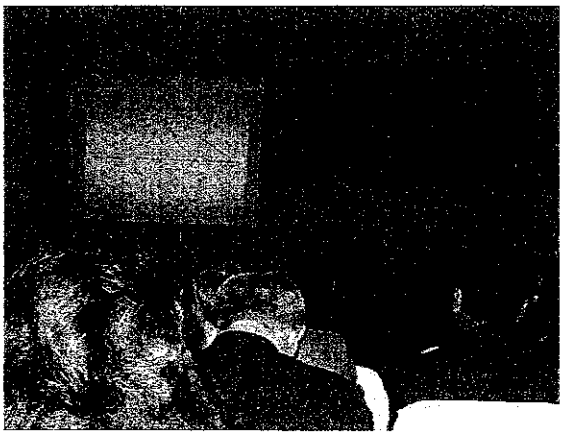
Tashkent City can supply enough water to resident. there is a great gap between above area and Aral Sea Region, and this causes minus healh impact to Karakalpakstan and Urgench.



■**Toilet in Primary School (Karakalpakstan)**

For environmental health and health promotion, School Health can play an important role. Children can learn sanitation and hygiene and give impact to their family.

Photo 3: Meeting and Discussion

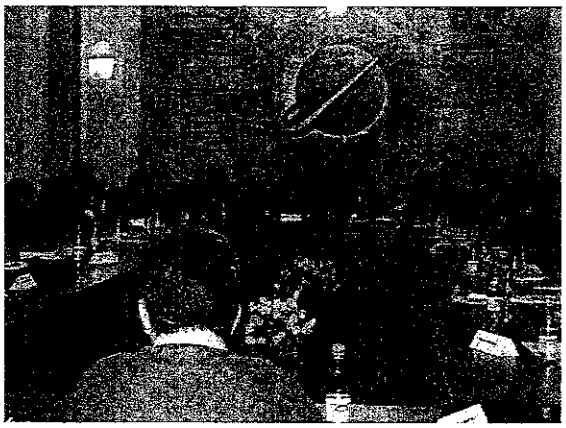


■ **Counterpart Meeting**

To identify major concerns and issues affecting the health care and medical services in Uzbekistan, counterparts are selected in Ministry of Health.

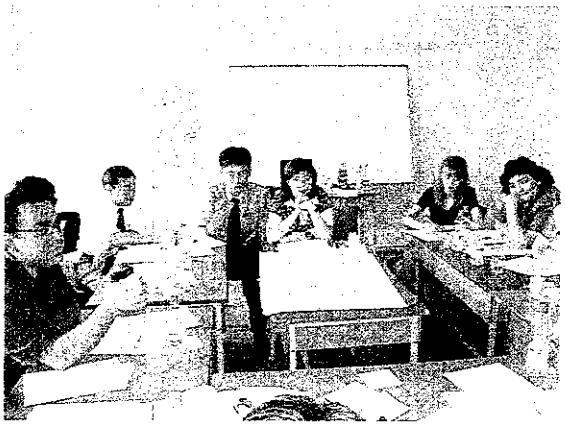
■ **Steering Committee**

To creat a concensus among related ministries and envision Master Plan together, Steering Committee was hold.



■ **Donor Round Table Meeting**

To share the understanding on general contents of M/P and identify major issues of health sector together, other donors and NGOs gethered for workshop.



■ **Working Group Session**

For effective study and discussion, sector-wise working groups were hold several times acrossing other donors, NGOs, counterparts and specialists.

■ **Focus Group Meeting (Female Group)**

In the field study, to know the community demand and their capacity building, focus droup was gethered in community (mahalla).

■ **Focus Group Meeting (Medical Staff Group)**

To clarify the gap between health service provider and health service demander, focus group was gethered. If both sides meet together, patient hesitate to say conplaint due to unequal relationship in doctor-patient.

EXECUTIVE SUMMARY

1. INTRODUCTION

1.1 Background of the Study

Since independence in 1991, Uzbekistan has labored to implement democratic institutions and reforms. With the collapse of the previous socialistic structure, obtaining sufficient health care funding has become extremely difficult with repercussions in terms of maintaining an adequate level of medical services. As a result, the Government of Uzbekistan formulated a "National Program of Health Care Reform (1998~2005)" delineating policy for improving the country's health sector.

Under these circumstances, the Government of Uzbekistan requested that the Government of Japan assist in preparing a Master Plan (M/P) for nationwide improvement in the health care and medical services field. In response to the request, "the Study on the Restructuring of Health and Medical System in Republic of Uzbekistan" was carried out from October 2002 to December 2003.

1.2 Outline of the Study

The objectives of the Study are; (1) to prepare a Master Plan for nationwide improvement of health care and medical services in Uzbekistan, aiming to present a framework for the effective implementation of the "National Program of Health Care Reform; (2) to conduct technology transfer of survey methodology to the Uzbekistan counterpart personnel through the Study.

The Study covers the whole area of the Republic of Uzbekistan, and the specific areas of baseline survey are comprised of six (regions) Oblasts of Tashkent (including Tashkent City), Bukhara, Samarkand, Navoi, Ferghana and Republic of Karakalpakstan. The Study was carried out in two phases: Phase I Study from October 2002 to March 2003, and Phase II Study from April 2003 to December 2003.

1.3 Study Methodology

1.3.1 Baseline Survey

The baseline survey was carried out aiming at (i) detailed identification of conditions

prevailing throughout Uzbekistan in general and on a region-wise basis in particular, (ii) supplementary collection of data, and (iii) application of the same to formulating a future framework for improving health care and medical services under the Master Plan.
Importantly, it covered the following aspects to fully grasp the present situation of the supply side but also the demand side such as patient, household and community.

1) Health Financing
2) Medical Facilities
3) Referral System
4) Health Information System
5) Health Service Providers
6) Situation of Human Resources Allocation
7) Health and Medical Services Demand Side (Community) Survey
   - Household Survey
   - Sociological and Medical Anthropological Survey
   - Beneficiaries

1.3.2 Coordination and Participatory Approach

Several meetings and workshops were held involving Uzbekistan side, international organizations, NGOs and JICA Study Team. In addition, 12 Working Groups were organized for analysis of the fact findings, and identification of the best practice and constraints in the existing health situation in Uzbekistan. At the final stage, those Working Groups formulated improvement programs.

2. SITUATIONS OF HEALTH SECTOR

1) Ministry of Health has a close relation with rural governments and is making an effort in health care improvement; however, a system and an influence of the former Soviet period still remain in some parts and inefficiency is observed.
2) Effective and rational use of medical finances is rarely attained and health financing is under threat from various issues such as unstable financial resources. Also, there is not enough capability in administration personnel.
3) Ministry of Health has been arranging to simplify the referral system; however, the medical facilities are redundant in number and sometimes too large in scale, not meeting the demand of the patient and actual health situations.
4) Emergency medical care system is well prepared at Republican level, but standard of

treatment and guidance at pre-hospitalization and each level of medical facilities are not appropriately adopted.

5) The activity of specialized medical facility is expected not only to perform advanced medical services but also to give education for medical professionals, and to carry out necessary research. However, there are some cases that do not function well.
6) There is a problem in the blood test system and its quality. Securing safety in blood is indispensable from the viewpoint of preventing HIV infections.
7) Strengthening of PHC (SVP) level medical services has been introduced by World Bank Project; however, Rayon and Oblast level medical facilities do not always function sufficiently.
8) The existing equipment is not always sufficient to provide adequate medical services. The management of operation and maintenance for equipment in medical facilities is weak.
9) Admission of students to medical institutes, nursing schools and colleges is carried out without analysis of needs. Training for middle level personnel (including nurses) is not sufficient. Nurses with higher education degree and their position in the present medical system have not been clear yet
10) Lack of communication and information sharing on drug inventory between medical facilities and Dori-Darmon is observed. Re-training program for pharmacist is not systematically conducted. Drug shortage at primary and secondary medical facilities is pervasive.
11) There is no uniform style or coordination between several health information databases system developed by international organization, donors and RIAC. There are insufficient training and guidance for improvement of rational and systematic management of reporting, statistics and information system.
12) Limited medical equipment and essential drug in PHC level is observed in the outside of the World Bank project area.
13) Number of SVP visits and home visits are increasing in the World Bank project areas. However, the existing IEC methodology and activities do not meet with demands of social system after the independence.
14) MMR and IMR in last decade have decreased alongside the social development and governmental MCH grogram. However, basic indicator still applies former Soviet definition and it has a gap between international standard.
15) There are complicated referral systems of specialized facilities for sanitation, hygiene and infectious diseases prevention. The relation with other referrals and capable laboratory tests are not always appropriately taking place.

3. MASTER PLAN

3.1 Target Year and Population Projection

A planning timeframe for healthcare reform and medical services improvement is set based on the target year of 2005 (short-term), 2010 (mid and long-term). In addition, the final target year of the next "National Program of Health Care Reform" is considered as the target year of super goal in M/P. The total population of the Uzbekistan in the target year of 2010 is estimated based on the UNFPA's low variant scenario of 1.31% (2000~2005) and 1.05% (2005~2010). Thus, the total population of Uzbekistan will be 28.0 million in 2010 (a round figure). Health expenditure per GDP in 2010 is expected to be 790.2 to 987.7 billion sums (806.3 to 1,007.9 million US$). Health expenditure per capita shows 28,200 to 35,200 sums (28.8 to 35.9 US$).

3.2 Overall Goal, Objectives and Strategies of the Master Plan

(1) Overall Goal

To improve the national health situations of all the population in Uzbekistan through removing the inhibiting factors in existing medical services system.

(Monitoring indicator for Target Year)

	2001	2005	2010
IMR: Infant Mortality Rate (per 1,000 Birth)	51.0	46.1	40.1
MMR: Maternal Mortality Rate (per 100,000 Birth)	34.1	31.7	28.6
U5MR: Under 5 Mortality Rate (per 1,000 Birth)	67.0	60.6	52.7

(2) Objectives and Strategies

Objective A [Humanity & Equity]

"Improvement of the quality of medical services and enhancement of equal access to medical services for all population"

- **Strategy A1**

  Improvement and establishment of the qualified Primary Health Care and Maternal and Child Health Care services

- **Strategy A2**

  Improvement of the quality for clinical services and administrative capability of medical facilities

- **Strategy A3**

  Improvement of the medical technology and research activities

Objective B [Efficiency & Sustainability]

"Establishment of effective system of medical services for the population's health"

- **Strategy B1**
  Defining of the medical facilities referral and improvement of patients' referral system
- **Strategy B2**
  Improvement and rationalization of Rayon and Oblast level medical services
- **Strategy B3**
  Improvement of effective medical facilities, equipment, drug supply and in-hospital functions
- **Strategy B4**
  Establishment of health management information system

Objective C [Cost Effectiveness & Sustainability]

"Improvement of the effective use of the health financing and introduction of new financing mechanism"

- **Strategy C1**
  Improvement of effective use of health budget
- **Strategy C2**
  Strengthening of the financing management capability for governmental administration and medical facilities
- **Strategy C3**
  Improvement of the preventive medicine and encouragement of medical treatment at earlier stage, to minimize medical treatment cost
- **Strategy C4**
  Introduction of the new health financing system (universal coverage of health insurance) and establishment of legislative bases for it.

4. PROPOSED PRIORITY PROGRAMS

4.1 Health Financing: 2004–2010

The overall goal of this program is to develop a health financing system that will improve the capacity of the health sector to secure the health of the present and future generations of the population in Uzbekistan. The main objectives and components are;

1) To improve the financial base of the health care system through budget allocation reforms across all levels of care,
   - Guarantee of Free Package of Services
   - Budget Allocation Reforms
   - Mixed Financing Reform
   - Secure Foreign Assistance, investments and credits to the health sector

2) To facilitate the establishment of a market in health services, while at the same time providing for clear mechanisms to protect poor and vulnerable groups
   - Introduction of a Price System in Public Health Care Facilities
   - Private Sector Development Activities

3) To introduce risk pooling and purchasing elements in the health system through a health insurance system (see the "Priority Program 4.2"), and
   - Planning the Development of a compulsory system of health insurance
   - Development of the Legal Base for the program
   - Development of Information Systems and reporting forms for Health insurance

4) To strengthen capacities to develop, support, manage and monitor health financing system reforms.
   - Adoption and installation of a national health accounts system to monitor system performance
   - Capacity building activities to implement and manage a health reforms
   - Creation of a Core Health Financing Group within the MOH

The period covered by the plan is 2004-2010. Ministry of Health with general directions provided by a multi-sectoral body involving the Ministries of Finance, Macroeconomics, Statistics, Cabinet of Ministers and other agencies. Also, a Health Financing Policy Unit (HFPU) within the Ministry of Health will be organized to provide project oversight.

4.2 National Health Insurance Program for Uzbekistan

The objective is to develop risk pooling and purchasing functions through the health insurance system: a health financing framework that takes into account health systems, financing functions, and financing sources. There are four major sources for funds.

1) General revenues of national or local governments largely generated through taxes;
2) Compulsory health insurance or mandatory insurance schemes. Payment for such obligatory systems is considered a tax.

3) Voluntary health insurance schemes, which are entered into and paid by individuals or other groups on behalf of individuals; and
4) Out-of-pocket payments, which are individual or household payments made to procure a service. The payments are in the form of user charges (direct payments) or premiums for insurance coverage.

Features of the proposed health insurance system are;

1) The system comes into place gradually.
   a. Reforms in alternative provider payment schemes
   b. Prepayment experiments at mahalla levels and in some enterprises
   c. Develop facility-based pooling of out-of-pocket payments
   d. Adopt a disease classification system and improved information systems
   e. Legal basis for compulsory health insurance
   f. Determination of the criteria for coverage and expansion
2) Compulsory pooling of funds in most cases happens a year or two after the legal base for compulsory insurance is established.
3) A single insurance fund system, with a National Health Insurance Agency (NHIA) responsible for funds collection and premiums pooling will be the most viable system.
4) Local budget systems for health facilities should be used under the new provider payment schemes.
5) Payments to providers will be based on negotiated rates and case payments.

The development stage will require capabilities to undertake the following activities;

1) Determine benefit package
2) Development and understanding of the price system in health care
3) Determine the Actuarial determination of premiums and contribution structure
4) Development of accreditation systems
5) Outline basic insurance functions
6) Research of health insurance experience to improve design of the proposed system

4.3 Improvement of Medical Services at Rayon Level

The overall goal of this program is to establish the strengthened rural medical services system at Rayon level. The objective is to establish overall improvement program for medical services, and to set a qualified model with CRH taking a central role. The results

of the program and know-how are to be expanded to the national level.

Implementation agencies of the program are Ministry of Health, health departments of Oblast and Rayon, and recipient RCH. The duration of this program is three years, taking the stage-wise approach. The components and activities shown below;

Step 1 : Formulation of pilot model program and detailed action plan for the Rayon level medical services system (feasibility study)

Step 2 : Establishment of management system for PHC Services in Model Rayons (technical assistance, overseas training, equipment provision, organizing the steering and technical committee)

a. Improvement of model Central Rayon Hospital (CRH) by provision of equipment and expert
b. Strengthening of medial services capability in model CRHs
c. Establishment of PHC services system centered on CRH (in cooperation with SVP)
d. Strengthening of coordination and cooperation with higher referral facilities such as Oblast general hospital, specialized hospitals/dispensaries

Step 3 : Formulation of package model for expansion to nationwide level

Step 4 : Expansion of the package model to other Rayons (recommendation of another project)

4.4 Improvement of Oblast Medical Services System and Oblast General Hospital

The overall goal is to establish the strengthened and effective Oblast medical services system through the improvement of the Oblast General Hospital; a model for consolidated and centralized medical services system will be presneted for the Oblast medical services at Oblast General Hospital. Results and know-how will be expanded to the nationwide level.

Implementation agencies are Ministry of Health, health departments of Oblast and recipient Oblast General Hospital. Implementing unit will be organized with representatives of related medical facilities. Duration of this program is three and half years from 2004 to 2008 (3.5 years), taking the stage-wise approach. The components and activities are shown below;

Step 1 : Formulation of pilot model program, detailed action plan and design for the Oblast medical services system and Oblast General Hospital (feasibility study)

Step 2 : Establishment of hospital management system and medical services system at the model Oblast General Hospital (technical assistance, provision of training for the staffs including overseas training, equipment and construction and/or renovation of facility, organization the steering, technical and coordination committee)

a. Integration and improvement of hospital functions
b. Centralization /consolidation of laboratory functions
c. Consolidation of Oblast General Hospital and other specialized medical facilities and Emergency Center
d. Consolidation of Oblast General Hospital and other specialized medical facilities
e. Consolidation of above Oblast General Hospital and Emergency Center
f. Establishment of the medical services supporting system for Oblast as a whole

Step 3: Formulation of package model for expansion to national level

Step 4: Expansion of model hospital/system to other Oblasts (recommendation of another project)

4.5 Establishment of Health Management Information System

The goal of this program is to increase the ability of the health administrators to plan, monitor and take corrective action in the management of health care services. And objective is to make available timely, updated and interrelated information on all aspects of health and family welfare services delivery to all levels of health management.

Implementation agencies are RIAC (Republican Information Analytical Center) headquarters at the republican level, Oblast Health Statistics Bureau, and Rayon Organizational and Methods Unit at Oblast and Rayon level. Duration of this program is five years: four years for implementation and on the 5th year the review of the implementation will take place.

The components and activities of this program are shown below;

1) Simplification of registers and reports
2) Development of feedback system
3) Developing performance indicator system

4) Training of the key HMIS personnel
5) Equipping the Oblasts and Rayons with computers
6) Refinement and installation of MEDSTAT (medical statistics package) in Oblasts and Rayons
7) Establishing interdepartmental coordination mechanism
8) Review of the HMIS

4.6 Improvement of Blood Transfusion System

Overall goal of this program is to strengthen the capability of blood testing, to establish safe blood supply, to secure the self-sufficiency of supply and demand balance, and to obtain the cost-effective blood transfusion system by introduction of the non-familial, voluntary blood donation system. The blood transfusion system, of which safety is secured, can prevent further expansion of serious infectious diseases such as HIV. This program requires collaboration and partnerships with international donor organizations and NGOs that are active in this field, and with community organization Mahalla.

At the Republican level, the implementation committee will be organized under the Ministry of Health, including director of Republican Blood Center. Oblast Health Department and Oblast level Blood Center and Oblast General Hospital are Oblast level implementation body. The duration of this program is three years, taking the stage-wise approach. The components and activities are shown below;

Step 1 : Formulation and preparation of the pilot model program, detailed action plan and design for the blood transfusion system at Oblast level (feasibility study)

Step 2 : Establishment of model blood transfusion system at the model blood transfusion center at Oblast level (technical assistance, training of the staffs for blood transfusion management and laboratory test including overseas training, equipment provision, organization of the steering, technical and coordination committee)

a. Establishment of the consolidated central blood test center and integrated blood transfusion center
b. Establishment of the consolidated blood transfusion management (blood collection, blood test, storage and supply)
c. Strengthening of the central blood test laboratory
d. Promotion of the blood transfusion system by voluntary blood donation

e Integration and rationalization of blood transfusion system at Oblast level

Step 3: Formulation of package model for expansion to national level through the above program implementation and monitoring of results

Step 4: Expansion of model system to other Oblasts (recommendation of phase II project)

4.7 Area-wise Programs

This Master Plan also proposes programs taking the area-wise approach as follows.

(1) City Type Medical Services Model

1) City type PHC model as the first access point for the out-patients will be established: GVP (city physician's point) and/or PHC facility. And at CCH (Central City Hospital), the first access point for in-patients and extensive system will be in place.
2) The capability of Ministry of Health for monitoring and supervising the private sector will be strengthened, and standards and guidelines for securing the quality of private sector medical services will be established.
3) The capability of the specialized institutes at top referral will be enhanced: advanced specialized medical services, education and fostering the specialized doctors and research activities will be achieved.

(2) Medical Services Model for Remote Areas

1) More efficient patient referral system from lower to higher level medical facilities will be established with provision of communication instrument and transportation vehicles.
2) In case extremely remote area, medical services at FAP under the control of the CRH and SVP will be provided and strengthened.
3) By the provision of legislative bases, priory distribution of medical resources (finance, human resources, drug and equipment) will be arranged for the remote areas.
4) Specifically, in remote areas, a system of drug supply based on community's participation and initiative will be recommended; Mahalla drug stores and/or revolving fund for purchasing drugs.

THE STUDY ON THE RESTRUCTURING OF HEALTH AND MEDICAL SYSTEM IN THE REPUBLIC OF UZBEKISTAN

FINAL REPORT
SUMMARY

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ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ARI	Acute Respiratory Infections
BEC	Brigades of Emergency Care
BSEC	Brigades of Specialized Emergency Care
BTS	Blood Transfusion Station
BTU	Blood Transfusion Unit
C/P	Counterpart
CCH	Central City Hospital
CDC	Center for Diseases Control and Prevention
CEE	Central and Eastern Europe
CGSEC	Center of Governmental Sanitation and Epidemiology
CIS	Commonwealth of Independent States
CME	Continuous Medical Education
CRH	Central Rayon Hospital
CSSES/SES	Center of State Sanitary, Epidemiological Surveillance
CVD	Cardiovascular Diseases
DFID	Department for International Development, UK
DOTS	Directly Observed Treatment Shortcourse
DRG	Diagnostic Related Group
ECG	Electric Cardiograph
ELISA	Enzyme Linked Immuno Adsorbent Assay
EPI	Expanded Programme on Immunization
EU	European Union
F/R	Final Report
FAP	Outreach Nurse/Midwifery's (Russian acrrounym)
GAVI	Global alliance for vaccines and immunization
GDP	Gross Domestic Product
GIS	Geographic Information System
GNP	Gross National Product
GP	General Practitioner
GVP	City Physicians Post (Russian acrrounym)
HB	Hepatitis B
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HEI	Health Education Institute
HE	Higher Education
HIS	Health Information System
HIV	Human Immunodefficiency Virus
HMIS	Health Management Information System
HRD	Human Resources Development
HRG	Healthcare Resources Group
IC/R	Inception Report
ICD	International Code of Diseases
ICRC	International Committee of Red Cross
ICU	Intensive Care Unit
IDD	Iodine Deficiency Disorders
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
ISCED	International Standards for Classification of Education
IT/R	Interim Report
IUD	Intrauterine Device
JICA	Japan Intrenational Cooperation Agency
KAP	Knowledge, Attitude and Practice

KfW	Kreditanstalt für Wiederaufbau (German acrrounym)
M/M	Minutes of Meeting
M/P	Master Plan
MCH	Maternal and child health care
MDG	Millennium Development Goal
MEDSTAT	Medical Statististics package
MMR	Maternal mortality rate
MOH	Ministry of Health
MSCP	Medical Service of Civil Protection
MSF	Medicine Sans Frontier
NGO	Non-Governmental Organization
NHI	National Health Insurance
NHIA	National Health Insurance Agency
NICU	Neonatal Intensive Care Unit
NIS	Newly Independent States
NPO	Non-profit organization
Ob/Gy	Obstetrics and Gynecology
ODA	Official Development Assistance
OECD	Organization for economic Cooperation and
OHSB	Oblast Health Statistic Bureau
ORS	Oral Rehydration Salt
OSCE	Objective Structure of Clinical Examinations
PHC	Primary Health Care
RIAC	Republican Information Analytical Center
ROMU	Rayon Organization and Methodology Unit
RRCEM	Republican Research Center of Emergency Care
RU	Republic of Uzbekistan
RVRBS	Relative Value Resource Based Scale
S/W	Scope of Work
SHE-HP	Sanitary, Hygiene, Epidemiology and Health Promotion
STD	Sexually Transmitted Diseases
STG	Standard Treatment Guideline
STI	Sexually Transmitted Infection
SUB	Rural Neighborhood Hospital (Russian acrrounym)
SVA	Rural Out-patient Post (Russian acrrounym)
SVEI	Secondary Vocational Educational Institution
SVP	Rural Health Post (Russian acrrounym)
TACIS	Technical Assistance for CIS
TashMI	Tashkent Medical Institute
TB	Tubeculosis
TFR	Total Fertility Rate
TIMPE	Tashkent Institute of Medical Postgraduate Education
UK	United Kingdom
UN	United Nations
UNAIDS	United Nations Joint programme on AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugee
UNICEF	United Nations Children's Fund
UNODCCP	United Nations Office for Drug Control and Crime
USAID	United State Agency of International Development
USSR	Union of Soviet Socialist Repubblics
WB	World Bank
WHO	World Health Organization
ZAGS	Population Registration System (Russian acrrounym)

SUMMARY

PART I GENERAL OUTLINE

1. INTRODUCTION

1.1 Background of the Study

The Republic of Uzbekistan is located at the center of the Asian continent. The country's land area is 447,400 km^2, or approximately 1.2 times that of Japan. Sixty percent of this land area is desert, bounded on the country's eastern and western borders by high mountain ranges.

Since independence in 1991, Uzbekistan has labored to implement democratic institutions and reforms. With the collapse of the previous socialistic structure, obtaining sufficient health care funding has become extremely difficult with repercussions in terms of maintaining an adequate level of medical services.

As a result, the Government of Uzbekistan formulated a "National Program of Health Care Reform (1998~2005)" delineating policy for improving the country's health sector. In line with promulgated policy, projects are being implemented aiming at strengthening primary health care (PHC) and maternal and child health care.

The Government of Uzbekistan requested that the Government of Japan assist in preparing a Master Plan (M/P) for nationwide improvements in the health care and medical services field. In response, the Government of Japan has decided to conduct "The Study on the Restructuring of Health and Medical System in Republic of Uzbekistan" (the Study). Japan International Cooperation Agency (JICA) dispatched a Preliminary Study Team in February 2002 and a Scope of Works (S/W) was signed between the two nations on February 21, 2002. In accordance with the S/W, JICA dispatched a study team (JICA Study Team) to Uzbekistan on November 4, 2002, to start the activities of the Study.

1.2 Objectives of the Study

(1) To prepare a Master Plan for nationwide improvement of health care and medical services in Uzbekistan, aiming at a framework for the effective implementation of the

"National Program of Health Care Reform (1998~2005)". This Study is to provide a substantial basis for the next national health plan in accordance with results of co-evaluation with Ministry of Health of Uzbekistan on the above-mentioned program.

(2) To conduct technology transfer of survey methodology to the Uzbekistan counterpart (C/P) personnel through the Study.

1.3 Study Area

The Study covers the whole area of the Republic of Uzbekistan. The specific areas of baseline survey comprise six (regions) oblasts of Tashkent (including Tashkent City), Bukhara, Samarkand, Navoi, Ferghana and Republic of Karakalpakstan.

1.4 Time Frame of the Study

The Study spans approximately 12 months, taking place from the end of October 2002 to middle of October 2003. The Study is to be carried in two phases: Phase I Study from October 2002 to March 2003 and Phase II Study April 2003 to October 2003.

1.5 Study Approach

The Study will be undertaken in collaboration with Uzbekistan C/Ps. In addition, the National Program shall be co-evaluated by both the Uzbekistan and Japanese sides, and more importantly the partnerships with related donors and NGOs are given attention.

1.5.1 First Year Study (Phase I)

1) To analyze possible constraints and best practices from (i) the implementation status of the existing National Program of Health Care Reform, (ii) activities of international organizations and donors, (iii) conditions pertaining to both supplier and demander of health care and medical services, (iv) status of the medical services administrative system, (v) health financing, (vi) realities of industry, economy, society and pathological pattern of the country.

2) To formulate a drafting provisional Master Plan for health care and medical service improvement that is in line with the level of country development and aimed at achieving specifically set short, mid and long-term objectives.

1.5.2 Second Year Study (Phase II)

To finalize the Master Plan (M/P) for improving the health care and medical services system throughout Uzbekistan based on the results of phase I study and analysis, discussions with the Uzbekistan side regarding the content of the Interim Report (IT/R), and the findings from any supplementary surveys deemed necessary.

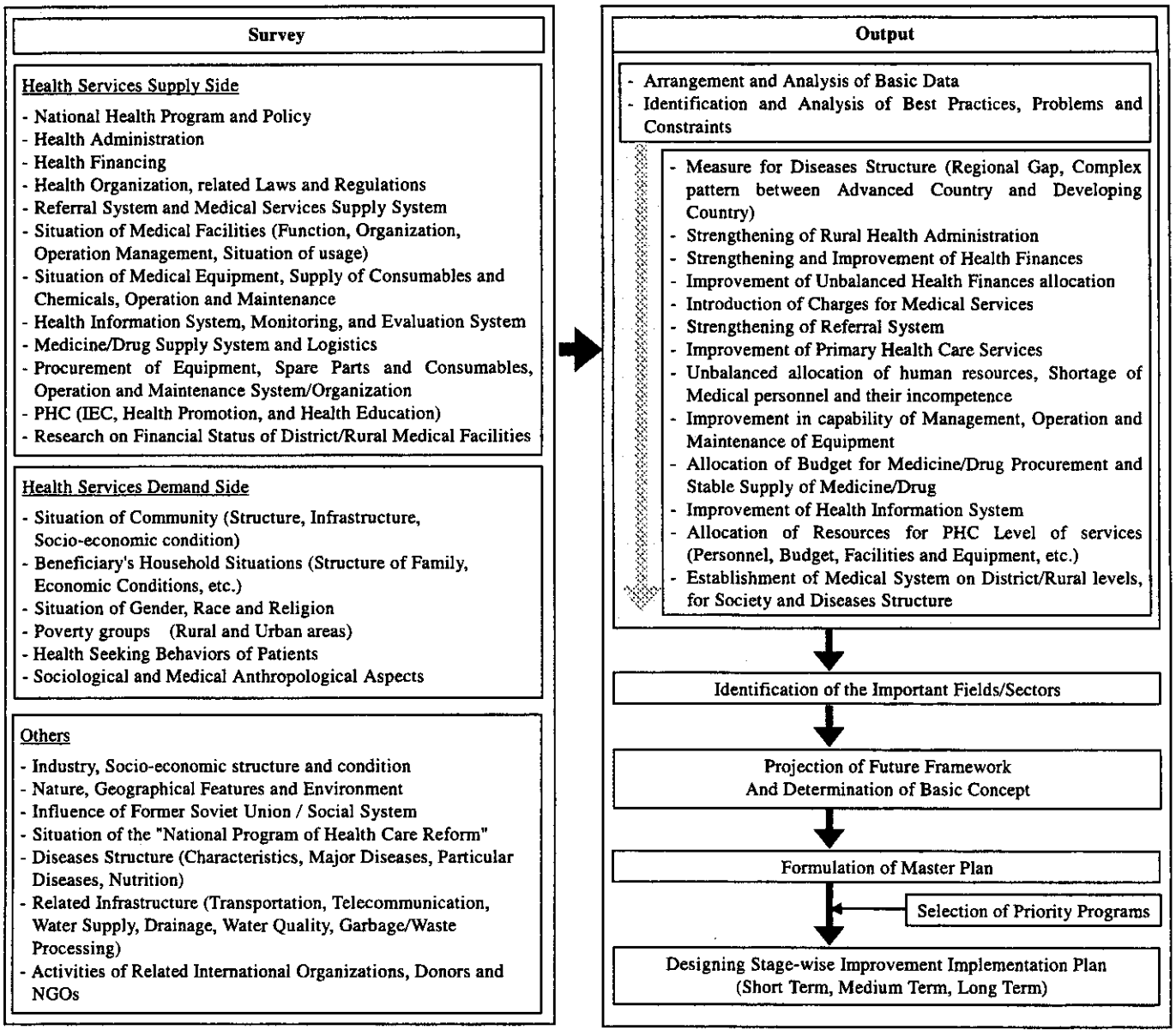


Figure S-1 Flow Chart of Master Plan Formulation

2. SOCIO-ECONOMIC CONDITIONS OF UZBEKISTAN

There are 12 Oblasts (Oblast), 1 Tashkent City and autonomous Republic of Karakalpakstan, 121 cities including the capital of Tashkent City and 163 Rayons (districts) in Uzbekistan.

The Gross Domestic Product (GDP) posted positive GDP growth of 4.2 % for 2000 and 2001 reported by World Bank. GDP per capita in 2002 was about 294 thousand in Uzbek Sums (at the conversion rate of US$1 to UzS980, GDP per capita figure was $347).

Table S-1 Structure of the Economy, as Percent of GDP, 2000

	As % of GDP*	As % of Employed**
Agriculture	33	34.4
Industry	25	12.8
Services	43	52.8

Sources: * World Development Report, 2002
Reference: Joint IFI Paper on Growth and Debt, Feb. 2002, IMF-WB
**estimated from Men and Women of Uzbekistan:
A Statistical Collection, State Statistic Dept. of Min. of Macro & Statistics, RU

3. HEALTH STATUS IN UZBEKISTAN

3.1 Populations and Demographic Structure

Population in Uzbekistan stood at 25.4 million (2001), which is the largest in the central Asian region and the third largest among the former Soviet Union countries. Forty percent (40%) of the population is under the age of 15, and with 6.5% being above the age of 60. Compared to the last decade (1991), the latest (2001) figures reveal the reverse migration to the rural areas from urban areas. This is an interesting development that requires further investigation.

Crude birth and death rates are at modest rates. The official life expectancy figure is high at 71.3 years but the International data adjusted for comparative purposes shows a slightly lower figure of 69 years. Total fertility rate, or the number of births per woman, is high at 2.7 percent, but this is 1 percent lower than the figure registered a decade ago.

Consequently, the health status of the population has been affected. The leading causes of mortality show that cardiovascular diseases (CVD) and respiratory diseases are the significant cause of death. In these two disease causes, as well as in parasitic and digestive problems, the rates for Uzbekistan markedly exceed Western Europe indicators. It is only in the indicators of injuries from accidents/ poisoning and malignant neoplasm, Uzbekistan is favorably better than Europe's rates.

3.2 Mortality and Disease Structure

Analysis of the mortality and morbidity statistics reveal the situation of double burden of disease, a typical pattern for developing economies. On one hand, the majority of the population suffers from what can be considered preventable deaths and illness; on the other hand, there is a growing share of chronic and expensive diseases causing deaths and illness.

Cardiovascular diseases are the largest contributor of mortality and morbidity in Uzbekistan and are about 5 times higher than that of western countries statistics. The age standardized death rate due to chronic liver diseases and cirrhosis. This seems to arise from traditional factors such as alcohol, smoking, high fat diet, a diet in low antioxidants and poor detection and treatment of hypertension. Malignant neoplasm is also associated with the substantial increase in ischaemic heart diseases and chronic intestinal disease.
The main causes of maternal deaths are hemorrhages, toxemia of late pregnancy, septic complications, and extra-genital diseases. A decrease in maternal mortality rate has significantly influenced the decrease in infant mortality.
Morbidity rates show high rates of vaccine preventable infectious diseases. The psychiatric cases are relatively high compared to TB and infectious hepatitis. The incidence of AIDS is generally attributed to the urban drug user group.

3.3 Epidemiological Survey on the Major Diseases

SHE-HP system (System of Sanitary, Hygiene, Epidemiology and Health Promotion) was established in the Soviet healthcare system and had a strong structure and financial base.

There are a number of laws of the Republic of Uzbekistan on this system, for instance, "Law on AIDS", "Law on the governmental sanitary and epidemiology control service" etc. There are also quite a few numbers of orders from the Ministry of Health and legislative documents regulating this sector.

But "Republican Centers of Health" including regional and rayon branches was formed on the basis of established service of sanitary-and-education of the population department. But the regulations of "Republican Centers of Health" contains a list of goals and objectives, most of which overlap with those of the Ministry of Health, RIAC (Republican Information Analytical Center), Republican SES (Republican Center of Sanitation and Epidemiology Control), Scientific Research Institute of Sanitary, Hygiene and Professional Diseases.

Vaccination is provided by two systems – SHE and PHC system. SHE system provides a centralized delivery of vaccines to PHC facilities, and also controls the process of vaccination provided by them among the population. However, there is no clear system of centralized purchasing and delivering of vaccines and bacteriologic pharmaceuticals.

3.4 Nutrition Conditions

According to the WHO report, average daily calorie consumption per head was about 2600 kcal in1998. On the other hand, there is overweight among the population aged 20-59 years which accounts for nearly 20% in random group sampling. This causes an unbalanced dietary practices and high carbohydrate consumption in predominant part of ordinary population.

Among children, stunting, wasting and underweight are still in large number. Malnutrition rates are consequently higher in rural areas, especially by income quintile; the poorer groups tend to do worse than the upper income groups. Micronutrient deficiency such as vitamin A deficiency, Iodine deficiency disorders (IDD), and anemia is going to be recognized as serious illness. Goiter prevalence was over 40% and 60% of population suffer from IDD. 60% of reproductive age women and 70% of children under 5 years of age are anemic. 40% of population of Karakalpakstan is suspected to be suffering from vitamin A deficiency. However, there is no accurate data for those micronutrient deficiencies. Sustainable monitoring system needs to be developed.

4. NATIONAL PROGRAMS

The Government of Uzbekistan formulated a presidential decree No.2107 on the "National Program of Health Care Reform (1998~2005)", which aimed at strengthening the medical and health care system for the people of Uzbekistan on November 10, 1998. The main concept and objectives of heath care reform are:

1) Better quality of health services and social protection
2) Equal access to health and medical services
3) Introduction of market principles and mechanisms to the health system
4) Effective system for mother and child health care services
5) Development of preventive health services
6) Improvement of health financing system

7) Provision of PHC in guaranteed quality
8) Strengthening of the emergency medical system
9) Improvement of referral system
10) Improvement of the effective health management system
11) Establishment of a legal base for health reform
12) Improvement of quality of training for medical personnel

In accordance with the above reform program, since 1998, World Bank has been implementing 5 year- program "Health I Project", aiming at strengthening PHC in rural areas.

5. COORDINATION AND PARTICIPATORY APPROACH

5.1 Explanation and Discussions on the Inception Report (IC/R)

5.1.1 Counterpart Meeting on the IC/R

The first C/P meeting on the IC/R was held on November 11, 2002, at a conference room of Ministry of Health.

(1) Objectives

1) To share an understanding with C/Ps regarding the general content of the envisioned Master Plan Study
2) To create a consensus among the JICA Study Team and C/Ps
3) To identify major concerns and issues affecting the health care and medical services field in Uzbekistan

(2) Discussions and Comments

The M/P Study will be to co-evaluate the existing National Program of Health Care Reform of the Republic of Uzbekistan (1998-2005) with Uzbekistan side and JICA Study Team. Uzbekistan side pledged a full collaboration and ownership for the Study.

5.1.2 Steering Committee on the IC/R

The Steering Committee was held on November 21, 2002, at a conference room of Ministry of Health. The Steering Committee was organized by Uzbekistan side, aiming at helping realization of necessary coordination for the Study. Mr. Khodjibekov Marat, the Deputy

Minister of Ministry of Health, chairs the Steering Committee. The members are representatives of Cabinet of Ministers, Ministry of Macro Economics and Statistics, Agency of Foreign Economic Relations, Ministry of Finance and Ministry of Health

(2) Objectives

1) To report the overview of the envisioned Master Plan Study to concerned Uzbekistan officials.
2) To create a consensus between the Study Team and the Government of Uzbekistan officials, and promote cooperative structure among all concerned parties.
3) To confirm the significance of strengthening health finance sources, and presentations on the health insurance systems of the major industrialized countries.

(3) Discussions and Comments

1) JICA Study Team gave an overview on the health finance and public health insurance of other countries.
2) Chairman confirmed the contents of IC/R that were approved by the Steering Committee, and requested all related ministries collaborate for the Study.

5.1.3 Roundtable Meeting on the IC/R

A first Roundtable Meeting was held on November 25, 2002 at Uzbekistan Press Center in Tashkent. There were about 30 participants from international organizations, donors and NGOs active in the health care and medical services sector in Uzbekistan.

(1) Objectives

1) To share the understanding on general contents of the envisioned Master Plan Study with international organizations, donors and NGOs.
2) To create a consensus among the Study Team, international organizations, donors and NGOs.
3) To identify the status of program implementation, level of benefit, and issues regarding each international organization/donor/NGO.

(2) Discussions and Comments

1) The main donors showed strong interest in the JICA Study and expressed that they would cooperate and collaborate along the process of the Study.
2) It is important to exchange information among donors that have been carrying out

health development programs in Uzbekistan, and to share various experiences, problems, and lessons.

3) To effectively help exchange opinions, small sessions inviting donors need to be organized on a regular basis.

5.1.4 Workshop on the IC/R

The first Workshop was held on November 30, 2002, at a conference room of Ministry of Health. Participations were, C/Ps, representatives of health department of Oblast and chiefs of health department of study areas

(1) Objectives

1) To create a consensus between the JICA Study Team and participants, and promote a cooperative relationship among all concerned parties.
2) To confirm a significance of strengthening health finance sources, and presentations regarding the health insurance systems of the major industrialized countries.
3) To select study areas for the baseline survey.

(2) Discussions and Comments

1) Areas for the baseline survey were selected.
2) The M/P Study will co-evaluate the existing National Program of Health Care Reform of the Republic of Uzbekistan (1998-2005).
3) Uzbekistan side pledged a full collaboration for the Study.
4) Securing health finance is important for the appropriate medical services.

5.2 Working Groups

The JICA Study Team organized Working Groups for analysis of the results and fact findings, and to identify the best practice, issues and constraints in the existing health situation in Uzbekistan. At the final stage, Working Groups will formulate the way of solution and improvement programs. 12 small technical working groups are organized according to the sub sectors and each development program so that vital discussions could take place.

(1) Specialty of Small Groups

1) Group No.1 Health finance, insurance and private medicine

2) Group No.2 Drug supply logistics and medical equipment
3) Group No.3 Maternal and child health care
4) Group No.4 Sanitation, hygiene, and infectious diseases
5) Group No.5 Quality of medical services
6) Group No.6 Human resources development
7) Group No.7 Primary health care and health promotion
8) Group No.8 Emergency medicine
9) Group No.9 Specialized medical care
10) Group No.10 Health information system
11) Group No.11 Nursing education
12) Group No.12 Health care management system and legislative

(2) Members of Working Groups

1) Ministry of Health (C/Ps, head and deputy head of department)
2) Other ministries related with health administration
3) Medical organizations and enterprises like RIAC and Dori-Dorman
4) International organizations and NGOs
5) Directors and specialists of Oblast and Rayon health department,
6) Directors and specialist of medical facilities and institutes
7) JICA Study Team

5.3 Explanation and Discussions on the Interim Report (IT/R)

The Workshop for explanation and discussions on the Interim Report (IT/R) was held on March 6, 2003, at a conference room of Ministry of Health. Participants were members of working groups.

(1) Objectives

1) To well inform the contents of the IT/R to the participations.
2) To identify best practices, problem issues and constraints in medical services in Uzbekistan.
3) To confirm the basic principles for planning of the future framework, basic planning approach for formulation of the Master Plan and improvement programs under the Master Plan.

(2) Discussions and Comments

1) Both of the Uzbekistan and Japanese sides agreed upon the Study contents of IT/R.
2) The Uzbekistan side requested the expansion of the study area to the Ferghana valley according to its characteristic importance.
3) Uzbekistan side agreed upon the approach of health care reform and rationalization of health budget expenditure.
4) Both of the Uzbekistan and Japanese sides will continue the formulation of improvement programs with close collaboration and relation.

5.4 Explanation and Discussions on the Draft Final Report (DF/R)

The Workshop for explanation and discussions on the DF/R was held on September 17, 2003, at a conference room of Ministry of Health. Participations were members of working groups and representatives of Oblast health department.

(1) Objectives

1) To share the understanding among the participants on the contents of the DF/R.
2) To confirm the objectives and strategies of the Master Plan, sector-wise and area-wise improvement programs and priority programs under the Master Plan.
3) To promote realization of priority programs under the Master Plan.

(2) Discussions and Comments

1) The content of the Draft Final Report was accepted by the Ministry of Health.
2) The Uzbekistan side reconfirmed that the health financing reform needs to be resumed with possible introduction of health insurance system.
3) Uzbekistan side agreed to make their best effort in realizing the Master Plan and programs presented in the DF/R.

PART II SITUATIONS OF HEALTH SECTOR

6. HEALTH ADMINISTRATION AND ORGANIZATION

In Uzbekistan, the role of organizing and managing the health care system are filled by the President, Cabinet of Ministers, Ministry of Health, Ministry of Finance and Ministry of Macroeconomic and Statistics. The Oblast and Rayon health department are implementing health care administration in rural area. Ministry of Health is a major implementation body for the medical and health care administration in this country. The main activities of the Ministry of Health are listed as follows;

1) Development of health care legislation and regulation
2) Determination of standard for quality and components of health services
3) Monitoring the quality of health care
4) Identification of priorities for medical research
5) Monitoring the population health
6) Development of curriculum for training on health personnel
7) Issuing the licenses and certificates for the health providers

Since independence, the Government of Uzbekistan has been adopting the decentralization system. Budgetary and administrative responsibilities were transferred from central to the Oblast governments. Accordingly, the health administration in rural areas are also organized and managed by Oblast governments.

7. HEALTH FINANCES SYSTEM

An examination of Uzbekistan's socio-economic conditions and economic outlays in the health sector shows that this can be managed. The country shows great economic potential in terms of its resources, its people and economic performance.

However, much more needs to be done to improve living standards and the health status of the majority of the population. More than 80 percent of health sector funds came from public revenues, of which nearly 90 percent were from regional or oblast sources. A centralized budget setting process has maintained a fairly equal allocation pattern across the regions on a per capita basis. There is not much deviation from the average. A little less than 50 percent of funds went to salaries, slightly above 30 percent were spent on current expenditures which were taken up by pharmaceuticals, food and repair. A quarter to a fifth of funds went to miscellaneous expenses. With the health sector just comprising

a steady nine percent of government budget, the spending pattern in health care could reflect the quality of services offered by the huge infrastructure of health services and personnel who comprise the health system.

Resource use rates showed much improvement since reforms began in 1998, particularly in bed numbers, but population utilization rates like hospitalization and outpatient visits appeared relatively high. A much higher percentage of the population got hospitalized, spent longer days in the hospital, and made far more outpatient visits than well-off European counterparts.

The health financing system was heavily supported from public revenues that can be used more effectively to promote efficiency in the sector. Early pilots on capitation funding for primary health care centers have been expanded to other areas with the support of external funding. The same mechanism and/or use of global budgets can be experimented on second-level referral facilities in the rural areas. An immediate concern on resource use however is the amount of money not getting into the facilities but into personnel pockets. This amount to about 6 percent of public funds, or as World Bank estimated, it could nearly double the health sector's share in GDP. Such funds, if captured, could generate more facility level improvements without additional budget allocations.

As part of the reform process, a system of charging has been instituted in facilities known as mix charging or self-financing. There is not much information on the numbers of self-financed facilities, but anecdotal evidence pointed to institutions reverting back to budget charging. Implementation issues on mix charging still abound; and internalization of the reform process clearly needs more time and information dissemination. But more importantly, charges in public facilities must go hand-in-hand with improvements in the level of services. In keeping with financing reforms, community-financing initiatives can be explored.

On the reform process itself, a careful delineation of emergency care needs to be made, specifically as it crowds out primary care level facilities and drives resources away from regular care in existing facilities. More work needs to be done to develop a benefits-based system which directs the flow of funds not to types of facilities but to a specific level of benefits guaranteed by the state to client groups, specifically the poor. Any facility delivering these benefits within their defined roles and capacities must be able to benefit

from additional resources.

The privatization drive in health care has not kept pace with other reforms. In the reform period, the private sector may have been crowded out by the technological build-up not only in public facilities but also in enterprise facilities. A small practitioner will require huge sunk up costs to compete to the recent re-equipping of public facilities. The government also has to put a regulatory system, with a system of quality of care standards and inspections, in place as it seeks the development of the private sector.

One alternative financing option that is contained in the 1998 decree is medical insurance. Due to the delayed legislation on compulsory insurance, private insurance has gone well ahead. Before medical insurance can take off, much more needs to be in place. These include activities that relate to the adoption of standard international disease classification, development of clinical practice guidelines and treatment protocols (at least for the common diseases), determining efficient levels of service provision and costing. The experience from charging suggests that this might take some time and the consultative process must continue before a firm legislative base is put in place. The process requires much coordination and consultation. Preparatory and advocacy for health finance reforms can be best managed by a separate unit within the MOH, working with economists from state institutions. Donor support can be harnessed for a technical adviser with experience of other systems and can tap other external resources to support the preparatory and transition activities.

8. REFERRAL SYSTEM

Even after independence, the influence of the former Soviet period still remains; medical facilities and doctors are redundant in number, departments are extremely segmented. On the other hand, the budget is allocated to the each medical facility only in accordance with the number of beds; as a result the number of medical facilities is over-supplied. In short, medical referral system is still subdivided and complicated.

According to the "National Program of Health Care Reform (1998~2005)", referral system is being restructured. Especially, facilities at the PHC level have been focused. World Bank is implementing "Health I Project" in Fergana, Srydarya and Navoi Oblast to strengthen the PHC in rural areas. This program is to restructure the complicated PHC facilities to more simplified form, and to establish the first referral facility of SVP (rural

physician's point) according to the number of population in the covering area.

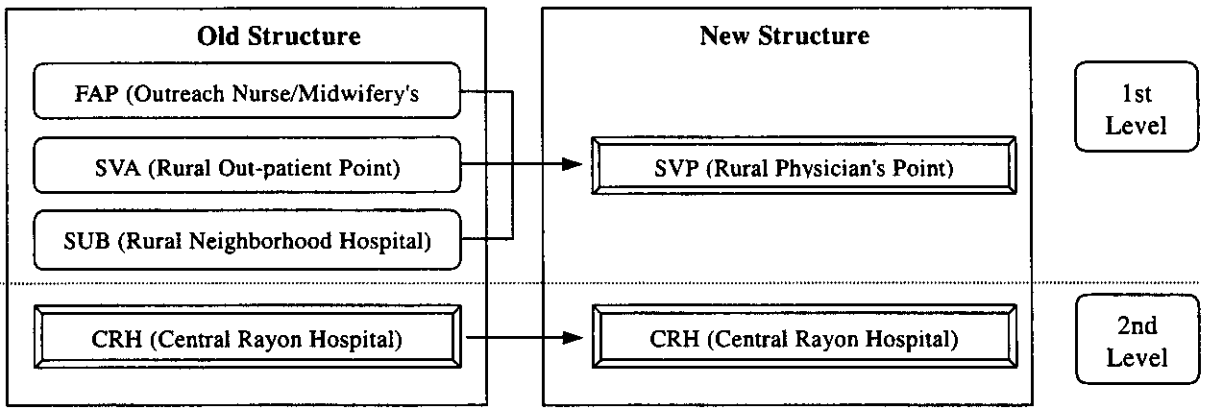


Figure S-2 Reform of Referral System in First and Secondary Level

The concept of primary level reform in urban areas has not yet been developed. It should be also pointed out that in the existing system urban area polyclinics perform two main functions: urban area doctors and family doctors are providing primary care while specialized doctors are involved in the secondary specialized care level.

Secondary Level includes a number of out- and in-patient facilities. In accordance with reforms concept, on the Rayon level, it is planned to shift specialized hospital level to Central Rayon Hospitals (CRH) and provide close coordination and efficient referral mechanism between SVP and CRH.

The system of Emergency Medical Care has undergone significant qualitative changes in recent years. The reformation of Emergency Care started in accordance with the Presidential Decree in 1998. The idea of reforms has become the centralization of Emergency Care in Rayons and major cities in order to create a uniform system; it must be provided free of charge. 13 Republican Center for Emergency Care were established in Tashkent and Oblasts on the basis of the major hospitals in Tashkent city and Oblast. It offered tertiary level services. In more than 170 Central Rayon Hospitals (CRH) the departments of Emergency Care were established. However, there are certain problems in the service, and the key problem is organization and human resources.

"03" service exists within centers of emergency care and CRH on Oblast and Rayon levels.. The central station functions in the Oblast, and usually there are several substations. In Rayons, the service is represented by CRH departments. "03" service of Tashkent city is an independent service with a main station and 13 substations. The main part of the

ambulance services is mainly represented by the government service. In recent years private ambulance has emerged, with high price for the population.

Historically, the system of specialized care started its development in 1930-1940s through the establishment of separate types of dispensaries for out-patient specialized care. These dispensaries at Oblast and Republican level started hospital care (in-patient) as well. At the Republican level, there are several scientific and research institutes. In 2003, Presidential Decree proclaimed the beginning of the reforms in specialized care and the establishment of 4 Republican specialized centers – surgery, urology, cardiology, micro-surgery and ophthalmology, espacillay to strengthen the mixed financing system.

The blood transition system in Uzbekistan is as follows:
The blood transfusion system (Blood Program) in Uzbekistan is as follows: The Republic Blood Station (RBC) is the central organization in the blood transfusion system; the administration of the RBC is located in the same building of the Scientific Research Institute for Hematology and Blood Transfusion in Tashkent city.

There are 23 Oblast and City level Blood Centers (BCs) and 235 Blood Transfusion Units (BTUs). BCs collect whole blood and produce blood components such as red cell concentrates (RCC), platelet concentrates (PC) and fresh frozen plasma (FFP), and supply these components to all medical facilities. BTUs are attached to medical facilities and collect only the blood volume necessary for the facilities. Although these BTUs can collect whole blood and produce RCC and FFP, the other components have to be supplied from the BC. Most BCs collect plasma and have equipment to manufacture plasma fractionation products.

9. MEDICAL FACILITIES AND EQUIPMENT

(1) Condition of Health Facility Building. Oblast, Rayon and SVP

SVP facilities in the hospital buildings are distinguished by three types. Oblast and Rayon hospitals are in "Complex Style", with several buildings on a relatively large site. The nominal voltage rate of Oblast, Rayon hospitals, and each facility applies 220 single phase/V/50Hz, and 380 three phase/V/50Hz. Actual voltage in single phase in some facilities is much higher than nominal voltage value AC220V. As far as an Actual voltage in three phases in each hospital is concerned; no problem was seen, and measured voltage

was within allowance. Several SVPs and Rayon hospitals have piped water, but some do not. Quality of water, soft and hard, varies depending on the regions. Facilities with central medical gas system are also few in the Oblast level hospitals. Heating in many buildings still use the equipment constructed during the Soviet age. The communication equipment is maintained well and there is no problem at present. However, there is a telephone line for local call but no long distance call at SVP. Regarding radiation, all X-ray rooms are protected with protection walls that are made with the barium mortar. The hospital waste is collected and carried by a public garbage service. Used plastic syringes and the injection needles are collected by special trader of the government.

(2) Condition of Medical Equipment

The delivery of medical equipment to each hospital started in 1965 during the former Soviet age. At that time, same equipment was granted by the central government (MOH) in Moscow for each hospital in each country of CIS, and they have been in use since then.

(3) Operation and Maintenance

Tibitechnika is a joint stock company, established in 1996 with Ministry of Health. Tibitechnika is engaged in sales of the medical equipment, installation, operation, maintenance, repair, and trial operation.

10. HUMAN RESOURCES

During the last 5-6 years, the total number of physicians was stable, about 73,000, or 29.9-29.6 per 10,000 of population. From this number to 2001, 2,920 GPs have worked. Approximately 300 physicians are re-trained annually.

The number of middle level medical personnel increased from 227,600 to 252,430 in 10 years (1991-2001), and the rate per 10,000 populations is 100.5-100.6 at the present time. The physicians/middle level personnel rate is 1 : 3.3-3.5. However, according to the President's Decree of 1998, it is intended to achieve the rate of 1 : 6 by 2005.

At the present time, in the healthcare the modern methods of human recourses needs assessment, based on the comprehensive analysis of the healthcare labor market, which is not being applied. Often the previous personnel standards for specialists are used without detailed analysis of actual needs.

The important issue is management and regulation of human resources allocation in healthcare. There are some serious subject and specialties' disproportions. First of all, it is necessary to mention the regional disproportions among urban and rural areas. There are two aspects of this problem: the abolition of the medical school entry quota for rural inhabitants and equal conditions for all enrollees. The other aspect of this problem is absence of efficient mechanisms for specialists' allocation, because while administrative methods were abolished the economic methods have not been implemented.

At the present time the majority of doctors have the experience of more that 10 years, and the share of young specialists is very small, hence it can lead to the general deficiency of physicians in the coming 10-15 years.

Another issue that influences the quality of doctors' qualification is the absence and non use of evidence-based standards and protocols for providing medical services. There is some gap between qualification requirements and provision of medical services.
The management of medical education system is centralized. The organizations who lead the educational facilities are: Cabinet of Ministers, Ministry of Health, Ministry of Higher, secondary and specialized education and its sub-institutions.

There are 15 scientific institutes, 20 Research Centers and 11 medical institutes. The finance system has been changed by the President's Decree. According to the Decree, the budget for science work will be allocated in accordance with the competitive principle. The priority directions for researchers and institutions have been developed by the Ministry of Health.

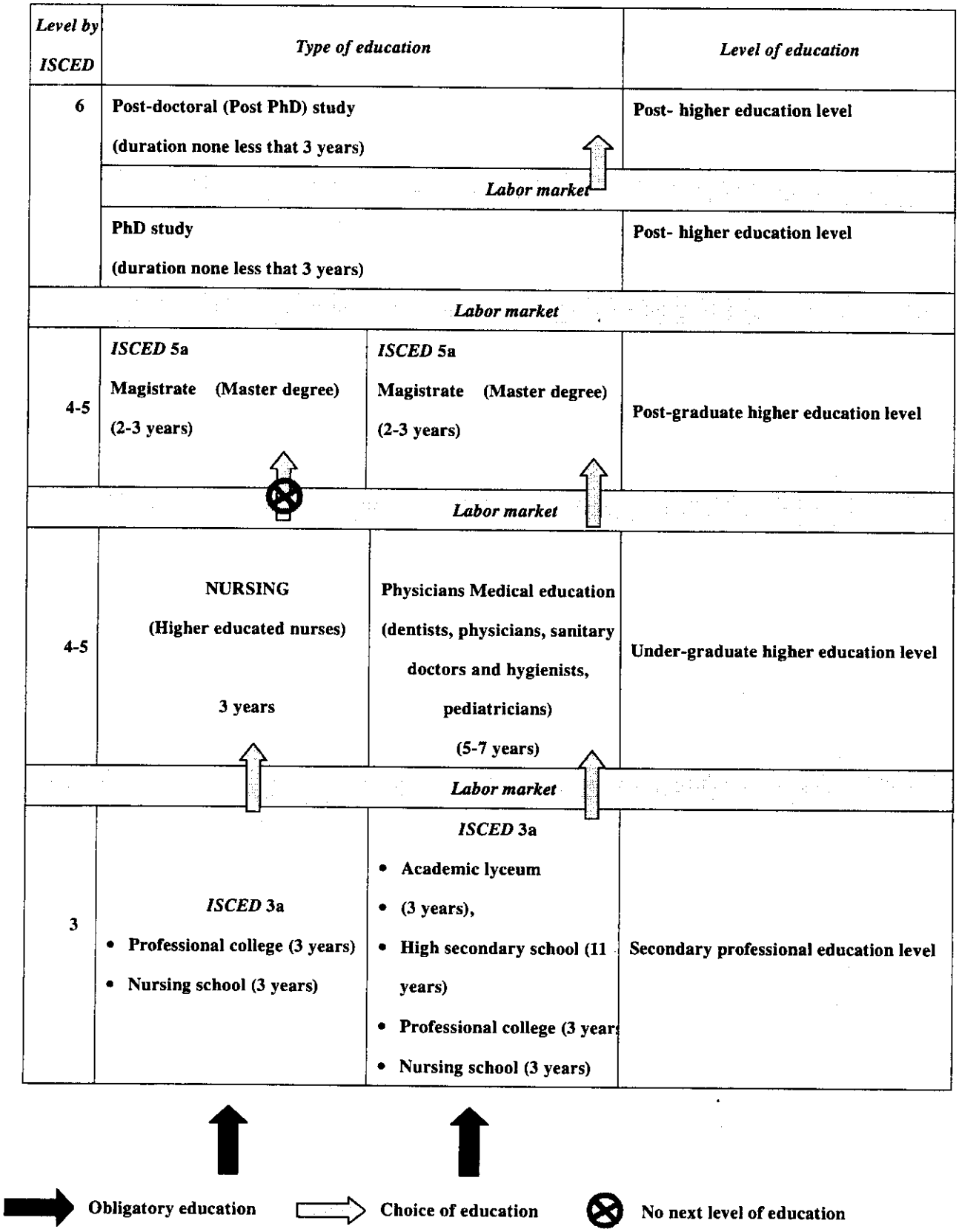


Figure S-3 Structure of Under-Graduate and Post-Graduate Medical Education

11. DRUG SUPPLY LOGISTICS

Uzbekistan has established legal framework and distribution system of pharmaceuticals. Shortage of drugs in primary health care facilities and irrational use of drugs can be still seen, and "Essential Drug Policy" and "Standard Treatment Guideline" are not prevailing.

(1) Legal Framework

During the period of Health Reform, the country established a legal framework on pharmaceuticals. 'National Drug Policy' was issued in May 1999, 'Essential Drugs', which consists of 351 drugs in variety, selected in May 2001. Following these policies, 'Drug Reference Book' was published in 2002 and Uzbekistan Pharmacopoeia, , which for the time being refers to that of the USSR, is under preparation.

However, some undertakings need to be further accomplished. First, laws need to be revised in accordance with the present status of pharmaceutical market. Second, the system of enforcing the laws needs to be established. Last, National Drug Policy needs to be urgently approved to be a legal force, with giving careful consideration to essential drugs and generic substitutions in its scheme.

(2) Drug Distribution

The country's annual budget for drugs was eight billion sum, twelve billion sum, and eighteen billion sum in 2000, 2001, and 2002 respectively. Speaking of ratio, the budget for the drugs in 2001 accounted for 12% of the budget.

The following chart describes the drug distribution system in Uzbekistan.

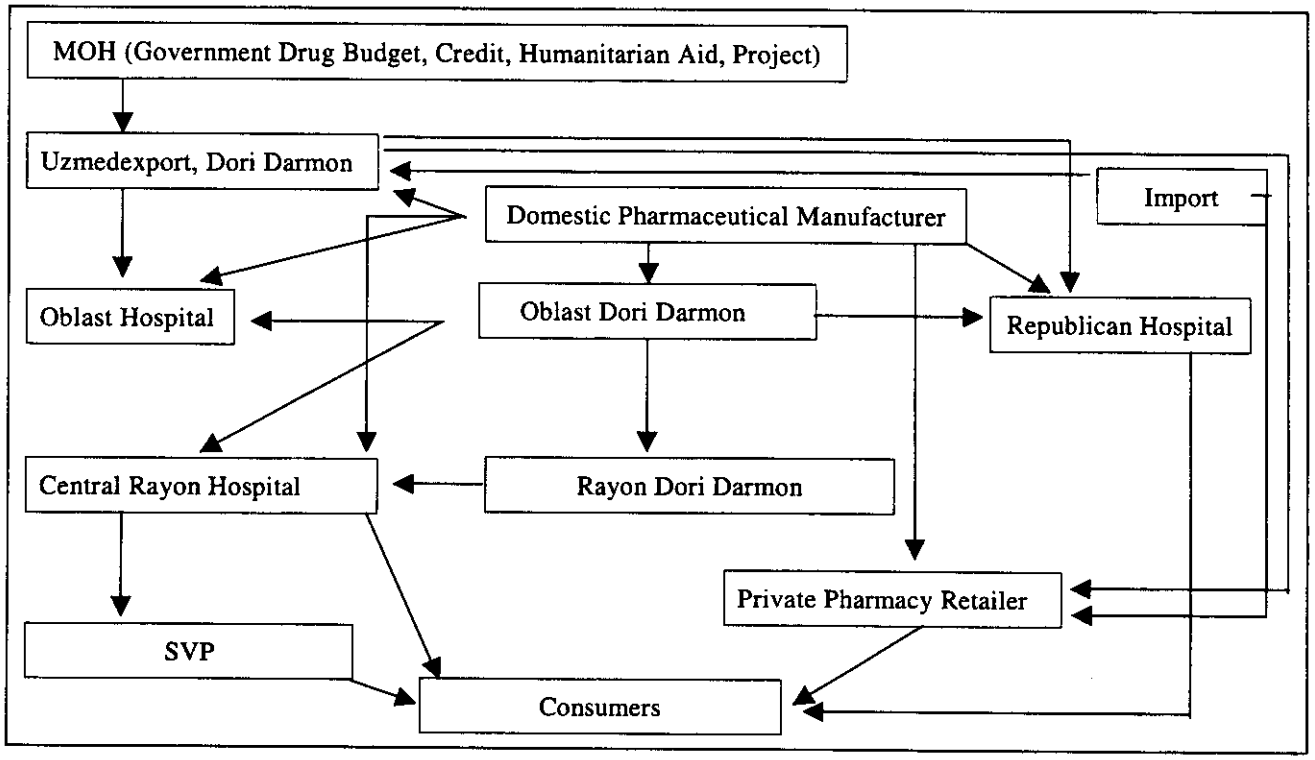


Figure S-4 Drug Distribution System

Dori Darmon is a joint-stock company that plays an important role as a distributor of pharmaceuticals to health facilities and consumers. However, disproportionate distribution of drugs apparently emerged from our research on supply side. This infers lack of communication and information sharing on drug inventory between health facilities and Dori Darmon.

Domestic drug manufacturing is developing, yet most drug procurement is still predominated by import. Domestic pharmaceutical manufacturing should be more promoted, so that essential drugs are supplied at lower price, subsequently leading to more stabilized drug market.

(3) Accessibility to Drugs

In Uzbekistan, there are two ways in accessing to drugs; at health facility and pharmacy. Out-patients go to a pharmacy to purchase drugs with prescription issued by doctor. In-patients are basically provided drugs from a health facility free of charge, however, if the drug is out of stock, they have to purchase it from the pharmacy outside.

The survey was conducted to gauge availability of 10 indicator drugs in 91 health facilities at each level. The percentages of health facilities without these drugs in stock for more than 9 months for one-year period in 2002 were, 35.0% at primary level, 18.6% at secondary level, and 3.4% at tertiary level.

SVP, which is the most important health facility to implement primary health care, are suffering from shortage of drugs; inventory management is not sufficiently done.

As for the accessibility to private pharmacy, people in Karakalpakstan have the least number of pharmacies per population, the lowest frequency of visit to pharmacy. With the prices of drugs in this country being generally higher than the international median prices, the poor in the rural areas of Karakalpakstan are most burdened. Considering this situation, the first priority needs to be set forth, to improve accessibility to drugs specifically in this area. And community participation should be emphasized for viable and self sustainable program implementation.

At the same time, inventory management both at public health facility and private pharmacy should be targeted for technical and systematic improvement. Sound inventory management contributes to higher drug availability.

(4) Drug Utilization

Polypharmacy is the issue on drug use in Uzbekistan; neither the doctors nor the pharmacists recognize generic names very much, prescription rate of antibiotics and injection is unnecessarily high. And irrational drug use is caused by several more factors; Patients' preferences in drugs, outdated drug knowledge or doctors' and pharmacists' still adhering to old habit of drug use, and aggressive marketing campaigns by pharmaceutical companies. In order to cope the situation, public education using mass-media or Makhalla, review of prescription habit, and establishment of drug information center shall be the necessary measures.

12. HEALTH INFORMATION SYSTEM

(1) Health Information System

Uzbekistan historically has a strong health care system, which has been controlled centrally. To support the centralized management strong information system had been developed and sustained.

HIS follows the pattern of the health care services delivery like regular hospitals system, sanitary and epidemiology system, specialized hospitals system and so on. Ministry of Justice manages population registration system and it has offices from rayon level. Besides these, the general statistical system functions at all levels. All these bodies exchange information at regular intervals.

The information flows are mostly vertical starting from the primary level and horizontal between the involved departments at rayon and oblast levels. The system is mostly manual and there are around 50 forms for reporting and every detail of diseases, performance and programs is covered in these reports.

(2) Preparation of the Geographical Database Model

There are specialized statistical staffs available at rayon, oblast and republican level and at republican level there is a specialized institute for health information (RIAC)
Donor agencies like ZdravPlus project has experimented and developed computerized population information system, financial management system and clinical information system. They have been working with population information system in Ferghana and some rayon of Sirdoriya and Navoi oblasts in collaboration with World Bank supporting health project.

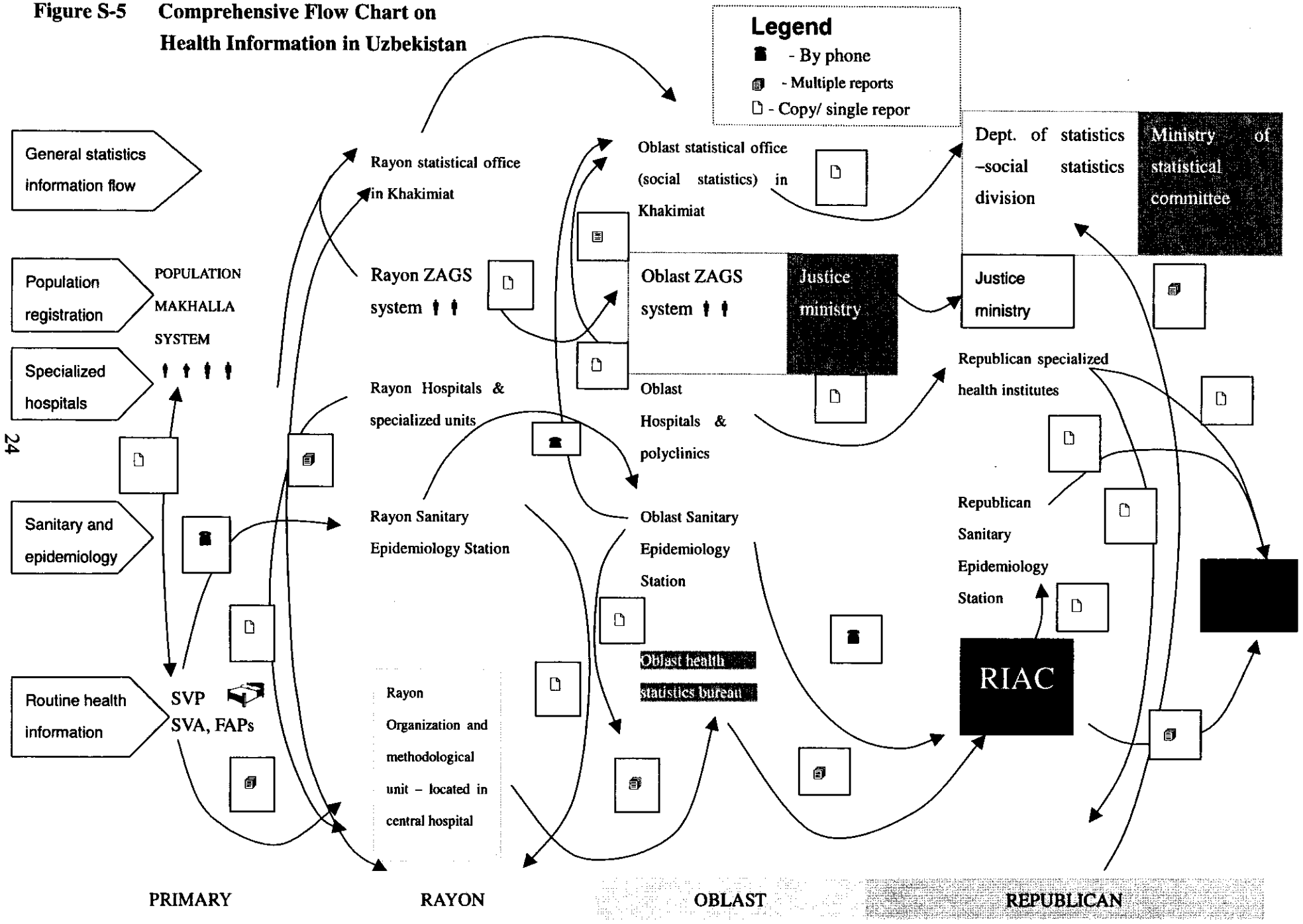
The HIS system is mostly manual and aggregated data, except the most dangerous infectious diseases (this information is transmitted by phone daily) the rest of the information is transmitted mostly quarterly and yearly reports.

Computers are available at republican, oblast and rayon levels (only with SES at this level) but there are no application software for data entry, aggregation and analysis (except some 20 years old Fortran programs). RIAC has since developed an application (MEDSTAT) and it needs to be implemented at oblast and rayon levels in phases.

There is a sufficiently organized population registration system but the health system linkages with it in terms of tallying the household data are weak.
Donor projects, although have excellent skills and technologies, couldn't support the routine HIS and they themselves added some more reporting forms for their project planning and management purpose.

Although exhaustive data is generated and transmitted to the levels above, feedback is mostly oral in the medical meetings and data feedback is absent.
Performance indicators for monitoring health systems are not in place.
There are several issues with the data quality; especially the outpatient and house visit data at the primary health facilities. Although the data auditing system is in place its function is hindered by financial and other constraints.

Figure S-5 Comprehensive Flow Chart on Health Information in Uzbekistan



13. PRIMARY HEALTH CARE (PHC)

13.1 Primary Health Care

(1) Organization and Management

The department for curative and prophylactic care in Ministry of Health controls primary medical service facilities and is the closest to comprehensive PHC management. In rural area, FAP, SVA and SUB are still remained in the areas not covered by "Health I" Project. SVP with general practitioner (GP) and nurse newly introduced as PHC facility is going to be familiar to population. In urban area, policlinics and pediatric policlinics with specialists are the first medical care point as outpatient facilities.

(2) The Role of SVP and Current Situation

For comprehensive approach to community level, the role of SVP and GP requires universal activities, being expected the provision with essential drug and equipment, focus on the acute demand-led interventions, health education, promotion, prevention, and treatment with diagnosis. Thus, scope of services in SVP has been prepared under the cooperation of World Bank "Health I" Project and "Uzbekistan Health Project" Know How Fund.

According to the former educational system, staffs of SVP are mostly therapists, pediatricians, other specialists and nurses, as well as re-trained to be General Practitioner (GP) and universal nurse focusing on establishment of family practices. Also "Health I" Project insists on the importance of management in SVP, as GPs are expected to assume the administrative work, such as finance, medical reporting, maintenance of facility and equipment as well as health services.

FAP, SUB and SVA have quite poor medical equipment and limited drugs, even minimum electricity and clean water supply are insufficient. In the pilot project area, newly renovated facilities attract patients to be accessible and give them confidence in care. Treatment in SVP can provide utmost primary care; its equipment performs simple operation.

(3) World Bank Project "Health I and II"

"Health I" was launched in 1998. The project has 3 components: 1) strengthening PHC services in rural areas, 2) Training of GP and universal nurses, 3) strengthening of financing and management. "Health II" Project aims to scale-up to national programs in each of the same three components. In addition, "Health II" Project will include new public health components: development of new capacity in the public health infrastructure and capacity to address infectious diseases, such as HIV/AIDS and Tuberculosis, and project management, including monitoring and evaluation.

(4) Health Seeking Behavior

Poor health and nutrition status reflect in access and quality of services, but also economic barriers such as low income and high cost of care, and cultural influences. Most of the patients use health services only when they are ill, therefore their health seeking behavior weights on risk behavior targeting at specific illness and diseases prevention.

Pharmacy takes a first place of visit as health service as well as SVP or policlinics. Average on frequency of use nearly reaches 80%. Also according to illness of level, health services are defined. Health service users recognize to use ambulance station for accident or sudden illness, severe or chronic diseases, and child and maternal health at SVP/ policlinics or rayon hospital.

13.2 Maternal and Child Health (MCH)

(1) Organization and Management

The department of maternal and child health care in the Ministry of Health conducts unit of maternal health care and unit of child health care. Related institutes, such as scientific and research institute of pediatrics, scientific and research institute of obstetrics, republican screening center and gynecology and republican prenatal center are linked with each stage of prevention, safe delivery and specific care.

(2) Regulation and Strategy

MCH has been prioritized and a series of programs 'MCH screening', 'Healthy Generation', 'Mother and Child' and 'Additional measures on improving maternal and children Health' have been promoted. Besides, international donors undertake implementation programs such as integrated management of childhood illness (IMCI), Expanded Program for Immunization (EPI), Safe Motherhood, breastfeeding, nutrition and micronutrient deficiency control and family planning.

(3) Facility and Equipment for MCH

Most of deliveries have to be in maternal hospital in Rayon level and birth is to be registered. Primary health facility has a role of checking the health for pregnancy. Newly introduced screening center detects high risk or abnormal pregnancy. Primary health facility starts to be equipped on the process of SVP reform gradually and prenatal and antenatal care including home visit is on going. Central Rayon Hospital should be prepared for referred mothers who have complication or expected a difficult labor and immature infants, indeed, there is hardly prepared for abnormal