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PROVIDER PAYMENT CASE STUDIES

**Health Care Reform  
in Issyk-kul Oblast, Kyrgyzstan 1994-97:  
Restructuring through Payment Reform**

**March 1997**

**HEALTH CARE REFORM  
IN THE ISSYK-KUL OBLAST, KYRGYZSTAN  
1994-1997:  
RESTRUCTURING THROUGH PAYMENT REFORM  
A CASE STUDY**

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**CASE STUDY IN HEALTH CARE REFORM  
IN THE ISSYK-KUL OBLAST**

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## EXECUTIVE SUMMARY

In March 1994, the Kyrgyzstan Ministry of Health (MOH) requested technical assistance from the U.S. Agency for International Development to help carry out a health insurance experiment in Issyk-kul Oblast. The demonstration was jointly design by local counterparts and the *ZdravReform* project. The legal basis for the experiment was finalized by mid-1995. The reform project included three main components: (1) restructuring of the health care delivery system; (2) introduction of new incentive-based payment systems; and (3) creation of a Mandatory Health Insurance Fund (MHIF) that would pool all health care funds from rayons, cities and the oblast and incorporate the Fund into the Oblast Health Department (OHD).

The major goal of the restructuring component was to downsize the hospital sector and shift resources to an improved primary care delivery system. By the end of 1995, 9.2 percent of hospital beds had been eliminated. The primary health care component required breaking up parts of polyclinics into family group practices (FGP) that consisted of a pediatrician, a therapist, a gynecologist, several practice nurses and a practice manager. Intensive training programs were set up for new family practitioners. FGPs were set up as independent entities with their own financial and clinical information systems, managed by a practice manager. For the first time, patients were offered free choice in selecting their primary care physician. By early 1996, the OHD decided to expand the FGP model into three rayons outside the original pilot area for full coverage of 80 FGPs. In mid-1996, an enrollment and marketing campaign for the city of Karakol and later the whole oblast was established to educate the population about the FGPs and enroll them in the practice of their choice. A Center of Excellence was established to train family practice specialists.

Payment reforms included development of a case-based payment for hospitals, a fee schedule for polyclinic services and a capitation system for FGPs. The patient classification system for the case-based payment system consists about 55 groupings based on type of department, with or without intensive care. Payments would be budget neutral, using a system of relative weights for each group and the annual budget levels expected. A simple cost accounting system was developed in most demonstration facilities to support the payment system. A clinical information system to enter and pay hospital bills was developed and installed in the OHD/MHIF.

For outpatient specialty visits and diagnostic tests, a Commission consisting of local experts was formed to develop the fee schedule. Approximately 225 outpatient visits and procedures are included on this list. Developing a partial fundholding mechanism for FGP proved difficult; nevertheless, basic calculations for the per capita rate were done and plans for the flow of funds, accounting and other related financial systems were developed and initial implementation steps taken.

## 1.0 INTRODUCTION AND OBJECTIVES:

This paper is a case study on the health care payment reforms which have occurred and are presently occurring in the Issyk-kul Oblast in Kyrgyzstan. The material for this case has been developed and implemented primarily in Kyrgyzstan, but many of the methods have also been utilized in other Commonwealth of Independent States (CIS) countries by the *ZdravReform* Program. The paper is meant to be a reference document for MOH personnel and other health and political leaders concerned with health care payment reform. The specific objectives of the case study are as follows:

- **To document the experiences of policymakers and health managers who have implemented and are presently implementing health payment reforms in various health facilities and in health systems delivery;**
- **To present an understanding of the principles, concepts, and methods of health system payment reform to senior level managers who must continue to strive to maintain quality while also reducing cost at the same time;**
- **To share with colleagues the experiences and lessons learned from a number of health managers in Kyrgyzstan and other CIS countries on the potentials and the constraints to health systems payment reform at the rayon and district levels;**
- **To provide a realistic guide to developing improvements in health care payment reform for the leaders of CIS countries while conserving scarce resources in a time of major economic and political change.**

This case study is not meant to be the final word on the subject of health payment reform in Kyrgyzstan, but rather to be a beginning effort at understanding the principles, concepts, methods, constraints, and possibilities which exist for realistic health reform. It is intended to be used as a guide—not a prescription—for future development, and all health managers will want to modify the recommendations to meet their own specific needs and special situations.

This case study shares the experiences of other health managers in CIS countries, and outlines their successes and lessons learned with regard to developing and implementing health systems payment reform. It is hoped that this case study will prove helpful to all levels of health managers as they continue to move forward with health reform initiatives.

**To assist the reader with practical information, the authors have provided guidance and advice in a series of small boxes which appear throughout the text. The boxes have also been used to define key terms with which the reader may not be familiar and to prepare the reader for information in the following section.**

## 2.0 BACKGROUND: HEALTH CARE PAYMENT REFORM

The health care system within Kyrgyzstan is undergoing a major transition from the former Soviet model, based on centralized planning and a rigid command and control structure, to a model that is more decentralized to the oblast and rayon levels, with more local autonomy. Some oblasts are experimenting with capitation budget funding systems combined with more autonomy in decision making, which will allow local managers more discretion in the allocation and utilization of funds. While most of these experiments are still in the developmental stages, these initiatives will result in major changes in the management and operation of the health delivery system. Some of the changes that are forecasted are:

- **improved primary care for the population,**
- **reduced referrals to specialists and subspecialists,**
- **reduced hospital admissions and ancillary service volumes,**
- **reduced hospital lengths of stay,**
- **improved satisfaction with health care services, and**
- **improved cost effectiveness of the total health system.**

These changes eventually will have a dramatic effect on every segment of the medical care system. At the same time, due to the serious economic changes presently occurring in Kyrgyzstan, the total health care system is being reduced in size and is experiencing shortages of equipment, medical instruments, drugs, laboratory reagents, radiology film, and, as a result, reduced levels of quality and efficiency, and a reduction in the number of hospital/polyclinic visits and occupied hospital beds.

While all of these changes appear to be in many ways dramatic and in some ways catastrophic, this is a *time of opportunity* for the leaders and institutions responsible for the health of the people of Kyrgyzstan. The major objective of this case study is to provide information to the health care managers on new payment methods for health care services, as well as related changes in health systems delivery which are being utilized both in Kyrgyzstan and other CIS countries, and to share lessons learned from these experiences.

While the focus of this case study is payment reform, it is necessary to describe and document the reforms occurring throughout the entire health care system, as all the changes are interrelated. Consequently, this paper will discuss the full extent of health reform in the Issyk-kul Oblast.

**PREVIEW: Beginning in the next section is a background discussion of the existing relevant economic, demographic, health, and organizational issues that presently face Kyrgyzstan and the Issyk-kul Oblast and have impacted upon attempts to reform the payment methods and the health delivery system.**

## 2.1 General Background Issues

In 1991, Kyrgyzstan became an independent state embarking on the transition to a market economy. The break-up of the centrally planned economy of the Soviet Union led to a dramatic decline in the economy. In 1990-1994, the gross domestic product (GDP) fell by almost 50 percent. The decline in the economy caused a funding crisis in the health sector. Since the health sector was completely dependent on state funding, and the government had less and less resources available, the resources devoted to health care fell precipitously. The percentage of the GDP devoted to health care declined from 6 percent to approximately 2-3 percent, and real spending in the health sector declined by more than 40 percent.

The structural problems in the Kyrgyz health system are similar to many other CIS countries. There is an overdeveloped hospital sector with a large number of hospitals and hospital beds. The hospital sector consumes over 70 percent of health resources, leaving minimal resources to fund primary care. Structurally, the sector is characterized by many specialized facilities: separate hospitals for adults, children, women, tuberculosis, psychiatry, dermatology and sexually transmitted diseases (STDs), and oncology. The hospitals treat patients inefficiently, with frequent admissions and long length of hospital stays averaging approximately two weeks. Because hospitals are funded by their number of beds and their occupancy rates, they have a strong incentive to have many admissions and to keep patients in the hospital for long periods of time.

The primary care sector contributes to overall system inefficiency by referring a large percentage of patients to hospitals. The admission rate to hospitals is approximately 20-25 per 100, much higher (2-4 times) than other developed countries. The inefficiency of the primary care sector is only partially due to underfunding. Since the polyclinic is paid by the number of visits, there is no incentive to diagnose and treat patients at the primary care level; consequently, the large proportion of patients are referred to polyclinic specialists and hospitals. Even if they desired to diagnose and treat more patients in primary care, polyclinic physicians are limited by inadequate equipment, insufficient training and clinical rules which mandate referrals.

Finally, the system is overly bureaucratic and unresponsive to patients' needs. Patients have no choice of their polyclinic physician or of hospitals. One of the results is that patients are not actively involved in their health care by making choices. Furthermore, the financing of the health system provides no incentive to physicians to develop a meaningful doctor-patient relationship and provide better quality of care.

In March 1994, the Kyrgyzstan MOH requested technical assistance from the United States Agency for International Development (USAID) to help carry out a health insurance demonstration project in the Issyk-kul Oblast. The Issyk-kul health reform demonstration project is a joint effort between the Kyrgyzstan government and the *ZdravReform* Program. In June 1994 the *ZdravReform* program and the MOH sent a team to Issyk-kul Oblast to design the demonstration project. This design would include restructuring the health care delivery system, introducing new payment methods and creating a new fiscal intermediary that could introduce new payment methods.

## 2.2 Background: Issyk-kul Oblast and Karakol City

Issyk-kul Oblast is in northeast Kyrgyzstan. It encircles the famous Lake Issyk-kul, has an area of approximately 43.5 thousand square kilometers and is made up of five rural rayons (Ak-Su, Dzhety-oguz, Tup, Ton, and Issyk-kul), two small cities, and the oblast capital city of Karakol. The approximate oblast population is 447,000 (1996). It has the following number of health facilities:

- 28 Hospitals and Polyclinics
- 4 Dispensaries
- 81 Family Group Practices (FGP)
- 3 Sanatories
- 110 Feldsher Ambulatory Practices (FAP)
- 8 Stomatology Polyclinics
- 8 SES Units

Karakol, on the shores of Lake Issyk-kul, is the major city in the oblast and has 10 major health institutions including an Oblast Hospital, a Municipal Hospital and Polyclinic, a Pediatric Hospital and Polyclinic, a Maternity Hospital and Polyclinic, an Oncology Dispensary, TB Dispensary, STD/Dermatology Dispensary, and a Psychiatry Dispensary.

**REFERENCE: A presentation of the of health facilities in Karakol City, by type and location, is in the Appendix, Annex D, Figure 4.**

The general structure of mortality in the Issyk-kul Oblast (1991-94) was as follows:

- 20% Traumas and Poisonings
- 21% Heart Diseases
- 14% Neurology and Psychiatric Diseases
- 15% Infectious Diseases
- 4% Maternal and Infant Mortality
- 7% Cancer
- 11% Chronic Diseases
- 8% Congenital Malformations

In 1996, the total oblast health budget was approximately 47 million soms (US\$2.8 million @ 17 soms/1\$). This provided an oblast capitation rate of approximately 81 soms. Approximately 36 million soms was to be allocated to the MHIF. Approximately 27.6 million soms was budgeted for payment to hospitals and approximately 8.5 million soms was budgeted for polyclinics and FGPs.

**PREVIEW: As is discussed in the next section, the new system of payment reforms had to be combined with major changes to the primary care delivery system, including the establishment of Family Group Practices and a Mandatory Health Insurance Fund.**

### 3.0 CONCEPT AND STRATEGY OF HEALTH REFORMS

One goal of the demonstration project was to remedy, simultaneously, the problems of underfunding and inefficiency in the health sector. This was addressed by developing a number of strategies to effectively handle the budget resource issues and the inefficiency issues within the OHD, and by designing programs which would affect every major area of the health care system simultaneously. There are three major components to the reform project:

- 1) **restructure of the health care delivery system;**
- 2) **introduction of new incentive-based payment systems; and**
- 3) **creation of a health insurance fund.**

Each component is discussed in depth in the following sections. While the three components are discrete elements of reform, many of the results and lessons learned come from the interaction among them. For example, in order to understand the issues of payment reform it is necessary to also understand the subcomponents and changes occurring throughout the delivery system. Consequently, this case study discusses subcomponents which are interrelated to the changes in the three major components.

**PREVIEW: The next section will discuss the general health reform concepts and principles involved with each major component of the overall health systems reform. Later sections will discuss implementation issues, problems, and constraints, as well as the successes, failures, results, findings and lessons learned from the payment reforms.**

#### 3.1 Restructuring the Health Delivery System

A major goal of the health reform project is to downsize the hospital sector and shift scarce resources to an improved system of primary care delivery that delivers more cost-effective care and decreases the need for expensive hospitalization.

This change to more effective primary care requires restructuring of the existing polyclinic system, which consists of separate polyclinics for children, adults, and women. The existing polyclinics contain catchment area physicians (therapists, pediatricians and obstetrician/gynecologists) and outpatient specialists. There is no provision for primary care physicians to service an entire family. The new primary care system is based on setting up FGPs, which consist of a pediatrician, a therapist, a gynecologist, several practice nurses, and a practice manager. This restructuring requires breaking up the catchment area physicians from the three types of polyclinics and allowing them to be reorganized into new FGPs.

**REFERENCE: Those readers unfamiliar with the various levels of the health care delivery system may refer to the description of the various components of the health delivery system in Annex D, Figure 1.**

These FGPs form the nucleus for a transition to a family practice primary care system of health delivery. Specialists from the oblast Postgraduate Training Institute and outside foreign experts

in family medicine and primary care train the new family physicians. The FGPs are provided a set of basic instruments and equipment that allows them to diagnose and treat patients effectively at the primary care level.

FGPs are dispersed throughout the oblast's urban and rural communities, so that primary care services are no longer concentrated in the polyclinics. Polyclinics become diagnostic centers and specialty clinics. FGPs function as independent business entities, contributing to the decentralization of the health sector. FGP Associations (one for urban FGPs, one for rural FGPs) were formed to provide representation, education, and a forum for problem-solving of common issues. FGP financial and clinical information systems were developed. Practice managers were hired and trained to manage these systems, and together with the FGP physicians they make decisions on allocation of resources, service mix of FGPs, etc.

In the old health system, patients were assigned to catchment area physicians within the polyclinics. Now, patients are able to select their physician and their FGP. The selection process was supported by an extensive education, marketing and enrollment campaign which prepared the population for the new system and their selection of a primary care physician and an FGP and handled the massive operational aspects of enrollment. Some 350,000 persons—over 80 percent of the oblast population—have enrolled in one of Issyk-kul's 81 FGPs.

This reform of the primary care sector created a new delivery structure to begin the process of shifting care from the hospital sector to a more cost effective primary care level. FGPs will gradually increase their clinical diagnostic and treatment capabilities; this will lead to a decrease in referrals to polyclinics and a reduced rate of hospital admissions.

Reform of the hospital sector requires a two-step strategy:

**1) Remove excess capacity by implementing a rationalization plan for existing facilities. This means that certain facilities, such as some city hospitals, dispensaries and polyclinics, are targeted for closure, and other hospitals are targeted for expansion and improvement. The savings which are generated from closures is used to improve the financing of existing hospitals and improved primary care delivery.**

**2) Introduce a new payment system which rewards FGPs, polyclinics and hospitals for greater efficiency in the delivery of health care services.**

## 3.2 New Payment Systems

In order to take advantage of the restructuring of the health delivery system, it is necessary to initiate new payment methods for the FGPs, the polyclinics, and the hospitals. These changes are occurring in the three following areas:

1. **Development of a case-based payment system for hospitals;**
2. **Development of a fee schedule for services of the polyclinics; and**
3. **Development of a capitation system payment for the FGPs.**

While these three new payment methods are interrelated, we will discuss each of them separately.

**REFERENCE: A diagram of the interrelationships between the various organizations, the MHIF and the OHD, is in Annex E.**

### 3.2.1 Hospital Payment Systems

The existing chapter budgeting system for hospitals creates little incentive for efficiency. Hospitals are paid based on the number of beds, occupancy rates and bed-days, as well as historical costs in the various chapters. If they decrease their beds, occupancy rates or bed-days, they decrease their budget. The new hospital payment system intends to pay hospitals a prospectively set, fixed amount for each admission and each different type of clinical case, i.e., to use a case-based payment system. Ideally, in terms of developing competition, the FGPs have the right to refer their patients to any hospital for inpatient care.

**DEFINITION: A case-based payment system is a payment method which structures the payments to hospitals based on a classification system of the various types of medical conditions and usually places all clinical diagnoses or clinical departments into specific groupings of similar types of admissions. The most complex case-based payment system uses diagnoses, age, sex, comorbidities, significant procedures and length of stay as criteria for classifying patients into groups. For administrative simplicity, initial experiments with patient groups may be defined using only one or two of these criteria, as in the case of the Issyk-kul experiment.**

Under this new system hospitals have an incentive to decrease their length of stay and to allocate their resources more efficiently. Providing a set payment per case frees hospitals from the confines of the chapter budgeting system, necessitating increased management autonomy and decisions about service mix.

Furthermore, because FGPs have the right to refer their patients to any hospital, they search for the best value in terms of quality and price of services. Hospitals attempt to draw in more

admissions from FGPs by improving their quality and prices. This fosters competition among hospitals. At the same time, a case-based system encourages hospitals to solicit and treat more cases, even if inpatient care is inappropriate, so complementary mechanisms, such as financial penalties for inappropriate admissions to hospitals, must be developed to effectively compensate for this disadvantage.

Under the new hospital payment system, hospital managers are required to operate their hospitals more like a business, with concern about revenues and expenses instead of just budgets. They must match the costs of operating hospitals to the income they generate from different types and severity of admissions. If certain departments do not generate sufficient income, the managers must make managerial decisions to improve the efficiency of the department.

The new hospital payment system addresses the current inefficiencies of the hospital sector. It creates strong incentives to decrease the length of stay and allows hospitals to improve the efficiency of resources by better matching cost to the income generated through the new payment system for different types of cases. It brings about competition between hospitals as quality and price become important to the FGPs referring patients for services.

### 3.2.2 Payment System for Outpatient Specialty Services

The new payment system uses a fee schedule to pay for outpatient specialty services. Most of these services will be provided by polyclinics, although FGPs can also refer to hospital specialists. For example, an FGP could refer a patient to a polyclinic (or a hospital) for a gastroscopy. If the FGP needs a consultation by a cardiologist, it could refer to any cardiologist.

Fee schedules are a series of values that are derived by the development of a relative value scale based on resource use, and are converted to points related to historical costs. All costs—operating as well as capital—are included. The points essentially relate to a fee for service or a charge for specific services (consultation, laboratory, radiology, physiotherapy, etc.). For example, a service with a point value of 2.0 uses twice as many resources as a service with a point value of 1.0. These points are converted to prices based on the level of resources allocated to outpatient care. FGPs have their choice of specialists, laboratories, and diagnostic test providers.

### 3.2.3 Payment Systems for FGPs

The new payment system for FGPs is intended to decrease the need for hospitalization and shift resources to primary care. Instead of paying on the old chapter budget system, each FGP is paid on the basis of “capitation.”

**DEFINITION: Capitation is the payment of a predetermined fixed sum per period (usually monthly or yearly) to cover some or all of the health services for each family member enrolled in the family practice for that specific period. There are different types of capitation payment systems, including partial and full capitation. Partial capitation means that the payment per enrollee covers only some of the services required by patients, especially those provided by the family practitioner. Full capitation means that the payment per enrollee covers all inpatient and outpatient services required by the patient.**

The Issyk-kul demonstration is presently in the process of setting capitation rates. One step in this process is collection of data from hospital, outpatient specialty and diagnostic test, and FGP clinical information systems. This data will contribute to the development of appropriate adjustments (age, sex, etc.) to the capitated rates.

The major change that this type of payment system requires is a breakup of the existing catchment area structure whereby the population is assigned to respective physicians and polyclinics. In the new system, the number of patients per FGP is determined by free choice of the population in a given area during their open enrollment period. The only constraint is a maximum enrollment allowed for a FGP. In Issyk-kul, enrollment periods will initially be held every six months. After the system has stabilized, they will be held once each year.

While the long term goal is a full capitation system with FGP fundholding (risk for all care of patients is centered in the FGP), this will probably only occur over time. A partial capitation system, which capitates the FGPs for only some of the risk of diagnosing and treating the patient effectively, also is an option. This is a very important design issue: On the one hand, partial capitation provides a major incentive to maintain or increase already high hospital referral rates because it does not make the FGP responsible for hospital costs. On the other hand, FGPs are new organizations, still fragile and without the business knowledge to manage the risk of full capitation. In Issyk-kul, the strategy is a rolling design where the results of restructuring, development of infrastructure (financial, management information, clinical information, and computer systems), and payment system development based on empirical data continuously contribute to implementation decisions such as full or partial fundholding.

**DEFINITION: Primary care fundholding refers to specially designated funds held in a separate account controlled by primary care physicians. These accounts receive capitation payments based on the number of enrollees in the primary care practice. They are distributed to specialists, ancillary service providers and hospitals based on the number of referrals to those facilities. There are many different types and methods of fundholding. The objective of fundholding is to enable the primary care physician to participate in the management of the full range of patient care and to hold financial incentives for managing patient in the most cost-effective way.**

The fundholding system gives FGPs an incentive to treat in their own practices many medical conditions which are currently referred, and to refer only when necessary, because the more diagnostic and treatment services an FGP provided within its own practice, the fewer services it needs to refer and pay for out of its capitation fund. Funds that are not used can be reinvested in

the practice to enhance clinical capability. A disadvantage of this system is that FGPs as fundholders have an incentive to not refer patients, even when referral is clinically indicated. As with hospital admissions, mechanisms to assure appropriate referrals must be established.

### **3.3 Health Insurance Fund**

The principal concept behind the creation of a health insurance fund is the need to create a new fiscal intermediary and funding mechanism to introduce reforms in the health payment system. The introduction of new payment systems requires a new organizational structure for financing health care. The control over the use of funds would be shifted from the Ministry of Finance (MOF) to a new organization within the MOH: the Health Fund, responsible for operating and controlling the new payment system.

<b>REFERENCE: The organization structure of the Health Insurance Fund is presented in Annex E.</b>
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The new payment system requires that all health care funds are pooled into a single fiscal intermediary. This means that funds from rayons, cities and the oblast are combined into a single health insurance fund. This unified funding pool is divided into separate pools for hospital, outpatient, and primary care. These pools set the base rate for the hospital payment system, the conversion factor for the fee schedule for polyclinics and the capitation rate for primary care fundholding.

The health insurance fund also needs a new financial, clinical information, and billing system. The data on every hospital admission should ideally be computerized along with all outpatient referrals. This requires a computer network to process information for the new payment systems. This new infrastructure is a major activity of the reforms as payment methods change from budgets to activity-based, clinical information and billing systems that increase data needs exponentially. Because of the large quantities of data, computerization is desirable, but the system can be run manually if necessary.

Finally, the health insurance fund becomes the organization responsible for implementing health insurance in the oblast. It should be noted that health insurance in this context is narrowly defined as the increase and diversification of health sector financing. The Social Insurance Fund, which already collects payroll taxes for social insurance, collects the additional payroll tax and transfers the collected monies to the health fund.

### **3.4 Pooling of Funds**

In the Soviet Union, the national, oblast, municipal and rayon governments all financed and operated their own sets of facilities. In order to introduce incentive-based provider payment methods, allow health providers to refer to any health facility, and give the population free choice of provider, all the budget funds from the different government levels must be combined or pooled. After the funds are pooled, new provider payment methods can be introduced, as one pool of money reimburses all health providers serving the population.

Pooling of funds from different administrative units is also important for restructuring of the health sector. As the realization grows that too much capacity in the form of health facilities, beds, and staff exists, it becomes important to restructure the system so that national, oblast, municipal, and rayon facilities do not duplicate services. In order to build this seamless system where the population can receive services from any health provider, the funds from all administrative units need to be pooled.

In Issyk-kul, the oblast and city funds are being pooled; however, the rayon funds are not. This is due both to the structural and operational mechanisms for pooling funds as well as serious lack of funds in the rural areas. The OHD/MHIF and *ZdravReform* are working to solve the problem with the rayon funds while they start the new payment systems with the pooled oblast and city funds.

### **3.5 Other Subcomponents of the Program**

Due to the payment reform nature and length of this case study, it is not possible to discuss all of the various subcomponents of the project. However, it should be mentioned that considerable time and resources were spent in the areas of Quality Assurance, Cost and Managerial Accounting, Information Systems, Computerization, Equipment Procurement, Pharmaceuticals, Practice Manager Development, Marketing and Enrollment, Clinical Training, and Licensing and Accreditation of Providers. Discussion of these items are available in other *ZdravReform* publications.

## 4.0 IMPLEMENTATION PROCESS

The implementation of the three major components of the health reform was begun in 1995 and is still in process in early 1997. It is envisioned that many of these changes will take 3-5 years to be completely implemented. The project is also in the beginning stages of being rolled out to other oblasts in Kyrgyzstan with the assistance of a World Bank Project.

**PREVIEW: This section of the case study highlights the process of implementing health reforms in Kyrgyzstan. As the focus of this paper is payment reforms, the majority of the discussion will be on payment issues. However, in order to understand the effect of payment system changes on the total financing and delivery of health care, the implementation of the other components of the reform process also are described.**

### 4.1 Restructuring and Rationalization

#### 4.1.1 Implementation of FGPs

The decision to develop FGPs was based upon a number of factors. In the current economic environment of Kyrgyzstan, it is important to develop the more efficient primary care system as rapidly and as inexpensively as possible. In the early 1990s, attempts in other Central Asian Republics to retrain polyclinic specialists as solo family practitioners through short retraining courses were generally unsuccessful. Without restructuring of the polyclinics, there was no organizational structure to support and encourage family practitioners. In general, it is less expensive to provide facilities, basic clinical equipment, operating costs, and management support for small groups than for individual physicians.

Some of the salient features of the FGP model are: physicians' ability to choose the group practice and the other physicians with which they wish to affiliate (this is facilitated by having all of the family physicians meet regularly through the Family Group Practice Association); cross-training among the three specialties; a greater level of clinical autonomy and administrative discretion than existed in the polyclinic structure; continuity of care and a long-term relationship with the patient and the patient's family; and a business entity approach entailing the development of business systems and introduction of practice managers.

The number of FGPs must be sufficient to allow choice for patients, for the ability of patients to choose is essential to creating a strong doctor-patient relationship and ensuring the high quality of primary care. Once an FGP has formed, it chooses a location for the practice. The goal is to move the FGPs out of the polyclinic system and disperse them throughout the community in closer proximity to where patients live. Instead of adults, children, and women traveling to different, sometime difficult-to-reach locations for their care, they now receive all of their primary care from a single provider in a single location. Emphasis is placed on locating the practices outside of polyclinics in apartments, other buildings controlled by the health administration such as health centers, or sections of hospitals that have their own entrance. Selected sites are renovated with particularly emphasis on creating an independent identity different from the old polyclinic system. The FGPs are then provided with a set of basic

equipment. Finally, the physicians begin a process of intensive training to convert them into effective family physicians.

With the movement of primary care physicians out of the polyclinics, the role of the polyclinic becomes that of a diagnostic and multi-specialty referral center. There is a strong need for high quality specialty and paraclinical services. Polyclinics, through the development of an effective fee schedule system for payment of services, will need to improve and increase their capabilities over time.

#### 4.1.2 Implementation of Rationalization

As this study discussed previously, the nature of the Soviet health care system resulted in a number of specialty hospitals, polyclinics, and dispensaries which were underutilized. In light of the major reduction in funding of health services when that system collapsed, it became necessary to reduce beds and the length of stay in hospitals. Local health leaders and *ZdravReform* agreed that it was necessary to “rationalize” the number and type of facilities in the existing health delivery system. The rationalization process achieves two objectives: the OHD requirement to reduce capacity, and its need to free up funds that could be used to expand and improve primary care activities and programs. To rationalize the system, a thorough review of all health facilities had to be carried out. This had already begun by initiative of the OHD and was facilitated by *ZdravReform* in early 1996 through the assistance of an outside consultant who reviewed all of the facilities. The process was successful and resulted in significant short-term and long-term savings. This is discussed further in the section on Findings and Results.

#### 4.1.3 Implementation Issues and Concerns

Selecting, organizing, establishing and implementing FGPs was not easy: It was necessary to identify a group of primary care physicians who were interested in and capable of being retrained into family physicians and who wanted to work together in a separate site or in a refurbished polyclinic setting. It was necessary to find funds to identify, rent or buy, and refurbish new office locations, and then to supply them with new instruments and equipment. Finally, it was necessary to retrain specialists into generalists within a reasonable time period; it takes time for physicians to develop new clinical skills, and more time before both physicians and patients are comfortable with the new system of health delivery. While there was much interest in the FGP concept, the new idea had to be tested in reality to convince people of its viability.

Specialty physicians questioned many aspects of the concept and implementation of FGPs, and the implications that creation of FGPs would have on specialty medicine. As noted above, the existing system of health delivery in Kyrgyzstan and other CIS countries is very specialist-oriented. The Soviet system rewarded specialty care and the total system was developed to generate referrals from the primary care level to the polyclinic and hospital care levels. Hospital physicians were seen as the best in the system, with the polyclinic physicians the next best; last were the primary care physicians (pediatricians, therapists, obstetrician/gynecologists). Hospital and polyclinic specialists do not view the reorientation to more generalist primary care to be an effective or efficient change in the delivery system.

Further, the specialists, who are used to getting the majority of the limited health care resources, questioned the amount of attention, retraining, and resources that were going into getting the FGPs set up and operating.

Finally, as the FGPs were implemented, long-term implications of the changes became apparent to the specialists, who began to realize that they would get fewer referrals from primary care physicians. This would eventually mean fewer resources for them and also less of a need for some specialists, jeopardizing their positions.

For their part, primary care physicians, accustomed to being at the low end of the medical hierarchy, were initially reluctant to risk change. They also were concerned about their lack of experience in running a business. Over time they have come to realize that they have the ability to obtain broader clinical skills and that their patients are becoming more satisfied with the new system. They also have come to appreciate the business side, especially with the help of practice managers.

Unfortunately, the economic situation is still so bad that the system has not yet realized its potential financial benefits. This has made changes more difficult to accept. It has taken a great deal of education and communication on the part of the OHD to assure all parties that everyone will benefit in the end.

## **4.2 Health Payment Reform Implementation**

**PREVIEW: This section presents the major areas of health payment reform and is the main discussion area of this case study. As previously highlighted, it is not possible to discuss payment reform without discussing other changes in the health delivery system. This section is divided into the three main categories of payment reform: fundholding, case-based hospital payment, and fee schedule outpatient systems.**

### 4.2.1 Fundholding Issues

The concept of fundholding is one key to the successful implementation of any health insurance fund system. It is important that the holder of the funds has sufficient operational latitude and control to be able to impact other elements of reform which interact with the payment systems.

The Issyk-kul Oblast Intensive Demonstration Site (IDS) spent considerable time and effort on the issues of organization for fundholding, and its leadership came to feel strongly that its needs are best met by fundholding structured within a flexible single payor system. This does not mean that a single payor system is the best method in every situation—it has distinct advantages and disadvantages which are discussed below. The discussion presented here contains many of the issues that were discussed locally and now are being discussed nationally. As these decisions are highly political, each country must discuss and chose for itself which system best meets the needs of its population.

**DEFINITION: Single-payor—In this system, the health insurance fund is part of the health finance division of the MOH and the OHD. It is called a single-payor system, because there is one payor for all health facilities. This fund pays for care received by both the populations covered by the payroll tax and the “uncovered” population which is financed the MOH and oblast.**

The Government of Kyrgyzstan plans to implement health insurance in 1997. Its primary purpose in doing this is to generate additional revenues for the health sector by introducing a new payroll tax for employers. The fundamental question was whether the introduction of a new payroll tax required a new organizational structure independent of the OHD.

In general, there are two options for the introduction of health insurance, the single-payor or the multi-payor system. As noted above, there are distinct advantages and disadvantages to each system. A single-payor system would more efficiently implement the introduction of new payment systems for hospitals and FGPs. In addition, the existence of two separate organizations would increase administrative costs in a country suffering near economic collapse.

**DEFINITION: Multi-payor—In this system, a health insurance fund, created at the federal level with branches in every oblast, is responsible for collecting the new payroll tax and paying hospitals and polyclinics for the health care of specific populations, such as employees and, in some cases, their dependents. The OHD retains responsibility for paying hospitals and polyclinics for uncovered populations such as children, the unemployed, and special groups who are not employed. In addition, the OHD still is responsible for paying specialized health facilities such as dispensaries. This is called a multi-payor system, because there are two organizations that pay for health services: the oblast health department and the new health insurance fund.**

Issyk-kul’s initial intention was to create an MHIF independent of the OHD, but the creation of an independent fund led to intense political conflict between the fund and the OHD. It became clear that the conflict would inhibit the health reform process, which was reorganizing the health care delivery system by restructuring polyclinics into FGPs. The formation of FGPs requires the active assistance of the OHD and cannot be carried out effectively by an independent fund. In the end, the Minister of Health decided that the MHIF should be merged into the OHD. (See Annex E in the Appendix for an organizational chart.) This also is the type of provider payment component favored by the World Bank health sector loan.

Preceding sections of this case study described the rationale for shifting health services from expensive hospital care to cost-effective primary care, and the creation of FGPs. The question now facing Issyk-kul health care leaders is: How would they change the payment system to encourage FGPs to treat more conditions in primary care and decrease referrals to specialists and hospitals? The existing payment system based on the number of visits provides no incentive not to refer patients.

The solution is FGP fundholding, where FGPs are responsible for "purchasing" outpatient and inpatient care. With fundholding, the FGP receives a budget based on a capitation rate (a fixed

sum per patient per month) for each patient enrolled in the practice. The number of patients in the practice is determined during the annual open enrollment campaign, when the population decides freely to enroll in one FGP as its primary care provider. The capitation rate has three components: primary care, outpatient services, and hospital care. Each component is based on the current spending for those categories.

FGPs are given autonomy to choose providers for all referral services. They may refer to any specialist, laboratory, or hospital. For example, an FGP could refer its patient to a hospital or a polyclinic for a gastroscopy. If the FGP needs a consultation by a cardiologist, it can refer to any cardiologist, including hospital cardiologists. If a patient needs a blood test, the FGP can refer the patient to any polyclinic or hospital laboratory. Under fundholding, the money follows the patient; outpatient specialists and hospitals are reimbursed based on their referrals from FGPs.

In terms of outpatient specialty care and diagnostic tests, FGPs pay according to a fee schedule. When an FGP makes an outpatient referral, it is paid from the FGPs fundholding account. For inpatient care, FGPs pay according to a case-based payment system, under which there is a fixed amount paid per clinical category. When a patient is admitted to the hospital, the diagnosis determines the clinical category, which determines the payment. FGPs pay for all hospital admissions for their enrolled populations from their fundholding account.

The fundholding system aligns the financial incentives with the new organization of FGPs. FGPs now become the financial center of the health system, by determining the use of outpatient and hospital resources. FGPs have an incentive to decrease their referrals because money that they save can be reinvested in their practices. In conclusion, the purpose of fundholding is to provide the financial incentives necessary to redirect funds from the hospital sector to the primary care sector. As FGPs increase their clinical capabilities and decrease referrals, the result will be a shift in financial resources to primary care.

#### 4.2.2 Case-based Hospital Payment

As noted above, in Kyrgyzstan the over-developed, cost-ineffective hospital sector gets 70-80 percent of health resources. New payment methods are required to shift some resources from this expensive hospital sector to the primary care sector and to increase the technical efficiency of both sectors.

The current hospital payment system in Kyrgyzstan is a chapter budget system in which the hospital is allocated a fixed amount of funds per chapter to operate for one year. The budget is inflexibly partitioned according to the rigid chapters. And because the hospital budget system allocates funds based on production input measures (such as number of beds), it contains a direct financial incentive to increase and maintain existing capacity. The result is a health service delivery system with too many hospitals and too many beds. In short, this hospital payment system provides no incentives for efficiency, and its chapter method prevents the flexible use of funds if efficiency were sought.

Market oriented hospital payment systems utilized in a number of countries typically provide a payment for the production of a defined unit of hospital output (such as one discharge or one

case, e.g., a normal delivery). These payment systems strengthen the connection between the type, level, and quality of services provided to an individual patient and the amount of financial reimbursement received by the hospital. Overall efficiency in market oriented health delivery systems has been shown to increase as hospitals respond to incentives to keep patients in the hospital for shorter time periods and to shift non-acute patients into primary care and sub-acute facilities.

Case-based hospital payment systems provide payment equal to the average cost of producing a unit of output in an efficient hospital. They allow an efficient hospital make a profit (surplus of revenue over expenses) on some cases and incur a deficit (more expenses than revenue) on other cases. The system is not designed so that the payment received match the costs of each patient. A payment based on average cost is optimal because the variety of patient requirements is so vast and the technology for the production of health care changes so quickly that any attempt to match payment with the treatment provided to each patient would be counterproductive.

The new average-cost-per-case hospital payment systems allow hospitals to compete on a more equal basis because stable prices are paid for well defined units of output. Once these systems are implemented, facilities are able to plan their services, increasing the capacity of efficient departments and downsizing or closing departments with average costs higher than the payment levels. Managers have the authority and the ability to reduce costs; otherwise, providing incentives for efficiency is useless. The case-based hospital payment system assumes that managers of individual hospitals have control over staff hiring, firing, salary decisions, and purchases of drugs, supplies, and all other items needed by the hospital.

The Issyk-kul IDS designed, developed, and is in the process of implementing an incentive case-based payment system for hospitals. The design, development and implementation of a case-based payment system is a complex task, and this case study is not able to describe in detail all of the steps, procedures and processes required. What follows is an abbreviated description of the system and the key components and subcomponents. (More detailed descriptions are contained in *ZdravReform* Program publications; relevant documents are listed in the bibliography of this case study.)

#### *4.2.2.1 Chart of Process Used to Develop Hospital Payment System*

The development of a hospital payment system is a long process requiring a conceptual road map. The first step is the determination of cost per unit; in a hospital the product or unit of service is either the cost-per-treated-case or the cost-per-bed-day. The second step is the establishment of clinical groups, or a methodology to classify the different types of services the hospital provides. The intersection of these steps is where costs are assigned to the clinical groups. Once the costs are assigned to clinical cases, a payment system can be implemented.

#### 4.2.2.2 *Data Forms*

Determination of cost per case and assigning these costs to the clinical groups requires data which is not currently available in Kyrgyzstan and needs to be collected. For example, in order to assign laboratory costs to clinical departments—such as cardiology—which use laboratory services to treat cases, the number of laboratory tests each department receives must be determined. Specialized data forms allow the collection of this data for both the entire hospital and each department. The database used to enter the data is structured the same as the form, allowing for easy entry and analysis of the data.

#### 4.2.2.3 *Cost Accounting*

Cost accounting is a management tool which is used both to help set payment rates and to allow providers to evaluate their cost structure to improve decisionmaking. While a cost accounting manual needs to be developed for more extensive analysis, the following steps are used to develop a simple cost accounting analysis for each hospital:

1. Determine administrative, paraclinical, and clinical departments.
2. Enter, or import from a database.
3. Determine direct costs, such as salaries, for each department.
4. Allocate indirect costs, such as utilities, to each department.
5. Determine total costs for each department (the sum of the direct and indirect costs).
6. Determine the statistics used to allocate costs for each administrative and paraclinical department. For example, laundry would allocate costs based on bed-days; the laboratory would allocate costs based on the number of tests.
7. Allocate the costs of the administrative and paraclinical departments to the clinical departments using the allocation statistics.
8. Analyze each clinical department's cost per case and cost per bed-day.

#### 4.2.2.4 *Diagnosis Information*

The reporting forms submitted to the MOH contain utilization data by standard categories of ICD-9 code or disease type. The data should be included in a computer analysis that allows evaluation of the types of disease, number of cases, and length of stay across hospital. The diagnosis information analysis is then used to develop a method to classify cases or clinical groups.

#### 4.2.2.5 *Patient Classification System*

A case-based hospital payment system requires a method to classify patients into groups which represent different types and severity of treated patients. Two principles should be followed in the development of clinical groups. First, the types of diagnosis in a group should be clinically cohesive. They should make sense to physicians. For example, even if the costs are similar, it does not make sense to include hepatitis and heart attack in the same clinical group. Second, the groups should be homogeneous in resource use. This means that the cases included in a clinical

group should not vary too widely in cost. If they vary widely in cost, the hospital will be put at risk and will have an incentive to underserve very sick patients. The strategy is to start with a good, but simple payment system and then use the billing process to collect the data necessary to refine and improve the system. The Karakol Clinical Groups consist of 55 different patient classification categories. They consist of 27 patient classifications without Intensive Care Unit (ICU) services, the same 27 patient classifications with ICU services, and a patient classification for only ICU services.

#### 4.2.2.6 *Relative Weights*

The formula used to pay the hospital for each treated case is relative weight multiplied by base rate. The relative weight is a coefficient which measures the difference in cost among the different clinical groups or types of cases treated. For example, the relative weight of intestinal infectious diseases in children is 0.850 and neonatal cases is 2.3. This means that each treated neonatal case will receive a payment three times larger than the payment received by each intestinal infectious disease case. When the new hospital payment system begins, the average relative weight of all cases is 1.0. The process for calculation of relative weights is shown on the spreadsheets in Annex 5. It consists of summing the costs of all cases in all hospitals for each clinical group. Then an average cost for each clinical group is determined. Finally, the average cost per case in each clinical group is divided by the average cost per case for all cases to determine the relative weight for each clinical group. The base rate is the average cost for all hospital cases. A major advantage of separating the relative weight of each clinical group from the base rate is that the base rate can be adjusted to different budget levels, an important element in times of budget uncertainty.

#### 4.2.2.7 *Simulation*

A very important element of the development of a hospital payment system is a simulation of the impact of the new payment system on hospitals. The simulation shows the payments to hospitals under both the old and new system. A payment-to-cost ratio (the ratio of payments under the new system to payments under the old system) shows whether each hospital gains or loses under the new payment system. The OHD/MHIF uses the payment-to-cost ratio to evaluate the impact of the new payment system on the hospital sector. Each individual hospital uses the ratio for both the entire hospital and each department, in order to adjust hospital operations to the new payment system.

#### 4.2.2.8 *Karakol Clinical Groups*

When the process of developing the hospital payment system was complete, the output was the 55 Karakol Clinical Groups with their relative weights.

#### 4.2.2.9 *Hospital Bill*

Implementation of the new hospital payment system requires that hospitals submit bills for the services they have provided. The bills contain the data required by the OHD/MHIF to pay the

hospital for the services provided. The bill does not include an amount to be paid; rather, the Fund enters the bill into its computerized hospital information system and the system determines the amount to be paid. In addition to paying the hospital, the computer system allows the MHIF to evaluate the quality of care, analyze health statistics on utilization of hospital services by the population, and refine the hospital payment system.

#### *4.2.2.10 Hospital Referral and Bill Process*

In addition to the hospital bill itself, the operational procedures for submission of the hospital bill and the paper flows are important. The chart in Annex 6 shows how the bill moves from the FGP as a referral to the hospital and then from the bill to the OHD/MHIF for payment of the treated case.

#### *4.2.2.11 Facility Codes*

A computerized hospital billing system requires codes for various aspects of the billing system. One is a facility code. Hospitals submit their bills using their facility code and the OHD/MHIF enters the bill, pays the hospital, and analyzes the services provided by the hospital using this code. It is important that a comprehensive facility coding system be established for all health providers. The coding system's numbering also should identify the type of provider. In the Karakol six-digit facility coding system, the first two positions of the code are administrative unit, such as rayon or city, the second two positions are type of facility, and the last two positions are the individual health provider identification number.

#### *4.2.2.12 Surgical Codes*

One way to distinguish the type of medical service(s) provided to a patient is by whether or not the patient had surgery. To do this, a set of surgical codes is necessary. Different types of surgical coding systems exist throughout the world. Most are very complicated, consisting of thousands of codes for surgical procedures. In Karakol, a simple surgical coding system consisting of ~370 codes was developed. This number of surgical codes is manageable for initial implementation and can be expanded and refined in the future.

#### *4.2.2.13 Hospital Clinical Database*

The hospital bill is entered into the hospital clinical database by OHD/MHIF data operators. The clinical database was developed, installed and tested at the Fund. It is part of a computer network consisting of different types of programs operating various aspects of the health reforms. The entry screen allows the computer operator to enter the hospital bill into the database where the information is accessed for different purposes.

#### *4.2.2.14 Hospital Payment System Reports*

After the hospital bill is entered, the computer system uses the diagnosis and other codes to group the treated case into one of the 55 Clinical Groups. Reports are issued, and they are used to pay

the hospitals and provide information on services to both the hospital and the MHIF. Several reports have been developed so far and more will be developed as the database grows larger and the information needs of the hospitals and the OHD/MHIF and hospitals are determined.

#### 4.2.2.15 *Hospital Payment System Analysis*

A billing system is required to operate the new hospital payment system. This involves additional administrative costs, although they could be minimal and decrease over time due to the computerization of the process. The billing system provides a major benefit—a large amount of valuable information on health services which the OHD/MHIF and hospitals can both use to improve decisionmaking and management of resources. The analytic capability of the Fund will increase over time and its role will evolve into policymaking in addition to operational responsibilities.

In summary, the reader will note that developing a case-based payment is a complex task but one that can yield significant rewards. The ability to pay hospitals on the type of cases instead of on bed-days can greatly assist in developing incentives to reduce the length of stay and lower the overall cost of hospitalization.

**PREVIEW: The next section presents the Issyk-kul method of developing a fee schedule for paying outpatient polyclinic services. After hospitals, polyclinics are the next biggest consumer of health care costs. It is important to find a method to contain costs of specialty and paraclinical services. While this study presents only one method—there are many others—it has proven to be effective for developing incentives for polyclinics to contain costs.**

#### 4.2.3 Fee Schedules for Outpatient Payment

Existing polyclinic budgets are based on numbers of staff and operating capacity. This creates an incentive to increase the number of referrals from primary care physicians to specialists. Physicians are salaried and lack incentives to increase personal income by reducing costs, and they often act as indifferent dispatchers of ancillary services and admissions of patients to hospitals, further increasing hospital costs.

Implementation of a fundholding system for FGPs requires a new payment system for outpatient specialty visits and diagnostic tests. FGPs receive a capitated rate for each enrolled person and family. They provide primary care services for their enrollees and purchase other outpatient services and hospital care for their patients. This new system, based on capitation, provides strong incentives for FGPs to diagnose and treat patients effectively in their own offices and reduce referrals to polyclinics and hospitals for ancillary services. It penalizes them financially for unnecessary referrals.

The new environment requires a new funding mechanism for paying for outpatient care services. To meet this demand, the Issyk-kul IDS designed, developed, and is implementing an outpatient payment system based on the use of a fee schedule.

A fee schedule for outpatient specialty visits and diagnostics tests establishes prices for polyclinic services provided to patients referred from FGPs. The polyclinic submits bills and is reimbursed from either the OHD/MHIF or directly from the FGP. FGPs have open referrals, meaning they can refer their patients to any polyclinic. The outpatient fee schedule serves as a maximum price; polyclinics and FGPs are free to negotiate contracts for a specific volume of services provided to the FGP by the polyclinic.

The development of a fee schedule payment system is another complex task, but much less complex than the case-based hospital system. The following section gives an overview of the design and development of this method. Again, other *ZdravReform* documents give more detail.

A Commission consisting of four local economic and polyclinic experts was formed to develop the fee schedule for outpatient specialty visits and diagnostic tests. The Commission worked with *ZdravReform* technical experts to plan the methodology and process used to develop the fee schedule.

**ADVICE: It is important to note that the operational strategy of establishing a local organizational body to develop and implement different aspects of the reforms is critical to long-term sustainability—local experts are trained and continue to work on the health reforms over time.**

#### 4.2.3.1 *Data Forms*

As with the hospital payment system, data not currently available needs to be collected in order to assign costs to all outpatient visits and procedures.

An additional problem exists in polyclinics. Hospitals have clearly defined departments such as therapy or cardiology, so determining the costs of different services within polyclinics requires the designation of hypothetical polyclinic departments which are used to allocate costs. The Commission determined these departments, and they are included in the data forms. Specialized data forms allow the collection of the required data. The database used to enter the data is structured the same as the form, allowing for easy entry and analysis.

#### 4.2.3.2 *Calculation of Fee Schedule Relative Weights*

- The first step in the calculation of fee schedule relative weights is determining the polyclinic specialty visits and diagnostic tests which are included in the fee schedule procedure list. The Commission members based this list on their own experience and on interviews with local physicians, accountants, and economists.
- The second step is assigning costs to each procedure. This was accomplished through a combination of assigning direct costs to each procedure by analyzing time and supplies required and then assigning indirect costs from the polyclinic cost accounting.

- The third step is determining an average cost (or price) for each procedure by calculating a weighted average cost across all polyclinics (weighted by the volume of procedures in each polyclinic).

#### 4.2.3.3 *Karakol Relative Weight Base Line*

After the calculation of the weighted average cost for each procedure across all polyclinics, the next step is to convert the average costs to relative value units. To accomplish this, one procedure had to be chosen as the base procedure to which the other procedures would be scaled. A therapist visit was chosen as the base procedure, and its relative value unit was set at 1.00. Relative value units for the other procedures were calculated by dividing the average cost for each procedure by the average cost of a therapy visit.

#### 4.2.3.4 *Fee Schedule Bills for Outpatient Specialty Visits and Diagnostic Tests*

Implementation of the new outpatient fee schedule requires that polyclinics submit bills for the services they have provided. The bills contain the data required by the OHD/MHIF to pay the polyclinic for the services provided. The bill does not include an amount to be paid; instead, the OHD/MHIF enters the bill into their outpatient computerized information system, and the system determines the amount to be paid. In addition to paying the polyclinic, the computer system allows the OHD/MHIF to evaluate the quality of care, analyze health statistics on utilization of outpatient services by the population, and refine the outpatient fee schedule. There are two bills for outpatient services—one for outpatient specialty visits and one for outpatient diagnostic tests.

#### 4.2.3.5 *Outpatient Referral and Bill Process*

In addition to the outpatient bills, the operational procedures for submission of the outpatient bills and the paper flows are important. The bill moves from the FGP as a referral to the polyclinic and then from the polyclinic to the OHD/MHIF for payment of the outpatient procedure.

#### 4.2.3.6 *Outpatient Clinical Database*

OHD/MHIF data operators enter the outpatient bills into the outpatient clinical database. The clinical database, developed, installed and tested at the OHD/MHIF, is part of a computer network consisting of different types of programs operating various aspects of the health reforms. The entry screen allows the computer operator to enter the outpatient bills into the database where the information is accessed by the OHD/MHIF for different purposes.

In summary, the fee schedule is a method to develop a system to pay for outpatient services and referrals to specialist for FGPs. This method of paying for outpatient services has been found to be both effective in reducing costs (as competition develops among providers), and, although it takes considerable effort to set up and administer, has proven to be efficient over the long term.

#### 4.2.4 Other Components and Subcomponents

There are a number of other components of new payment systems which were necessary to the development of the Issyk-kul IDS. While there is not enough space in this case study to discuss all of these in depth, these should at least be mentioned briefly. One area consuming large amounts of time and resources is Information Systems, which includes computerization, data collection, storage, retrieval, and reporting. The other area of critical importance is the area of Accounting and Managerial Reporting Systems. Insurance-type health care systems operate on large quantities of data and information. It is important that the information is accurate and timely, if it is to be used for decisionmaking. The difficulties with the old Soviet system was, that while it had large quantities of data and information, this data often was not accurate and was not timely, and it did not combine utilization and costs to evaluate the allocation of resources.

### 4.3 Health Insurance Fund Implementation

The biggest obstacle to health reforms in both Kyrgyzstan and Kazakstan has been the institutional structure for the implementation of comprehensive health reforms. The model for health reforms and, specifically, for health insurance, was imported from Russia and incorporated into health insurance laws in Central Asia. It consists of the establishment of a new government agency—the aforementioned Mandatory Health Insurance Fund—in addition to the MOH. The problems faced in both Russia and Kazakstan were that the split in authority among the MOH and the new MHIF has created confusion, conflict, duplication of administrative costs, and major technical difficulties in the implementation of health delivery system restructuring and new provider payment systems.

The *ZdravReform* Program felt strongly that the functions of purchasing health care programs and services (government agency and/or MHIF) and the provision of health care services (health providers) should be separated to allow competition, decentralization, and management autonomy in the health sector. However, the functions of purchasing health care (defining a benefit package, allocating resources, establishing new ways to pay providers) do not need to be split among two different organizational entities. If they are, experience has shown, organizational conflict results; administrative costs increase; and the inability to restructure the health delivery system, change provider payment methods, and change clinical practice often severely hamper health reforms.

During the initial implementation of the Issyk-kul Oblast project there was no Federal MHIF (this is now changing). Consequently, the project, which was requested by the Government of Kyrgyzstan, established a separate MHIF for the oblast. As shown in Section 5 of this case study, much of the technical assistance provided by *ZdravReform* and work done by oblast officials on health reforms in 1995 was targeted at the creation, development, and strengthening of the MHIF. A great amount of time then was spent trying to resolve the relationship between the OHD and MHIF, and this conflict and confusion hampered the implementation of comprehensive health reforms. It also was of concern because *ZdravReform* planned to use the

results of Issyk-kul to begin policy dialogue at the national level concerning the development of a national health insurance system for Kyrgyzstan.

In fall 1996, the demonstration created an innovative institutional structure to facilitate the implementation of health reforms. The MHIF was made a separate division within the OHD. This innovative structure exists only in Issyk-kul. This now provides the institutional capability needed to restructure the health system and manage billing systems and other aspects of the new provider payment systems, while keeping the functions under the umbrella of the OHD. It avoids the conflict and increased administrative costs inherent in the establishment of a new government agency. After this institutional structure was established, the health reforms began to move forward at much faster pace.

## 5.0 RESULTS AND FINDINGS

### 5.1 Restructuring and Rationalization

**PREVIEW: This section outlines the actual results of the Issyk-kul project as of early 1997. As the project is still very much in the implementation stage, there remains much to do. But much also has been accomplished.**

The restructuring of the delivery system to more cost effective primary care has been the biggest part of the project and has received the most attention.

- Beginning in late 1994 the OHD created the first four FGPs in Karakol city. In early 1995 the initial clinical and management assessment of primary care sector was completed and a technical assistance and training plan developed. In mid-1995 an agreement was reached with local authorities on establishing FGPs as independent entities and introducing patient choice of primary care provider; a Family Group Practice Association formed with 35 physicians from 12 new FGPs; the preliminary design of FGP clinical and financial management systems was completed; and an outside funding organization (Mercy Corps) approved a grant of \$15,000 to the 16 FGPs to procure needed clinic equipment.
- In late 1995 FGPs began completing clinical information system forms and a database was created; USAID approved a *ZdravReform* grant of \$24,500 to the Family Group Practice Association for procurement of basic clinic equipment and minor renovations for FGPs was begun; and the first FGP course on family practice/clinical refresher training for 28 physicians was completed.
- In early 1996 a comprehensive assessment of all FGPs was carried out to update information on staffing, location, equipment inventory and training status; the MOF transferred 1.34 million som for FGP salaries and operating costs; the OHD decided to expand FGP development into three rayons outside the original pilot area for full coverage of 80 FGPs. A total of 24 FGPs were functioning in Issyk-kul Oblast and delivery of their clinic equipment and renovations was completed. An additional 57 FGPs were being established in the oblast's five rayons, bringing the total number to of FGPs in Issyk-kul to 81. This number of FGPs was deemed sufficient to cover the primary care needs of the target oblast population of 396,150. (The rest of the population had other coverage.)
- In mid-1996, the position of practice manager was established to take care of FGP business management, and 15 persons were hired and trained to fill these positions,. This allowed one practice manager to cover 2-3 FGPs and to ensure that a business plan, budget, information system, accounting and other business items were set up and working effectively.
- In mid-1996 an enrollment and marketing campaign for the city of Karakol and later the whole oblast was established to allow the population free choice of their primary care

physician. While this had to be modified in the rural areas due to the lack of FGPs, the campaign was successful and established the beginnings of competition between the FGPs.

- In mid-1996, a U.S. family practice physician began a four-month consultancy to conduct formal and on-the-job family practice training for FGP physicians in Karakol; new FGPs were established in Cholpanata, Balykchi, Ton, and rural areas of Dzhety-oguz Rayons; a second cycle of clinical refresher training was conducted with the course designed to upgrade clinical skills and cross-train family physicians so that they could function more like family physicians; an analysis of sample FGP patient records was completed to obtain baseline rates for referrals, patient loads, lab tests, and procedures and to identify areas needing improvement in the patient record form and recording practices of FGP physicians.
- In late 1996 a Center for Excellence was established to train family practice specialists; Quality Assurance/Utilization Management systems were implemented in the FGPs; and patient satisfaction/needs survey mechanisms were implemented to improve patient services and to provide a focus for patient education.

#### 5.1.1 Rationalization Accomplishments

As mentioned previously, one of the fundamental problems in the Kyrgyzstan health system was the dominance of the hospital sector, with 70-80 percent of health resources devoted to hospital care. The hospital sector was characterized by over-specialization, too many hospitals and too many beds, very high admission rates, and long lengths of stay. The strategy of the Issyk-kul demonstration has been to address excess capacity in the hospital sector through rationalization and the introduction of a new incentive-based hospital payment system. To decrease excess capacity in the hospital sector, a rationalization plan was developed to consolidate and close hospitals. Its goals were to incorporate dispensaries into existing hospitals and to close inefficient providers such as small rural hospitals.

In mid-1995 an initial set of recommendations was developed. In late 1995 the first phase of a rationalization plan was finalized and submitted to the OHD; the OHD began rationalization of hospitals and sanatoria, which generated a savings of 1.62 million soms (4.5 percent of the 1994 actual 35.7 million soms budget, or 3.1 percent of the approved 52 million soms 1995 budget). By the end of 1995 hospital beds were reduced from 4,175 to 3,880, a 9.2 percent reduction. Closed facilities are listed in the following table:

#### **FACILITIES CLOSED (1995-96)**

- Karakol City Hospital,  
(emergency services relocated to the SES)
- Psych-Narcology Dispensary, Karakol; Psych-Narcology Sanitarium, Ton Rayon  
(consolidated into a single facility in Tyup Rayon)
- Tuberculosis Dispensary, Karakol; Tuberculosis Dispensary, Issyk-kul Rayon  
(consolidated into a sanitarium in Issyk-kul Rayon)
- Aksu Sanitarium, Aksu Rayon
- Mayak Sanitarium, Tyup Rayon

## 5.2 Health Payment Reform Accomplishments

**PREVIEW: While the restructuring of the health delivery system required the greatest amount of time and effort in the project, health payment reform was the area with most opportunity for change. The ability to develop and implement incentives for providers to reduce costs, improve quality, and control utilization was the most exciting part of the project. This section discusses the results in the areas of health payment reform for providers.**

### 5.2.1 Fundholding

Section 4.2.1 described how the area of fundholding proved to be the most contentious part of the project. Nevertheless, there were significant achievements in the area of developing and implementing a fundholding system:

- In early 1995 a conceptual framework was developed for new provider payment systems including FGP fundholding, a fee schedule for outpatient specialty visits and diagnostic tests, and a case-based hospital payment system; and two MOH and MOF key staff members completed a training program in general practitioner fundholding system in the U.K.
- In mid-1995 a preliminary capitation rate (83 som) was calculated for the Issyk-kul Oblast population; a four-phase plan was implemented and a new payment system developed; and determination of the Phase II payment method was made, that FGPs with enrolled populations would receive a capitated rate for primary care services; a bonus pool would be established for FGPs with enrolled populations, and FGPs without enrolled populations would continue to receive salaries. A spreadsheet and process for calculations was developed.
- In late 1996 a plan for a fundholding pilot to institute funds flow, accounting, and other financial systems was developed, and implementation of the plan was started.

### 5.2.2 Case-based Payment Systems

The development of a totally new system for hospital payment provided significant challenges, but the implementation phase of case-based hospital payment systems accomplished the following:

- In early 1995 a database was designed for entry and analysis of data required to construct a new hospital payment system; data elements were defined, and data collection forms were developed and distributed to facilities in pilot area (Karakol, Dzhety-oguz, Ak-Su, Tyup).
- In mid-1995 data collection and data entry into hospital payment system database was completed for pilot area facilities; a cost accounting system required for development of the

hospital payment system was completed for 20 hospitals in pilot areas; a standard methodology, including standard cost allocation statistics including the definition of seven administrative departments, 13 paraclinical departments, and 20 clinical departments, was developed and used; and a case-based hospital payment system was designed and developed for pilot area facilities. An analysis of clinical and cost data resulted in the designation of 55 clinical groups and relative weights; the analysis was based on cost accounting, analysis of clinical data (ICD-9 codes) to determine clinical groups, development of relative weights (relative costs of each clinical group scaled around 1.0), and simulation of impact of new hospital payment system on facilities. A data collection system was initiated for implementation of hospital payment system in the remainder of oblast (Balykchi, Issyk-kul, and Ton).

- In early 1996 a clinical information system to enter and pay hospital bills was developed and installed in OHD/MHIF, and a data collection and data entry system was completed for hospital payment system in Balykchi and two rayons.
- A cost accounting for 12 hospitals in Balykchi and the two rayons was developed; a training course in the new hospital payment system was completed for 18 key pilot area hospital personnel (accountants, economists, and deputy chief physicians); a "paper" implementation of hospital payment system was initiated in Karakol City and three rayons to test systems and refine them before full implementation. Hospital bills designed and approved by the OHD/MHIF were printed and distributed to hospitals; a process was defined to update the hospital base rate from 1994 to 1996 and to determine inpatient and outpatient payment pools and calculate the capitated rate; and a worksheet was developed and submitted to the OHD/MHIF for completion; the incorporation of Balykchi and two rayons into the hospital payment systems demonstrated that the relative stability of the hospital payment system was finalized; the training in the new hospital payment system was completed for eight key hospital personnel (accountants and economists) from Balykchi and two rayons; the testing and refinements to the OHD/MHIF clinical information system to process hospital bills were completed, the final system was installed, and four staff were trained; and hospital billing forms were submitted to the OHD/MHIF under "paper" implementation.
- In late 1996 a "grouper" program (a software program to classify different types of cases into specific groups) and hospital payment reporting system was completed, with 4,000 hospital bills entered and preliminary analysis done on the new system.

### 5.2.3 Outpatient Fee Schedule Systems

Changes to funding polyclinics and outpatient services provided unique problems for the project. However, in the area of fee schedules for outpatient payment systems, the accomplishments are as follows:

- In early 1996 a Commission consisting of four local experts was formed to develop the fee schedule for outpatient specialty visits and diagnostic tests; the Commission and *ZdravReform* staff developed a draft list of approximately 225 outpatient visits and

procedures; data collection forms for cost accounting information were developed and distributed to all 32 polyclinics in the oblast; and a manual on methodology of outpatient fee schedule development was completed.

- In mid-1996, outpatient fee schedules were completed by the Commission and *ZdravReform* staff; two outpatient billing forms (one for outpatient specialty visits and a second for outpatient diagnostic tests) were completed and distributed to providers to begin submitting bills. In late 1996 an outpatient clinical information system was developed, tested and installed in OHD/MHIF to enter polyclinic bills, determine payment, and allow for analysis of health services.

### **5.3 Health Insurance Fund Results**

The institutional structure for health reforms is a critically important element of all aspects of the reforms because it is the major institution responsible for implementation. Some of the accomplishments are listed below:

- In early 1995 five national policymakers participated in a health insurance training course; Mercy Corps awarded a \$15,000 grant for an MHIF computer network and computers for the oblast and city hospitals. The Issyk-kul MHIF was officially inaugurated; four working groups were organized and Fund policies and procedures were drafted; and the MHIF Board of Directors was formed.
- In mid-1995 a legal and regulatory framework was analyzed and a presidential decree and government edict drafted to solidify the legal basis for the Issyk-kul demonstration, allow pooling of funds, change the budget system to enable new payment systems to be introduced, and require savings from rationalization to be reinvested in the health sector. A new OHD head was appointed. In late 1995 the MHIF was integrated into OHD to avoid any potential organizational conflict between the two groups.
- In early 1996 the Government of Kyrgyzstan issued an edict formalizing the Issyk-kul demonstration and providing many of the financing changes required for payment reform; April 1 a start-up date for the MHIF was confirmed by the MOH; the OHD agreed to the concurrent start-up of new payment methods for FGPs and hospitals; the Social Insurance Fund tentatively agreed to transfer 1.2 percent of taxes to the MHIF; the OHD/MHIF organizational chart and staff plan was finalized and approved. New departments and positions were created and personnel recruited for the MHIF deputy, the computer department, provider payment specialists and the quality assurance department. A staff position was created in the Social Insurance Fund to coordinate the funds transfer, although the position will not be filled until national decisions are made concerning the type, level, and collection process for health insurance taxes. A funds flow chart was agreed to by the OHD, mandating the pooling of funds; the MHIF computer department began the entry of data. *ZdravReform* began on-going training for OHD/MHIF data entry personnel. A “burden-of-disease” analysis was carried out to facilitate OHD/MHIF policymaking on health priorities and benefit package design.

- In mid-1996 Issyk-kul Oblast issued a critically important decree, mandating the following: pooling of all health care funds from the rayons, city, and oblast; establishing an MHIF governing board to determine policy and provide oversight; officially incorporating the MHIF into the OHD; exempting the Fund from restrictive Treasury regulations; stipulating that the Oblast Finance Department will pay health facilities' outstanding debts; and transferring funds to the OHD/MHIF on a monthly basis. The decree also set out a transition plan, including the operation of a fundholding system. In late 1996 the *ZdravReform* Program received an \$80,000 computer procurement which provided computers to the OHD/MHIF and health providers.

## 6.0 DISCUSSION

**PREVIEW: This section will provide a general summary, major conclusions, and lessons learned from the Issyk-kul demonstration project, as well as a discussion of some of the tasks and activities to be completed in the coming year.**

The underlying vision of the Issyk-kul health reform project was to create a new health care system oriented towards the delivery of more cost-effective primary care. The fundamental change has been the creation of primary care FGPs. The system of primary care fundholding, the outpatient fee schedule, and the case-based hospital payment system were established to develop incentives for each of the various sectors to improve the efficiency and effectiveness of health services delivery.

The fundholding system was created as an incentive to treat patients in the primary care setting. The new payment method gives FGPs the right to refer to any outpatient and hospital facility, and their choices determine the flow of funds. Under the new systems, funds will follow the patient. The new hospital payment system creates an incentive to treat patients in hospitals more efficiently, with shorter lengths of stay. The new MHIF was created to administer the new payment systems. This insurance fund is part of the OHD and pools funds across administrative units.

### 6.1 Lessons Learned

The experience of the Issyk-kul IDS has shown that major health reform can occur in a reasonably short period of time if the incentives for change are clearly established and participants are committed to change.

#### 6.1.1 The Intensive Demonstration Site Strategy

*Experience has shown that the IDS strategy has high risks, but also great potential for success. In the case of Issyk-kul Oblast, the IDS strategy has been successful because of strong support by the national and oblast governments and a clear commitment to health care reform. The key ingredient has been a strong OHD director who feels a sense of ownership for the reforms and is willing and able carry out them out in the face of local and national opposition. (The preceding is quoted from USAID evaluation report.)*

The experience in Kyrgyzstan has shown that all components of health reform are interrelated and that change in one component must be coordinated with change in other sectors. The change in payment systems could only come after a basic change in the health delivery system began and the establishment of the FGPs provided the environment for more effective primary care. The new payment system with incentives for providers could work effectively only if a new fiscal intermediary (the MHIF) was set up and working to oversee all of the changes and to direct the flow of funds to the proper sector. The strong and dedicated involvement of the OHD and the combination of the OHD and the MHIF into one integrated unit with overall direction and control of all of the health providers in the oblast was critical to the success of the project.

### 6.1.2 The Necessity of Diversifying Relationships with Counterparts

*It is important to establish relationships with counterparts at both the local and national levels. Because of strong traditions of centralized control and hierarchical leadership in Central Asia in particular, and the former Soviet Union in general, local policymakers were co-opted from participating in any decision-making processes. Policy changes were passed down from central planners, with little or no possibility for local leaders to introduce innovations in the policy implementation process. These historical conditions require that ZdravReform work effectively from the top-down. Top-level officials can stymie local-level efforts perceived as threatening to central authorities. (From the USAID Evaluation Report.)*

### 6.1.3 The Issyk-kul Consumer Choice Campaign—A Success Story

*Exit interviews conducted in Karakol during the enrollment period May 20-25, 1996 revealed that consumers took seriously the opportunity to choose family group practices. They carefully read through information sheets written about physicians in each FGP, and consulted with their family members before they enrolled. An enrollee at the Children's Polyclinic enrollment point said he had never before seen so many people interested in medical services. "With the implementation of the FGPs, there is a change in mindset. Not only do the physicians have a role in better health, but also the patients themselves."*

*Physicians also viewed the organization of FGPs as a revolutionary step in the process of health reform. One physician in Santarsh, a village in Tyup rayon, said that with the implementation of FGPs, physicians "will feel more responsibility for patients. Before we paid attention mostly to patients with chronic diseases, and now all the patients are our responsibility." The physicians also expressed relief that nurses and managers in their practices would be responsible for duties such as accounting and patient intakes, thus freeing up more time for them to spend on patient needs. In Santarsh, where 93 percent of the population enrolled in the first day of the campaign, the internist gave the following advice: "To my colleagues in other countries, don't be afraid to try a new thing. If there are difficulties [you] will overcome them with hard work and perseverance." (From the USAID evaluation report.)*

It is important to realize that the introduction of health insurance provides only limited resources to the health sector. Experience from the Russian Federation and Kazakhstan has already shown that the revenues from the new payroll tax will be limited at first. Furthermore, funding will not improve if the government offsets the new payroll tax with a reduction in budget funding, a situation that has occurred in the Russian Federation. The overall conclusion is that although health insurance may improve funding, it will not be sufficient to close the underfunding gap, and stronger health policies will need to be put in place to mobilize additional resources through private payment.

The basic benefits package provided through public funding will eventually have to be reduced to match available resources, and patients will have to pay for services outside the benefits package. Services covered by the benefits package should be subject to at least minimal user fees. The majority of user fees should be kept by the health facility; world experience has shown that user

fee programs are successful only if the facility charging the fee can use it to improve the quality of services. The population is willing to pay fees only if it sees significant improvement in services, such as the increased availability of drugs. These areas are still under discussion and will take some time to resolve and develop effective recommendations for change.

Currently, the legal environment is inadequate to introduce a new payroll tax, reduce the benefits package, and introduce a new system of user fees. The organizational structure has been created to implement a new health insurance payroll tax; now the implementation must start. The issue of a minimum benefits package and user fees also will need to be addressed.

## **6.2 Progress In Spite of Limited Funding**

All of the reforms described in this case study have occurred in spite of the fact that funds are not yet flowing through the MHIF. Importantly, it takes time for a system to be designed and implemented, and for attitudes to change, so it has proved feasible and worthwhile to implement information systems to support important case-based payment or outpatient fee for service and to implement rationalization, before funds are actually flowing through the MHIF.

Many of these reforms will be useful regardless of ultimate decisions about health insurance. As an example, increased management autonomy for hospitals and FGPs is a critical reform because it gives managers flexibility to reallocate labor and non-labor resources more cost-effectively, a practice which is necessary under any funding scenario.

## **6.3 Next Steps**

As previously mentioned, many of the new methods of payment, restructuring of the system toward more primary care, setting up of FGPs, development of a MHIF, and the rationalization of facilities and services is still in the implementation stage and is a long way from complete. Health reform is an on-going process of change and change again. Much has been accomplished but there is still much more to be done. Some of the future plans for various components of the demonstration project follow.

- Future plans regarding the formation of FGPs will focus on:
  1. Developing a structure and process for the review of FGP physician performance, identification of new FGP physicians, and a competitive process for recruitment and selection of physicians and ancillary medical personnel for FGPs;
  2. Licensing and accreditation of FGP physicians;
  3. A continuing professional education system for FGP physicians.
- The steps in the development of FGPs revolve around the creation and implementation of a set of subsystems within each FGP. These subsystems are:

1. Final development and implementation of management accounting systems for each FGP;
  2. Implementation of Medical Information Systems within the FGP to monitor referral rates, hospital admissions, physician performance, and FGP performance, and to develop a business plan and set priorities for the practice;
  3. Strategic growth planning and budgeting for the practice, including a realistic three-year forecast of revenues and expenses;
- A further rationalization of hospital and polyclinic services is needed. The priorities for future rationalization are:
    1. Reorganization (conversion into FGPs) or closure of most rural hospitals (SUBs);
    2. Merging dispensaries into the existing the hospital facilities network, such as the merging of oncology and dermato-venerology dispensaries into existing oblast hospitals, as a department of the hospital.
    3. Merging the Oblast Pediatrics and Maternity Hospital into one facility. Plans are being made to combine the two facilities into a single Maternal and Child Health Center.

The new hospital payment system will provide further incentives and pressure to consolidate and reorganize hospitals. Since FGPs will be allowed to refer to any hospital, this will create competition in the hospital sector, particularly between Central Rayon and Oblast Hospitals. These institutions will have an incentive to improve their efficiency (costs) because of the case-based payment system. Hospitals will need to restructure their internal organization to lower costs based on the income generated by a reducing number of overall hospital admissions throughout the health system.

Finally, it may be concluded that the Issyk-kul IDS project has been a success even though all of the changes proposed have not been implemented as of the date of this case study. Experience elsewhere in the CIS and in other countries has shown that real health reform is always difficult, time consuming, and takes much longer than forecasted. However, in order to improve the health delivery system and the health status of the population, new ideas must be tried and the population must become more responsible and more involved in their own health and the health of others. The health system of Issyk-kul and of Kyrgyzstan will “Inshallah” continue to improve the health status of the population.

The authors of this case study sincerely hope that the information contained in the document will be used to improve the knowledge of the readers. More important, they hope that the readers will use this information to improve their own health systems and the health status of those patients they are sworn to serve.

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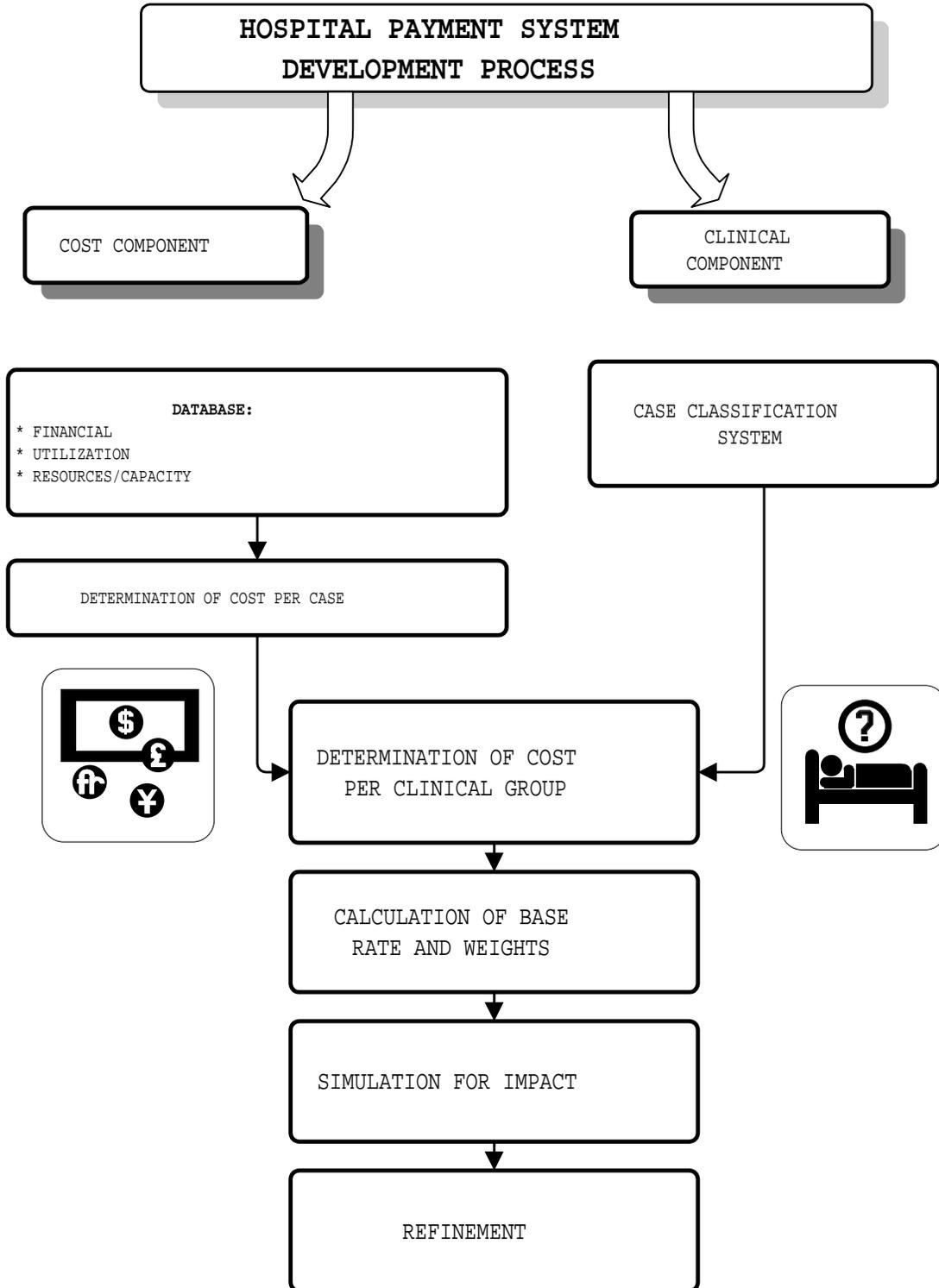
## REFERENCES B. LIST OF ACRONYMS

<b>ALOS</b>	Average Length of Stay
<b>APTK</b>	Russian acronym for a primary care group practice, consisting of (A) an obstetrician-gynecologist, (P) a pediatrician, (T) a therapist or internist, and in some areas (particularly rural sites) a mid-level practitioner or physician extender (known as a Feldsher, and (K) for complex (APTK)
<b>BHI</b>	Mandatory Health Insurance Fund, also MHI, also Kassa
<b>CIS</b>	Commonwealth of Independent States
<b>FAP</b>	A rural Feldsher Ambulatory Facility
<b>FGP</b>	Family Group Practice (new name for APTK or PCGP)
<b>GDP</b>	Gross Domestic Product
<b>ICU</b>	Intensive Care Unit
<b>IDS</b>	Intensive Demonstration Site
<b>IS</b>	Information Systems
<b>KASSA</b>	Cash-holding agency, Mandatory Health Insurance Fund, MHI, BHI
<b>MHIF</b>	Mandatory Health Insurance Fund
<b>MIS</b>	Management Information Systems or Medical Information System
<b>MOF</b>	Ministry of Finance
<b>MOH</b>	Ministry of Health
<b>OHD</b>	Oblast Health Department
<b>NGO</b>	Non Governmental Organization
<b>PM</b>	Practice Manager
<b>SUB</b>	A rural town hospital of 15-25 beds often with a polyclinic
<b>SVA</b>	A village ambulatory facility

**STD** Sexually Transmitted Disease

**USAID** United States Agency for International Development

# ANNEX A



## **ANNEX B: Clinical Groups for Issyk-kul Oblast**

##	GROUP NAME
0	UNCLASSIFIED (RESIDUAL GROUP)
1	SURGERY
2	INTESTINAL INFECTIOUS DISEASES IN
3	DIARRHOEAL INFECTIOUS DISEASES IN ADULTS (001-
4	HEPATITIS (070) IN
5	HEPATITIS IN ADULTS
6	OTHER INFECTIOUS DISEASES IN
7	OTHER INFECTIOUS DISEASES IN
8	INTERNAL DISEASES
9	FRACTURES IN CHILDREN (820-
10	FRACTURES IN ADULTS (820-
11	OTHER INJURIES
12	UROLOGY W/ SURGERY
13	UROLOGY W/O SURGERY
14	OTOLARINGOLOGY W/ SURGERY
15	OTOLARINGOLOGY W/O SURGERY
16	OPHTHALMOLOGY W/ SURGERY
17	OPHTHALMOLOGY W/O SURGERY
18	HYPERTENSION IN ADULTS AND CHILDREN (401-
19	CEREBROVASCULAR DISEASES IN ADULTS AND CHILDREN (430-
20	ALL OTHER CARDIOLOGY
21	NEUROLOGY
22	PEDIATRIC
23	INTENSIVE CARE
24	DELIVERY
25	GYNECOLOGY
26	NEONATAL PATHOLOGY
27	MATERNITY
28	DAY BED DEPARTMENT
200	UNCLASSIFIED (RESIDUAL GROUP)
201	SURGERY + ICU
202	INTESTINAL INFECTIOUS DISEASES IN CHILDREN +
203	DIARRHOEAL INFECT. IN ADULTS (001-009) +
204	HEPATITIS (070) IN CHILDREN +
205	HEPATITIS IN ADULTS (070) +
206	OTHER INFECTIONS IN CHILDREN +
207	OTHER INFECTIONS IN ADULTS +
208	THERAPY + ICU
209	FRACTURES IN CHILDREN (820-829) +
210	FRACTURES IN ADULTS (820-829) +
211	OTHER INJURIES + ICU
212	UROLOGY W/ SURGERY + ICU
213	UROLOGY W/O SURGERY + ICU
214	OTOLARINGOLOGY W/ SURGERY +
215	OTOLARINGOLOGY W/O SURGERY +
216	OPHTHALMOLOGY W/ SURGERY + ICU
217	OPHTHALMOLOGY W/O SURGERY + ICU
218	HYPERTENSION IN ADULTS AND CHILDREN (401-404) +
219	CV DISEASES IN ADULTS AND CHILDREN (430-438) +
220	ALL OTHER CARDIOLOGY + ICU
221	NEUROLOGY + ICU
222	PEDIATRIC + ICU
224	DELIVERY + ICU
225	GYNECOLOGY + ICU
227	MATERNITY + ICU

**ANNEX C: Diagnosis-related groups/ weights**

<b>##</b>	<b>GROUP NAME</b>	<b>weight</b>
<b>0</b>	<b>UNCLASSIFIED (RESIDUAL GROUP)</b>	<b>1.0000</b>
1	SURGERY	1.0585
2	INTESTINAL INFECTIOUS DISEASES IN CHILDREN	0.8498
3	DIARRHOEAL INFECTIOUS DISEASES IN ADULTS (001-009)	0.6674
4	HEPATITIS (070) IN CHILDREN	1.2455
5	HEPATITIS IN ADULTS (070)	1.6301
6	OTHER INFECTIOUS DISEASES IN CHILDREN	1.3278
7	OTHER INFECTIOUS DISEASES IN ADULTS	1.1287
8	INTERNAL DISEASES	1.1111
9	FRACTURES IN CHILDREN (820-829)	1.1216
10	FRACTURES IN ADULTS (820-829)	1.3218
11	OTHER INJURIES	0.9307
12	UROLOGY W/ SURGERY	0.9544
13	UROLOGY W/O SURGERY	0.8236
14	OTOLARINGOLOGY W/ SURGERY	0.8987
15	OTOLARINGOLOGY W/O SURGERY	0.7834
16	OPHTHALMOLOGY W/ SURGERY	1.1847
17	OPHTHALMOLOGY W/O SURGERY	1.0209
18	HYPERTENSION IN ADULTS AND CHILDREN (401-404)	0.8802
19	CEREBROVASCULAR DISEASES IN ADULTS AND CHILDREN (430-438)	1.0706
20	ALL OTHER CARDIOLOGY	1.0307
21	NEUROLOGY	1.0991
22	PEDIATRIC	1.0700
23	INTENSIVE CARE	1.7611
24	DELIVERY	0.7218
25	GYNECOLOGY	0.6917
26	NEONATAL PATHOLOGY	2.3235
27	MATERNITY	0.8349
28	DAY BED DEPARTMENT	0.9000
<b>200</b>	<b>UNCLASSIFIED (RESIDUAL GROUP)</b>	<b>2.7611</b>
201	SURGERY + ICU	2.8196
202	INTESTINAL INFECTIOUS DISEASES IN CHILDREN + ICU	2.6109
203	DIARRHOEAL INFECT. IN ADULTS (001-009) + ICU	2.4285
204	HEPATITIS (070) IN CHILDREN + ICU	3.0066
205	HEPATITIS IN ADULTS (070) + ICU	3.3912
206	OTHER INFECTIONS IN CHILDREN + ICU	3.0889
207	OTHER INFECTIONS IN ADULTS + ICU	2.8898
208	THERAPY + ICU	2.8722
209	FRACTURES IN CHILDREN (820-829) + ICU	2.8827
210	FRACTURES IN ADULTS (820-829) + ICU	3.0829
211	OTHER INJURIES + ICU	2.6918
212	UROLOGY W/ SURGERY + ICU	2.7155
213	UROLOGY W/O SURGERY + ICU	2.5847
214	OTOLARINGOLOGY W/ SURGERY + ICU	2.6598
215	OTOLARINGOLOGY W/O SURGERY + ICU	2.5445
216	OPHTHALMOLOGY W/ SURGERY + ICU	2.9458
217	OPHTHALMOLOGY W/O SURGERY + ICU	2.7820
218	HYPERTENSION IN ADULTS AND CHILDREN (401-404) + ICU	2.6413
219	CV DISEASES IN ADULTS AND CHILDREN (430-438) + ICU	2.8317
220	ALL OTHER CARDIOLOGY + ICU	2.7918
221	NEUROLOGY + ICU	2.8602
222	PEDIATRIC + ICU	2.8311
224	DELIVERY + ICU	2.4829
225	GYNECOLOGY + ICU	2.4528
227	MATERNITY + ICU	2.5960

## **ANNEX D: HOSPITAL AND HEALTH CARE SYSTEMS DESIGN CONCEPTS**

Outlined below is a conceptual presentation of various levels and steps in the health and medical care system. This is presented to give the reader an understanding of the issues, types of facilities, levels of care and referral systems in order to understand the findings and recommendations which follow in the next sections. The Karakol area of the Issyk-kul Oblast referral system is used as an example to allow the reader a perspective of the type of facilities involved.

### **A. Population and Levels of Care**

Hospital services are only one part of the total health and medical care system; we might visualize the relationship of population to level of health/medical care as presented in Figure 1 :

### **B. Definitions of Levels of Care**

With regard to specific definitions of types of health and hospital care, we can define each level of care as follows:

#### **Figure 1**

#### **1. Primary Health Care (PHC)**

“PHC is essentially preventive care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. PHC forms an integral function and main focus, of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system, bringing health care as close as possible to where people live and work.” “Declared in Alma Ata in 1978, PHC refers to the philosophy that health care should be available, adequate, accessible, affordable, and acceptable. PHC as a service delivery policy permeates all strategies and thrusts of government health programs at the national, local and community levels, so that people can be active and self-reliant participants in the struggle for better health.” This is mainly preventative care, public health programs, immunizations, and water/sewage system control. In the CIS countries this is usually confused with Primary Medical Care.

## **2. Primary Medical Care**

Basic or general medical care first sought by the patient for treatment of the simpler and more common illnesses. The primary care provider usually assumes on-going responsibility for health maintenance for the patient, refers the patient to secondary and tertiary providers, and coordinates care for all of the patient's health problems. Primary medical care is most frequently associated with solo physician and physician group practices, but is increasingly found in hospitals and team practice settings. (Examples of this type of care would be pediatrics, Ob/Gyn, internal medicine, family and community medicine and health services.) In CIS countries this is often confused with Primary Health Care.

## **3. Secondary Care**

Services provided by medical specialists, such as cardiologists or urologists, who generally do not have first contact with patients. Patients are usually referred by primary care providers or sometimes by themselves. A substantial portion of community hospital services fall into this category. Examples of this type of care in a hospital setting might be performed by general surgery, ophthalmology, orthopedics, neurology, cardiology, hematology, and psychiatry).

## **4. Tertiary Care**

Services provided by highly specialized providers, such as neurosurgeons and oncologists, who frequently require sophisticated technological and support facilities, such as cardiac catheterization and high-energy radiation therapy. University teaching hospitals and specialty hospitals and medical centers are examples of tertiary care providers. (Examples are oncology, OB-high risk, neonatology, cardio-thoracic surgery, plastic surgery, pediatric cardiology, hemophilia, and genetics).

## **C. Hospital Referral Systems**

In order to understand the hospital's role in the larger health and medical care system, it is important to document and visualize where patients come from and how they get into the hospital care system. Outlined in Figure 2 on the next page is an example of a hospital referral or "feeder" system, and Figure 3, which follows, is an example of where patients come from and how patients should select the appropriate place for treatment in the health/medical care system. Also presented are examples of a typical hospital referral system and referral networks for primary, secondary, and tertiary care hospitals. We have used Karakol City as the illustration of how this system might operate in the ideal environment where supplies, equipment, medications, and physicians were available to all parts of the system equally, which is highly unlikely but is presented as an ideal model of how a referral system should operate. Finally in Figure 4 we have presented a map of the city of Karakol which will give the reader an understanding of how close these institutions are to each other, and exactly where they are located in the city.

**HOSPITAL REFERRAL SYSTEM  
1995-2000**



## **MEDICAL FACILITIES IN KARAKOL**



