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Health Payment Systems Reform in Zhezkazgan Oblast, Kazakstan 1995-97: Case-based Hospital Payment

March 1997

HEALTH PAYMENT SYSTEMS REFORM IN ZHEZKAZGAN OBLAST, KAZAKSTAN 1995-1997: CASE-BASED HOSPITAL PAYMENT

A CASE STUDY

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IN ZHEZKAZGAN OBLAST, KAZAKSTAN

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EXECUTIVE SUMMARY

This paper presents a case study on the health care payment reforms which have occurred and are presently occurring in the Zhezkazgan Oblast, Kazakstan. Zhezkazgan Oblast has one of the most progressive health reform programs in Kazakstan. It was the first oblast to establish an oblast-wide mandatory health insurance system in 1995. Zhezkazgan is one of only two oblasts in Kazakstan that has pooled all health care resources in the Mandatory Health Insurance Fund (MHIF).

With this new insurance system, local leadership seized the opportunity to introduce comprehensive structural reform. These reforms include restructuring the local health administration, implementing market-oriented provider payment reforms (inpatient case-based payment and outpatient capitation), rationalizing facilities, restructuring primary care, privatizing pharmacies and instituting free choice of primary care provider. This reform package introduces competition into the health sector, increases the autonomy and accountability of providers and encourages the involvement of consumers in health care decisions.

On the outpatient side, since 1995, all polyclinics in the oblast were reorganized to create a network of 14 family group practices (FGP). Although the FGPs are still part of the polyclinic structure, it is expected that they will become administratively and financially autonomous and eventually be paid on a capitation basis. Because patients have had doubts about the technical ability of their primary care physicians (who historically were usually the least well trained and experienced), primary health care reforms include intensive training for new family practitioners and improving the inventory of basic equipment and supplies available to primary care doctors.

On the inpatient side, oblast health authorities have taken serious steps to rationalize hospital infrastructure. In the first quarter of 1996, hospital bed capacity was reduced by 13 percent and over 16 percent of hospital personnel were cut.

Authorities are in the process of developing an inpatient case-based payment system that should encourage physicians to use hospital resources more efficiently. The first versions of patient groupings for case-based payment are quite simple, based primarily on departments, but over time they will be expanded to group patients of similar clinical conditions and resource use. The case-based payment rates are budget neutral; that is, the base rate is computed from an estimate of the total pool of funds available for inpatient facilities in the payment system. Simple cost accounting techniques have been introduced to calculate these payment rates. Over time, these will be improved as well. Since case-based payments create incentives to increase admissions, the intention is to introduce quality assurance techniques to verify that all admissions are appropriate.

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 Zhezkazgan Oblast, Kazakstan. The material for this case has been developed and implemented primarily in Kazakstan, but many of the methods have also been utilized in other Commonwealth of Independent States (CIS) countries by the Zdrav*Reform* Program. The paper is meant to be a reference document for Ministry of Health (MOH) personnel and others 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 Kazakstan 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 is not meant to be the final word on the subject of health payment reform in Kazakstan, but instead is meant to be a beginning effort at understanding the principles, concepts, methods, constraints, and possibilities which exist for realistic health reform. The paper is meant to be used as a guide 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.

The authors have provided helpful guidance and advice in a series of small boxes which are included throughout the text to assist the reader with practical information. 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 next section.

2.0 GENERAL BACKGROUND

Zhezkazgan Oblast has one of the most progressive health reform programs in Kazakstan, a former Soviet republic and now an independent state. As one of the earliest reform sites in the Soviet Union, Zhezkazgan has a history of bold experimentation and innovation in the health sector. After six years of small-scale reform experiments, Zhezkazgan was the first oblast in Kazakstan to establish an oblast-wide mandatory health insurance system in 1995. Local leadership seized the opportunity to use the new insurance system as a catalyst for comprehensive reform.

ADVICE: Experience in Kazakstan and other CIS countries has shown that the most progressive health reform is occurring at the oblast level. It is extremely important to allow oblast level health managers develop experiments to test new ways of service delivery, payment methods, and restructuring and rationalization.

The integrated reform program currently being implemented in Zhezkazgan addresses the fundamental inefficiencies in the health care system inherited from the Soviet Union. Because facilities have historically received their financing based on a combination of capacity and utilization rates, there has been an incentive to maintain large and inefficiently utilized physical structures and medical staff, high hospital admission rates, long hospital stays, and excess bed capacity. Inefficient allocation of resources also is observed; this is due to the strong bias for curative over primary health care, with hospitals consuming about 70 percent of the health sector budget and primary care providers constituting fewer than 20 percent of all physicians. Primary care physicians are poorly paid and lack proper equipment and supplies, which encourages high referral rates to specialists and expensive inpatient facilities.

To reduce these inefficiencies and improve the effectiveness of the health sector, local authorities in Zhezkazgan have set an ambitious agenda of restructuring the local health administration, implementing market-oriented provider payment reforms, rationalizing facilities, restructuring primary care, privatizing pharmacies, and instituting free choice of primary care provider. This reform package introduces competition into the health sector, increases the autonomy and accountability of providers, and encourages the involvement of consumers in health care decisions. The reform initiatives in Zhezkazgan provide valuable insights into the inputs and processes required to develop and implement successful, sustainable reforms.

PREVIEW: This case study highlights one major issue of the Zhezkazgan health reform experience: hospital payment reform. The purpose of the case study is to document the reform process and identify lessons learned that may be applied to health reform efforts in other contexts. The case study is organized as follows: Section 2 presents the context for health reform in Zhezkazgan, including a brief description of the demographics and the history of reform activities in the oblast; Section 3 provides more detail about the specific hospital payment reforms and the process of developing and implementing those reforms; Section 4 analyzes the preliminary results and impacts of the reforms; and Section 5 discusses the major conclusions and lessons learned from Zhezkazgan's experience with hospital payment reform.

2.1 Demographic and Health Characteristics of Zhezgazkan Oblast

Zhezkazgan is a vast oblast of 319,000 square kilometers (approximately the size of Poland), but with a population of only 480,000. About 74 percent of the population lives in urban areas, and the two principal cities, Zhezkazgan City and Satpayev, account for nearly 40 percent of the oblast's total population. Economic activity centers primarily on copper mining and processing and agriculture. The oblast is experiencing many of the same problems as other CIS countries, including high unemployment, underemployment, delay in paying salaries and benefits, high rates of inflation and other problems of economic restructuring to a market economy. The population suffers from the health problems common elsewhere in Kazakstan, including decreasing life expectancy due to increasing rates in infectious diseases, heart disease, poor maternal and child care, pollution, heavy metals in the water systems, alcoholism, narcotics abuse, sexually transmitted diseases, and other factors of increasing morbidity and mortality. Average length of stay in the hospitals in 1995 was 17.3 days—but this is decreasing—and there was an estimated inappropriate admissions to hospitals rate of approximately 50 percent.

2.2 Health Services Infrastructure

The health provider network in Zhezkazgan includes 45 hospitals, 93 polyclinics and primary care facilities, and 128 feldsher-midwife posts (known by the Russian acronym FAP), 59 enterprise-based facilities, and three private facilities (one primary care practice, a cardiology clinic, and a reproductive health clinic). In addition to facilities for public health, there are health care networks with targeted eligibility operated by the Interior Administration, National Security Committee, Ministry of Railroad Transportation.

In 1996 the entire health care sector employed 1,488 physicians and 5,384 mid-level health personnel. The health system is significantly underfunded, as with all CIS countries, is generally over-bedded, has long lengths of stay in hospitals, and spent about 70 percent of its health budget on hospital care, but this is changing. An Oblast MHIF is in place and is complemented by a Federal MHI Fund, based in Almaty. As of the first quarter of 1996, the city and rayon budgets contributed to the Oblast Fund only 27 percent of what was due in health insurance premiums for the non-employed population. Employers complied at 17 percent. Compliance rates for the whole public/private mix is reported at 22 percent. In annualized terms, this means that Tenge 42.3 million will be raised for allocation to providers of services, while Tenge 147 million will accrue to the deficit of the MHI Fund budget. Public health programs are funded directly from the oblast budget. Public health and service priorities are child delivery, pediatric care, cardiology prevention, immunizations, tuberculosis, disease control, and epidemiological surveillance.

As previously mentioned, the local health authorities have embarked on a program to rationalize the health services infrastructure, shifting resources to more cost-effective primary care as well as rationalizing and consolidating inpatient facilities.

2.2.1 Primary Care Activities

Since 1995 all polyclinics in the oblast have been reorganized, separating out the primary care component into a network of 14 FGPs. The FGPs are still formally part of the polyclinic structure, but efforts are underway to establish their administrative and financial autonomy. The FGPs will provide primary care to a defined population that will ultimately be determined by consumer choice through open enrollment. In Zhezkazgan City, with a population of approximately 130,000 people, nine FGPs are operating. In Satpayev, with a population of approximately 75,000, five FGPs have been established, and in the city of Balkhash, six FGPs have been established. Implementation has begun to pay these FGP's on the basis of "capitation."

DEFINITION: Capitation is defined as 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 their 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.

Primary care payment reforms are being developed concurrently with the reorganization of service delivery. In Zhezkazgan, the health financing system will gradually move toward a system of capitation and "fundholding," in which family practitioners will receive a capitated payment for the complete health care of each patient assigned to or enrolled in their practice. Alternative models of paying family practitioners also are being tested in the region, for example, family practitioners could be paid using a combination of fee for service and partial fundholding.

DEFINITION: Primary care fundholding refers to specifically designated funds held in a special 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 services and hospital admissions based on the number of referrals 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 patients in the most cost-effective way.

Zhezkazgan Oblast is discussing the movement toward a full capitation system over time. In such a system, the primary care physician is paid a fixed fee per month for all health services a patient requires. The primary care physicians purchase outpatient specialty care at polyclinics and hospital care as needed. Such a capitated payment system, complemented by a patient's free

choice of provider, has potential to financially reward primary care physicians who provide greater levels in their own practices and reduce inappropriate referrals to specialists and hospitals. Under this payment system, unnecessary referrals and hospitalizations penalize primary care physicians, because funds are removed from the fundholding account to pay for referrals and hospitalizations (this is discussed later in this case study). Paying for health care through capitation and fundholding introduces competition into the entire system, encourages physicians to become cost-conscious purchasers and suppliers of health services, and increases the prominence of primary care in the health system. If indeed Zhezkazgan adopts this system, it will be done through an evolutionary process of many steps, starting with partial capitation. Full capitation is often held up as an ideal, but it is not appropriate in many situations.

In a fundholding system, referrals to specialists and referrals to polyclinics are often paid on the basis of a fee schedule. A fee schedule is a list of charges for services rendered to patients; it may include all paraclinical services, consultations by specialists, and other types of referral services.

DEFINITION: Fee schedules are based on development of a relative value point system. Using historical costs, one can compare the amount of resources used by each service and use a point system to indicate how costs compare. 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. The point system can then be converted to a monetary value. Each point and corresponding fee relates to a specific service. Once relative points for each service have been determined, one does not have to recalculate detailed costs for each service.

A recent survey of the population in Zhezkazgan revealed that people's main concern about their primary care is the technical ability of the family practitioners. Historically, the best physicians have practiced in hospitals, which is one reason patients often by-pass the primary care system and go directly to hospitals. As services are restructured and financing reformed to increase the proportion of care provided in the primary sector, physicians must acquire adequate skills and tools to meet the increased demand for high quality services. Therefore, the quality of primary care in Zhezkazgan is being strengthened through intensive training of providers and improved supplies and equipment. Several eight-week courses to train family physicians have been conducted in Zhezkazgan by the Kazakstan Postgraduate Institute for Physicians. To date, over 122 family physicians have been trained in improved techniques for primary care. Plans are underway to increase the level of training in primary care over the next few years and to ensure that a large number of primary care physicians are able to deliver effective diagnosis and treatment.

2.2.2 Inpatient Care Programs

The second component of the rationalization of the health services infrastructure is closing or consolidating inefficient inpatient facilities. In Zhezkazgan, the Oblast Health Department has made significant, and at times unpopular, structural changes in the inpatient delivery system to

trim excess capacity and reduce fixed costs. Facilities have been closed and personnel reduced, which are bold political steps in any country. In the first quarter of 1996 alone, hospital bed capacity was reduced by 806 beds, more than a 13 percent reduction. In addition, over 2,200 hospital personnel positions were cut, more than a 16 percent reduction. Other measures have been taken to reduce fixed costs, such as the installation of electricity, gas and water meters in medical facilities, and shifts to more price-competitive utility companies. Many of these types of changes are being made throughout the CIS countries and most oblasts have initiated reductions in average length of stay in hospitals and have reduced beds and closed facilities.

Zhezkazgan Oblast is developing a case based payment system for inpatient hospital care facilities. This method of payment allows hospitals larger payments for more difficult or critically ill cases and for cases (admissions) that consume larger amount of hospital resources.

DEFINITION: A case-based payment system is a payment method that structures 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 experiment in Issyk-kul Oblast, Kyrgyzstan.

This type of payment encourages hospitals physicians to reduce unnecessarily long stays in the hospitals, and physicians find new and faster methods of diagnosing and treating patients while they are in the hospital. However, a disadvantage of this system is that it encourages an increase or overutilization of cases (admissions), as the hospital receives more funds for more admissions. Case-based payment systems are described in detail later in this case study.

2.3 History of Health Policy Reform in Zhezkazgan

The history of health reform in Zhezkazgan Oblast dates back to the New Economic Mechanisms (NEM), which were initiated throughout the Soviet Union in 1989. The NEM increased the autonomy of local government administrations, allowing them to retain a portion of local tax revenue and exert greater control over the development of local budgets. Under the NEM, the towns of Karajal and Zhairem in Zhezkazgan established a locally-controlled Territorial Medical Organization (TMO) to coordinate and administer health financing and service delivery reforms. The TMO, which resembled a health maintenance organization, integrated and channeled the flow of health funds and provided general oversight of service delivery through contracts with health providers.

Local support for the health reform initiatives in Zhairem-Karajal continued after the NEM were discontinued at the national level in 1990. By early 1991, significant reforms had been implemented by the TMO, changing the way facilities received their financing, allowing more

discretion in the allocation of fund at the facility level, and establishing groups of primary care providers to serve defined population. The TMO provided the framework for many of the health reforms currently being implemented in Zhezkazgan Oblast and throughout Kazakstan.

In 1992, the Zhairem-Atasou Free Economic Zone (FEZ), which included the towns of Karajal and Zhairem, was established. The FEZ provided the administrative and legal structure for health reforms to continue and expand. The changes enacted during this period, while successful, were carried out in an environment of deteriorating economic conditions and declining budget allocations from the central parliament and MOH. Budget allocations, based on annual discretionary appropriations determined by the legislative body, were insufficient and unpredictable.

In an effort to protect and expand the levels of funding for health care, the national government began to lay the foundation for a national health insurance system with the law "Protection of the Population's Health," enacted by the national parliament in early 1992. The national health insurance scheme, which was modeled after the system adopted by Russia, would establish MHI Funds in each oblast and at the national level. The MHI Funds would administer insurance contracts and collect premiums from employers, through an earmarked payroll tax, and from local government administrations, through budget allocations for the unemployed and protected populations, including children and pensioners.

The Government of Kazakstan designated the Zhairem-Atasou FEZ in Zhezkazgan as a demonstration site for the health insurance scheme. An MHI Fund was established in the FEZ in December 1992, replacing the TMO as the purchaser of health care. It was financing health facilities by March 1993. The Fund purchased care through contracts with providers, including the TMO. As a result of the insurance scheme, therefore, the financing of health care was moved largely off-budget and protected from the political process, and the "purchaser of care" was separated from the "provider of care." Nevertheless, it should be recognized that, although the MHI Fund will protect the level of health funds against the drastic budget cuts typically experienced when health care is one line of the general budget, it is not likely that off-budget health insurance funds alone will provide sufficient resources for health care. Strong health policies will need to be put in place to mobilize additional resources through private payment.

ADVICE: The issue of separating the role of purchaser of services from the role of the provider of services is often critically important in reducing the overall cost of running the health system. Providers have a large stake in seeing that the amount of funds received is as large as possible; the purchaser is generally interested in getting "value for his money" and buying as many quality health services as he can afford for as little as possible. While there are a number of methods of making payments to providers, the two most popular in Kazakstan are discussed below. There are advantages and disadvantages to both systems, and there is not one best way. This case study does not advocate one model, but simply presents what is happening in Kazakstan.

.DEFINITIONS

1. Single-payor System: In this system, the health insurance fund becomes part of the health finance division of the MOH and the oblast health departments. 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 are financed by the MOH and oblast.

2. Multi-payor System: In this system, 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 MOH retains responsibility for paying hospitals and polyclinics for uncovered populations such as children, the unemployed, and special groups not employed. In addition, the MOH is still 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.

In 1994, when the Government of Kazakstan extended the health insurance experiment to the entire oblast, Zhezkazgan became the first oblast in Kazakstan to finance nearly all health facilities through MHI. The Oblast MHI Fund began financing health facilities in July 1995, and an extensive health care financing and service delivery reform effort was initiated.

On June 15, 1995, the President of Kazakstan extended health insurance nationwide with a decree guaranteeing medical insurance for all citizens of Kazakstan. By April 1996, a Federal MHI Fund was created to provide management and financial oversight to oblast-level Funds, develop a basic benefits package, and draft policy guidelines on provider payment methods and monitoring quality of care. By the same date, oblast-level Funds were established in all 19 oblasts and Almaty City.

A basic benefit package was developed and defined at the national level; it may not be altered by the oblasts. It is the oblasts' responsibility to find the funds to provide the services in the package, although the payment by the MHI Fund, and the quality and availability or resources varies greatly from oblast to oblast. In addition, there are many experiments going on in various oblasts that allow facilities to charge for services above the guaranteed benefit package, using a series of user fees.

PREVIEW: Table 2.1 summarizes the history of health reforms in Zhezkazgan Oblast and will give the reader a better understanding of the process of heath reform.

Table 2.1 History of Health Reforms in Zhezkazgan Oblast

1989	**New Economic Mechanisms (NEM) in Soviet Union** • Increased local autonomy • Territorial Medical Organization (TMO) established in Karajal-Zhairem
1990	**NEM canceled at national level** **TMO becomes purchaser of health care services and continues to develop health financing and service delivery reforms**
1991	**Reforms fully implemented in Karajal-Zhairem** • Contracts signed between TMO and health care providers, changing structure, organization and payment methods for health services • All health funds for Karajal-Zhairem flow through TMO • Facilities have increased flexibility in allocating budgets • Primary care groups established • Hospitals no longer paid according to fixed budget, but by reimbursements for each discharge • Quality assurance mechanisms implemented
1992	**National parliament enacts law on "Protection of the Population's Health," the foundation for national health insurance** **Zhairem-Atasou Free Economic Zone (FEZ) established and designated health insurance demonstration site** **Mandatory Health Insurance (MHI) Fund established in Zhairem-Atasou FEZ (December)**
1993	**FEZ MHI Fund begins collecting 5% payroll tax (January)** **FEZ MHI Fund begins financing health facilities (March)** • Fee-for-service payment in polyclinics • Case-mix payment system for hospitals • Quality assurance system
1994	**Health insurance demonstration extended to entire oblast** **Oblast MHI Fund established (December)**
1995	**Oblast MHI Fund begins paying providers (July)** • Per diem payment system for hospitals • Per visit payment system for polyclinics
1996	**Health reforms refined and expanded** • Family group practices established to provide primary care • Inpatient facilities consolidated and capacity reduced • Case-based hospital payment system developed and implemented

2.4 Current Policy Environment

Before the national insurance system reached the implementation phase in Kazakstan, conflicts began at the national level between the Federal MHI Fund and the MOH over the division of financial responsibility and control between the two entities, and the technical questions of provider payment and quality assurance. By the time oblast MHI Funds became operational and began financing some health services in April 1996, the MOH had issued a resolution to divide financing responsibility between the MOH and MHI Funds by establishing a dual benefits package, the Guaranteed and Basic Packages. The dual benefits package has prevented the creation of a "single-payor" health financing system, which many feel is necessary for the successful implementation of market-oriented provider payment reforms.

ADVICE: As previously stated, there is not one best payment method; there are only advantages and disadvantages of each system. From experience in the CIS countries, it is not necessary to specify one best way. As political issues always affect the choice of system, it is best to state that each country must discuss and chose the best system for its population, and then live with the advantages and disadvantages of that particular model.

The Guaranteed Package, financed by the MOH budget, includes services such as public health, emergency care, acute and medium-severity cases of most diagnoses, and all services in specialty facilities such as tuberculosis, infectious disease, and psychiatric dispensaries. The Basic Package, financed by the MHI Funds, includes all other services, such as planned hospitalization and nearly all outpatient care. With the exception of pharmaceuticals prescribed in the outpatient sector, the benefits packages do not limit the care that must be provided to the public free of charge.

This dual system has added to the administrative complexity of financing reforms, requiring facilities to maintain duplicate reporting systems and to analyze each case to determine the appropriate payor. In addition, the system has made it is difficult to establish a comprehensive unified data collection and reporting system, which is needed to generate appropriate costs and prices for services.

Zhezkazgan is one of only two oblasts in Kazakstan that has pooled all health care resources in the MHI Fund and eschewed the dual benefits package. This has been possible because a strong oblast health department (local MOH affiliate) has been able to relinquish control of resources to the MHI Fund without sacrificing decisionmaking power in the health sector. Nevertheless, Zhezkazgan has not been completely immune from the national level conflicts between the MOH and MHI Fund, and the reforms in the oblasts remain under intense scrutiny at the national level.

PREVIEW: Diagram 2.1 presents the current structure of the health sector in Zhezkazgan. The arrows in the diagrams represent the direction of regulatory authority, disbursement of funds and administration.

Diagram 2.1 Current Structure of the Health Sector in Zhezkazgan

3.0 DESCRIPTION OF PAYMENT REFORMS

PREVIEW: This section describes the various issues involved in the development and implementation of the new payment systems. As previously defined, case-based hospital payment systems are those payment mechanisms which reimburse hospitals based on the number and the type of clinical cases, usually through a clinical classification system. The discussion which follows is about programs, changes, and new methods of payment that are still in the various stages of implementation. It should not be assumed that all of these things have been fully implemented—health payment reform is an on-going process of change and change again.

The case-based hospital payment system currently in place in Zhezkazgan is an integral component of the oblast's comprehensive package of health reforms discussed above. A notable feature of the process for implementing hospital payment reforms in Zhezkazgan is that the reforms have been enacted incrementally, with a gradual shift in financial risk to the facilities. The gradual nature of the implementation has given facilities time to adjust to the administrative demands of the new payment systems and the increasingly competitive environment. In addition, this incremental approach has allowed time to establish comprehensive patient-level data systems, which are crucial for monitoring the impacts of financing reforms and generating data needed to refine the payment system.

ADVICE: The design and development of patient-level data systems is critical to the implementation of new payment mechanisms. The decreasing cost of computers allows for automated information systems that facilitate the collection, management, and reporting of large amounts of detailed data. The major issue is generally the level of detail to be collected and analyzed. As with choosing a payment method, each oblast must decide for itself what level of detail and what level of reporting and analysis it requires. This is not an easy task and is discussed in greater detail later in this case study.

Hospital payment reforms began with a shift from the traditional chapter budget financing system to payment of a fixed amount per hospital bed-day (per diem payment system) in each inpatient facility. The most recent refinement of the hospital payment system is a shift to reimbursement of a fixed amount per hospital case, with the payment rate varying by the clinical department from which the patient is discharged (case-based payment system by department). With the information generated by the patient-level database, the case-based payment system is currently being refined to reimburse hospital cases according to clinical statistical groups, or groups of diagnoses with similar clinical characteristics and similar costs.

PREVIEW: Table 3.1 provides a summary of the payment reforms already implemented and the future steps that are planned in Zhezkazgan. In the sections that follow, the per diem and case-based hospital payment systems are discussed in more detail, as are the steps required to develop and implement them.

Table 3.1 Summary of Hospital Payment Reforms

Payment System	Period in Effect	Financial Risk for Hospitals	Incentives Created for Hospitals
Chapter Budget	Until July 1995	*No Risk*[1] Guaranteed fixed budget based on capacity and utilization rates.	Increase capacity, admissions and length of stay.
Per Diem	July 1995-April 1996	*Low Risk* Per diem rates based on facility or rayon's historical budget and bed-days, but number of bed-days, and therefore total revenue, for current year uncertain.	Increase admissions and length of stay.
Case-based by Clinical Department	April 1996-present	*Moderate to High Risk* Total revenue uncertain. Inefficient hospitals will be paid less than their average cost per case. Also, department groupings do not adequately capture differences in case mix, so hospitals with more expensive cases than average will lose.	Decrease length of stay and increase efficiency. Increase capacity and admissions in departments with average cost < payment rate, and decrease capacity and admissions in departments with average cost > payment rate.
Case-based by Clinical Statistical Group	Planned	*Moderate Risk* Total revenue uncertain. Inefficient hospitals will be paid less than their average cost per case. Clinical statistical groups capture cost differences from case-mix, so the risk associated with case mix is eliminated.	Decrease length of stay and increase efficiency. Expand services that can be provided efficiently, and reduce services that cannot.
Case-based by Clinical Statistical Group with Free Choice of Hospital	Planned	*Moderate Risk* Total revenue uncertain. Clinical statistical groups capture cost differences from case-mix.	Decrease length of stay. Expand services that can be provided efficiently, and reduce services that cannot. Increase quality of care and patient satisfaction.

[1] There was a risk that the full budgeted amount would not be available, but that risk applies to all payment systems when the entire system is underfunded as it currently is.

3.1 Description of the Hospital Payment Systems

3.1.1 Per Diem Payment System

The historical allocation of health resources in Zhezkazgan followed the traditional Soviet chapter budgeting process, allocating health funds across facilities by a combination of input measures, such as the number of beds and utilization, rather than by the quantity and quality of completed services delivered. The budgets were disbursed by budget chapters according to strict norms. Since budgets were required to be spent according to chapter allocations, facilities did not have the flexibility to use their resources most cost-effectively.

The hospital payment system in Zhezkazgan made its initial break from the historical chapter budgeting system with the introduction of health insurance in 1995. Beginning in July 1995, hospitals were financed on the basis of bed-days generated each month. Individual per diem rates were computed for each oblast-level facility and each rayon based on 1994 budgets. Thus, the system preserved the historical distribution of funds across facilities, provided that relative number of bed-days did not change. The per diem payment system was administratively simple and imposed very little financial risk on the facilities. The incentives that hospitals traditionally had to increase admissions and length of stay were not changed, but this payment system did represent an enormous, fundamental shift in thinking about health financing reform: *from payment for capacity to payment for activity.*

3.1.2 Case-based Payment System by Clinical Department

Case-based payment systems by clinical department is a process of using a "step-down cost allocation" approach as a method of determining the total cost of each clinical department. Once the total cost (direct and indirect costs) of each clinical department is determined, it is a process of dividing the total cost by the total cases for that clinical department to calculate the average cost per case.

DEFINITION: The "step-down and costing approach" is a procedure of allocating the outpatient and inpatient direct and indirect costs of non-revenue producing departments (food service, laundry, etc.) to the revenue producing departments (laboratory, radiology, etc.) on a systematic method of allocation (e.g., square meters of floor space) which can result in a total cost of operations of these departments.

3.1.3 Case-based Payment System by Clinical Group

The clinical department level case-based payment system in Zhezkazgan does not adequately capture cost differences in hospital cases and therefore must be refined further so that hospitals can compete on efficiency rather than case-mix. Hospital cases in a clinical department vary widely in the use of resources, including surgery, length of stay, and use of pharmaceuticals. In order to more accurately define the unit of output for the hospital payment system, Zhezkazgan will establish groups of diagnoses that are comparable in clinical category and cost.

3.2 Development and Implementation of the Case-Based Hospital Payment System

3.2.1 Cost Accounting

By separating the financing of health services from the services provided, the historical chapter budgeting process obscured the costs of health services. In designing and developing the new provider payment systems, the first step is determining the true costs of health care services. Zdrav*Reform* has developed a cost accounting system that bridges the old 18-category budget and accounting systems with more modern methods of cost calculation and analysis. The new system utilizes a simplified "step-down and costing approach" based on the experience of the Medicare Program in the United States.

An important part of the cost accounting process is the separation of inpatient costs from outpatient costs, in order to calculate the base rates for the payment of inpatient and outpatient care. To establish the new hospital payment methods, the new step-down costing approach of the accounting system is used to calculate the average cost per case in each clinical department in each hospital.

3.2.2 Calculation of Rates

Using the patient-level data system that has complete information for over 55,383 individual hospital cases, of which 44,428 provided good usable data since February 1996, a comparable set of clinical statistical groups was defined across all inpatient facilities in the oblast. The average cost per case in each clinical statistical group was then determined. Using the step-down cost-accounting methodology discussed above, the total costs and average cost per bed-day were estimated for each clinical department in each hospital included in the payment system. Each clinical statistical group was then assigned to a department and the average cost per case for the clinical statistical group was determined by multiplying the average length of stay for the clinical statistical group times the average cost per bed-day in the corresponding department.

The average cost per case for each clinical statistical group (or department for the department-level payment system) was divided by the global average cost for all cases to determine the "relative weight" of each department or clinical group to the global average cost, which by definition is equal to one. The clinical group or department specific weight coefficients were multiplied by a base rate, yielding prices (costs) per case for a group of hospitals.

PREVIEW: Outlined below are some of the mathematical equations that are used in the calculations of the cased- based payment rates. At the time of publication, these were still under development and no actual examples were available due to problems with the integrity of the data.

The base rate is computed from an estimate of the total pool of funds available for inpatient facilities in the payment system, divided by an estimate of the total number of cases in each

department or clinical group over the period for which the base rate will be fixed. The base rate should be set to meet the dual objectives of a stable payment system and budget neutrality. A budget neutral payment system is one that generates total payments to facilities that are consistent with the level of funding in the system. Fixing the base rate and weight coefficients for a specified period of time [six months or one year] creates a stable payment system which provides incentives for the inpatient facilities to treat patients at a cost less than or equal to the payment level for that type of case. Facilities can plan their services, increasing the capacity of departments that they can operate efficiently, and downsizing or closing departments with average costs higher than the payment levels.

To meet the objectives, the base rate must be developed from realistic projections of available funds for hospital payment and the total number of cases in each clinical statistical group or department. If the base rate is set consistently below actual funding levels, the MHI Fund will accumulate surplus funds, while the facilities will be unable to cover operating costs. If the base rate is set above realistic levels, the MHI Fund will accumulate debt to the facilities, and there will be no incentive for facilities to operate more efficiently.

Steps for calculating the base rate:

1. Calculate the average monthly availability of health funds (T_F) by averaging total funds over the months since employer premiums were collected. If the revenue from employer premiums has been steadily increasing since the first month, make a conservative estimate of what the monthly employer premium revenue will be when it stabilizes.

2. Calculate the percentage of total health funds allocated to inpatient services (%I) according to either historical experience or desired allocation:

$$\text{Monthly Hospital Pool} = H = [\%I] * [T_F]$$

3. Estimate the total number of treated patients in each clinical group or department for the specified time period.

4. Compute the value of the base rate:

$$\text{Value of the Base Rate} = \text{Total Pool of Funds} \Big/ \sum_{i=1}^{i=5} [\text{Total \# of Service } i] * [\text{Cost Coefficient for Service } i]$$

where i=1,...,5

The value of the base rate should be fixed for at least six months, however, the hospital pool and the number of treated cases will fluctuate from month to month. The MHI Fund should, therefore, establish a reserve fund to accumulate funds when there is a surplus of revenue in the hospital pool, which can be used to cover deficits in other months. If budget funds and MHI

funds are pooled, legal waivers must be obtained to allow the MHI Fund to carry surplus budget money over to the next month in the form of reserves when there is a surplus.

In Zhezkazgan, the Oblast Health Department has the authority to generate or approve all rate calculations, and the MHI Fund is required to pay what the Health Department mandated. Setting the initial base rate was a source of conflict between the Health Department and the Fund. Independent of the Fund's revenue projections, the Health Department set the base rate unrealistically high. The Fund did not have sufficient revenue to fully pay the hospital bills; leaving it in debt to facilities. This conflict was resolved when the Health Department became convinced of the need for a stable payment system, rather than an artificial one that artificially inflated the revenue expectations of the facilities.

3.2.3 Information Systems

The role of information systems in the development of health insurance and new payment mechanisms is a critical one. As previously highlighted, data collection, storage, retrieval, and reporting systems are very important in providing the necessary information to determine costs and rates of payment. It is important that MHI Funds have sufficient resources (hardware, software, manpower) to design, develop, implement, and maintain these systems. Further, while much of the work of data collection and rate setting is done at the MHI Fund, the individual facility must participate in the collection, analysis, and reporting of this data and information. In order to use this information for decision making, individual facilities must understand the numbers and be able to question the Fund on their accuracy. This means that individual facilities will need computer systems and manpower to collect and report their own information.

3.2.4 Other Issues in Health Payment Reform

There are many other issues and concerns about health payment reform in Zhezkazgan that this case study has not discussed: quality assurance, utilization review, financial reporting systems, and restructuring and rationalization. The exclusion of these items does not mean they are not important, but rather that there simply was not the space in this document to discuss all of them. The major focus of this case study has been the development of case-based systems in Zhezkazgan Oblast. The authors hope that the reader has gained new knowledge from the concepts and experience outlined here. As previously mentioned, health reform is an on-going process of change, adjustment, and change again. Most countries or the world are unhappy with their systems of paying for health care services. This does not mean that everyone would change their system dramatically, but only that we must constantly strive for excellence and adjust the methods of finance and service delivery in order to improve the health status of our populations.

4.0 PRELIMINARY RESULTS OF HOSPITAL PAYMENT REFORM

1. While it is much too early to evaluate and state the actual results of the Zhezkazgan experiment in health payment reform, it is not too early to state that much has changed and much will continue to change in the coming year. As previously stated, the rationalization of the health services infrastructure continues with the closing or consolidating inefficient inpatient facilities. In the first quarter of 1996, hospital bed capacity was reduced by 806 beds, more than a 13 percent reduction. In addition, over 2,200 hospital personnel positions were cut, more than a 16 percent reduction. Other measures have been taken to reduce fixed costs, such as the installation of electricity, gas and water meters in medical facilities. While some of these changes may have been made without changes in payment reform, it is certain that the extent and scope of the changes are much greater than without the reform.

2. Perhaps the single biggest result of the experiment has been the change in thinking which has led to a change in behavior. The old system of paying facilities on historical costs, capacity, patient days, admissions, and outpatient visits is no longer in effect. In talking to health managers one now hears the terms capitation, case-based payment, and fee schedules.

3. FGP's are now discussing enrollment and free choice of provider (physician, polyclinic, and hospital). The term "competition" has come into the vocabulary of the general population, physicians and health managers, and one hears more about private health care, ease of access, user fees, fee for service, patient satisfaction, and free choice. Three new private facilities (one primary care practice, a cardiology clinic, and a reproductive health clinic*)* have been established; this would not have happened without payment reform. Since 1995 all polyclinics in the oblast have been reorganized, separating out the primary care component into a network of 14 FGPs. In Zhezkazgan City, with a population of approximately 130,000 people, nine family group practices have been established and are operating. In Satpayev, with a population of approximately 75,000, five FGPs have been established, and in the city of Balkhash, six FGPs have been established. This also would not have happened without payment reform.

4. Discussions with economists and accountants have shifted focus from chapter budgeting to new payment terms such as cost allocation, step-down, capitation rates, cost reduction, restructuring payment rates, case-based payment, information systems, and computerization. Other key topics are flexibility in budgeting and accounting and the utilization of resources in a flexible manner.

5. Hospital managers now discuss cases, not patient days. Some point out that their job has changed from *filling* hospitals with patients, to *emptying* hospitals of patients. Hospital executives discuss the use of new types of case-based information for decisionmaking on a daily basis. Hospital costs as a percentage of total health system delivery costs are being reduced from the historical figure of 70-75 percent to 55-60 percent and will go lower. Again, this would not have happened without payment reform.

5.0 MAJOR CONCLUSIONS AND LESSONS LEARNED

1. There is no one best payor method for moving funds from the purchaser of health services to the provider of health services. The single-payor system has the advantages of allowing new payment methods to exert maximum effect on incentives and of developing a unified data system to monitor impacts and refine payment systems. The multi-payer system has the advantage of allowing flexibility in the types and methods of payment among different types of facilities and different parts of the population. As part of the experimentation process, each country and each oblast must weigh the advantages and disadvantages of each system and decide which is best for the needs of their population. However, separating the role of the purchaser from the role of the provider has distinct advantages for reducing the overall cost of health care for the system. As the objectives of each party are different, it is important to separate the two functions organizationally if possible.

2. An evolutionary (as opposed to revolutionary) and incremental approach to implementation of new payment system allows facilities time to adjust to the new economic environment. New payment methodologies and data systems need to be designed, developed, implemented and refined over a period of months and years before they are accurate and provide the required incentives and disincentives to change behavior and effect the necessary cost efficiencies in the new health payment and delivery system.

3. The design and development of new data and information collection and reporting systems is critical to the successful implementation of health reform. The need to begin installing computerized data systems as soon as possible to generate data for impact evaluation and payment system refinement is critically important to the success of implementing new payment methods.

4. The development of case-based payment systems for inpatient care have proven to be both effective and efficient in reducing the cost of hospital services. A system of paying on admissions or cases focuses on “outputs” and not on “process” and is more cost effective over the long run. Case-based systems have proven to reduce the length of stay, reduce unnecessary paraclinical services, and pay hospitals based on the severity of cases. At the same time, however, this system can encourage excessive and unnecessary admissions; therefore, other mechanisms must be set up to ensure that the hospital admission in really required.

5. Case-based payment systems for hospitals cannot stand alone. They must be tied to other changes in the health system, including improved primary care, capitation payment for outpatient services, restructuring and rationalization of existing facilities and services, and improvements in prevention programs and the availability of effective pharmaceuticals.

6. All of the reforms described in this case study have occurred in spite of significant funding constraints. Importantly, it takes time for systems to be defined and implemented and attitudes to change, so it has proved worthwhile and feasible to begin the system changes before insurance systems are finalized. Many of these reforms will be useful regardless of ultimate decisions about health insurance. As an example, increased management autonomy for hospitals and

family group practices 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.

ACRONYMS AND GLOSSARY OF TERMS

I. Administrative Divisions

Oblast	An administrative region one level below the national level
Rayon	A smaller region within an Oblast

II. Types of Facilities

Republican Hospital	National tertiary hospital
Oblast Hospital	Referral hospital for an oblast [separate hospitals for adults, children, and maternity]
Central Rayon Hospital	Referral hospital for the Rayon
Dispensaries	Specialty hospitals for dermatology, oncology, psychiatry, sexually transmitted diseases, tuberculosis
SUB	Small rural hospital
Polyclinic	Multiple specialty group practice [separate polyclinics for adults, children, and obstetrics-gynecology services]
SVA	Rural ambulatory clinic with physicians
FAP	Village clinic with physician assistant and midwife

III. Other Terms

Chapter Budgeting	The historical method of accounting and budgeting of various expenses by using specific accounting codes for each category or type of expense
CIS	Commonwealth of Independent States
Clinical Statistical Related Group	A method of grouping similar types of clinical cases into a related statistical group.
FEZ	Free Economic Zone
Fundholding	The method of setting up a separate account to hold funds for specific groups of providers (e.g., primary care practitioners) whereby the fund pays various groups for services provided
MHI Fund	Mandatory Health Insurance Fund
MOH	Ministry of Health
NEM	New Economic Mechanism
TMO	Territorial Medical Organization

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