Innovation Management in Healthcare System of Kazakhstan is a Way to the International Competitiveness

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Abstract

During the last 15 years the healthcare system of the Republic of Kazakhstan has got a great positive development. Therefore the leading hospitals of the country (National Scientific Medical Research Center, National Scientific Centers of Surgery and Urology, National Scientific Reseach Istitutes of Ophtalmology and Traumatology) assumed the role of leaders in their respective areas of medicine. Along with the training of professionals in different fields of health care and implementation of modern medical technologies, these organizations have paid much attention to the improvement of management systems based on innovative approaches. In this regard, medical organizations have successfully implemented a quality management system, EFQM Excellence Model and innovative projects.

In this regard, during last 5 years the Scientific Medical Centers developed of highly specialized medical services rendered for thousands of patients. In recent years, implemented many advanced technologies of surgical organ transplantations, in particular, more than 700 kidney transplantations, more than 500 different kind of organ transplantations for adults and children, produced more than 10 thousand cardiosurgical and ophtalmological treatment procedures.

The Scientific publications of 85 employees of the Hospitals awarded by the official Prize of the Government. There are specialists who are members of the International Association of Surgeons and various international academies. Amount of staff of them is significantly increasing during the last several years, for example, the growth in the years from 2008 to 2014 is more than 50%.

The Hospitals have successfully implemented many international standards concerning to the diagnosis and treatment of cardiovascular, ophtalmological, urological disease, etc. In accordance with the Quality Management System (ISO 9001:2008) by the senior management with the involvement of all the staff were discussed and approved the Policy and Quality objectives as well as their Mission and Vision. In order to achieve the high level of competitiveness, leadership and sustainable development Scientific Centers have developed and implemented a Business Excellence Model of EFQM at the level "Recognized for Excellence". During the realization of this project have been implemented Fundamental Concepts of Excellence as well as innovative improvements projects and the assessment were provided. In accordance with this the staff has got a very valuable experience, in particular, they identified the Strengths of the Organizations as well as Areas for improvement.

The Scientific Medical Centers have achieved the high quality of medical services as well as the effective provision of government programs for high specialised medical care to the population of the country that allows to have a high level of patient satisfaction.

1. Introduction

The main activities of the scientific center are rendering highly specialized medical care and major surgical diseases in the southern region of Kazakhstan, the implementation of research activities, including international cooperation in research and educational services, including:

1) medical:

- providing specialized and highly professional medical diagnostic, inpatient, hospital replacement and patient care, home health care in planning and emergency surgery;
- Diagnosis: radiation, including magnetic resonance and computed tomography, radiology, X-ray, ultrasound, functional, endoscopic, pathologic (including electron microscopy) and cytology;
- Laboratory Diagnosis: bacteriological, biochemical, immunological and immuno (EIA) study and others.,
- providing specialized and highly professional medical diagnostic care in Kyzylorda, Zhambyl, South Kazakhstan, Almaty region of Kazakhstan;
- providing specialized and highly professional medical and diagnostic support to childbirth helping hospitals within RK to reduce maternal mortality;
- storage and sale of blood, its components and preparations;
- consultative-diagnostic and inpatient, hospital replacement medical care, including home care, adult and child population in the specialties: cardiology, gastroenterology, hepatology, nephrology, pulmonology, oncology, dentistry, neurology, endocrinology;
- Medical Rehabilitology: physiotherapy, massage, therapeutic exercise;
- anesthesiology, intensive care and resuscitation;
- extracorporeal detoxification, etc.);
- Disposal medical devices;

2) scientific:

- implementation as an independent, and at the level of international cooperation research, scientific and practical, organizational and methodological work in the field of diagnosis and treatment, including surgery, circulatory, respiratory, digestive, ENT organs, urinary organs, reproductive and endocrine organs, as well as other human organs and systems, reconstructive plastic surgery, organ and tissue transplantation, microsurgery, new types of anesthesia, intensive care and resuscitation, laboratory case and put them into practice in accordance with the laws of the Republic of Kazakhstan;
- conducting workshops and conferences, congresses, including international, publication of training, scientific and practical literature;
- participate in the development of legal and sub-legal acts, international programs in the field of medicine and surgery;
- introduction of the achievements of medical science into practice institutions carrying surgical and other medical services in accordance with the laws of the Republic of Kazakhstan;
- scientific training through master and doctoral.

3). pharmaceutical:

- production of medicines, pharmaceuticals manufacturing;
- sale of medicines and medical products to medical institutions and the public.

4). Center provides the following related services:

- provision of social services for the elderly, the disabled, persons equated to them, including children with disabilities, home care;
- sports and recreation, sports facilities staff and patients during rehabilitation.

From 1 January 2010 in order to further improve the health care industry of Kazakhstan Ministry of Health began implementing the Unified National Health System, which involves:

- ensuring patient free choice of doctor and medical organizations;
- the competitive landscape of medical services;
- medical organization work aimed at achieving outcomes and pay for medical services at cost.

In view of the above, below summarizes the current situation of those medical problems in Kazakhstan, which are within the scope of scientific and medical diagnostic activity of JSC "National Scientific Center of Surgery im.A.N.Syzganova" The center is located in Almaty.

The staffing of the Centre is 885.0 sht.ed. (clinic - 666,0 pcs. pcs.; science - 31.0 pc. pcs.; paid medical services - 188.0 sht.ed.)
In the center there are 10 clinical departments, diagnostic center with a pair of clinical services, as well as resuscitation and anesthesia department and operating unit.

Bedspace has 210 beds:

1. Department of Surgery CHD, thoracic aorta and heart transplantation - 15 beds;
2. Department of the UPU and PPP - 15 beds;
3. Department of Surgery of the gastrointestinal tract and endocrine organs - 12 beds;
4. Department of hepatopancreatobiliary surgery, liver transplantation - 16 beds;
5. Department of Angiosurgery - 15 beds;
6. Department of Thoracic and Pediatric Surgery - 12 beds;
7. Department renal transplantation, Urogynecology and extracorporeal detoxification: and Transplantation - 12 beds;
8. Department of X-ray surgery and interventional cardiology and arrhythmology - 20 beds;
9. Department of reconstructive plastic microsurgery and orthopedics - 12 beds;
10. Self-supporting department - № 1 - 40 beds;
11. Self-supporting department - № 2 - 40 beds;
12. Day hospital - 10 beds.
13. Gynecology - 3 beds;
14. Urology - 3 beds;

The main objectives of the Centre are: basic and applied scientific research in the field of surgery, providing organizational and methodological and practical assistance to healthcare organizations and supervised regions, providing tertiary care for surgery patients from different regions of the country. In addition to inpatient and consultative and diagnostic care, JSC "National Scientific Center of Surgery named AN Syzganov "should be the scientific and methodological center, train highly qualified personnel in accordance with international standards , the application of advances in medical science and education, transfer of modern medical technology innovation in the organization surgery Republic of Kazakhstan.

In the organization successfully implemented Quality Management System in accordance with ISO 9001:2008 and subsequently integrated with the EFQM Business excellence model at the level «Committed to Excellence». During the implementation of the Model have been developed and successfully implemented three projects of improvements : "The introduction of the management system in accordance with the requirements of ST RK ISO 9001-2009 (MC ISO 9001:2008), integrated with the Excellence Model of EFQM- 2013, "Performing of the program of implementation and development of transplantation technology of organs and tissues", "Implementation of innovative technologies "Endoprosthesis small joints ceramic endoprothesis" in the surgical service of the Republic of Kazakhstan".

2. Background of the Problem

According to WHO, the standardized death rate for the Republic of Kazakhstan due to diseases of the circulatory system (SBR) is two times higher than in European countries (867.9 vs. 448.0 per 100 thousand population, respectively). Incidence of the Republic of Kazakhstan from SBR past 10 years has increased more than 2 times, and in 2007 reached 2 639.7 per 100 thousand population. Mortality from SBR in Kazakhstan in 2007 amounted to 829.3 per 100 thousand population. One of the main reasons for the unsatisfactory state of affairs to meet the needs of the population in cardiac care is the lack of security of the republic cardio surgical beds.
In 2007, cardiac centers of the republic there have only been 2,591 cardiac surgery, while the annual demand of the population in them is more than 15 000 operations. In the mortality caused by disease of the circulatory system in general, the proportion of cerebrovascular diseases is 36.6%. According to some authors cerebrovascular accidents accounted for 36 % mortality and disability. Cardiac surgery in NSCS is developing for 50 years. During this time, has formed a close-knit team. All employees of the department have been specially trained in hospitals in Russia (Moscow, Novosibirsk, Tomsk, Russia), United States (Kentucky University Hospital, Memphis), France (Paris, clinic of Professor

Carpentier), Italy (Cardiology in Bergamo), Lithuania (Kaunas), Poland(Katowice), Turkey(Gaziantep), etc. All categories of employees and cardio surgery and operating unit three were trained in the workplace while working together with teams of surgeons from USA, Italy, Poland, Turkey, Russia and Lithuania. Given the availability of more than 50 years of experience in cardiac surgery, based on NSCS conditions for development of heart transplantation. Heart transplants annually in Kazakhstan need about 150-200 people. According to statistics, every year in Kazakhstan from a stroke die about 12 thousand people, of which 10 % could be a donor for a heart transplant and other organs. The development of Program for cadaveric transplantation NSCS will in future budget savings and provide needy citizens of the provision of free medical care for a heart transplant.

In the department of vascular surgery performed almost all known types of modern operations on arterial and venous vessels, including open reconstructive surgery and rehabilitation associated with prosthetic limb replantation due to traumatic amputation, intravascular surgery under X-ray control, as well as using endo video technic. Great perspective to have well-established by NSCS intravascular surgery. Their distinguishing feature is the low invasiveness and cosmetic technics combined with high curative effect.

In the department of surgery of the gastrointestinal tract (GIT), the last few years has increased the number of intervention in malignant diseases of the stomach. Gastric cancer remains the leading cause of death from cancer pathology worldwide in Kazakhstan this pathology is ranked 2nd in the entire structure of mortality of cancer pathology .

Department of pulmonary surgery is one of the first units created at the base of the Centre, with a well established tradition and experience in the field of surgical and therapeutic pulmonology. The department implemented all known methods of diagnosis and surgical treatment of specific (oncology and TB) and nonspecific (COPD parasitic cysts) diseases of lungs and pleura. The departments are prepared by highly qualified personnel of all the links, it is equipped with modern diagnostic equipment and surgical instruments. This department has a wealth of experience in the application of endoscopic equipment and Assisted Surgery for the treatment of this category of patients. All of the above is also the basis for the development of directions for lung transplantation.

2.1 Improving of surgical service

Clinical work of NSCS consists of advice, curatorial, diagnostic and surgical activities. Despite the fact that there were difficulties in budget financing and supply of necessary equipment for open-heart surgery (surgical decline in activity Cardiac Department), the total number of operations performed is growing every year , due to the introduction of modern technology and the opening endo video surgery units total child surgery.

Expanding the range of diagnostic and therapeutic services to the population, especially in sectors where NSCS has a monopoly in the country, along with the indirect economic and will give a significant social impact. Economic benefits for the country would be that the outflow of capital from internal turnover will decline as expanding the range of services to improve the quality and development of medical tourism. In addition, the recovery of certain populations will significantly reduce the costs of their budget on social support and include them in production. An important aspect will be the social and availability of high-tech examination and treatment of patients with cardiovascular disease and other diseases. Save the family budget is of great social importance.

Improving the organization's QMS has allowed a significantly improvement of the efficiency and effectiveness of its activity. Over the last 4 years the overall surgical activity was increased (Table 1). The mortality after the operation was decreased in 2006 – 2013. The average length of hospital stay (days) was also significantly decreased. In this regard, according to Strategic Plan of the Center for the period from 2011 to 2015 scientific researches aimed at improving the efficiency of operations on transplant organs. Staff set a task to carry out an objective and clinical evaluation of graft function, which will trace the different nature and severity of complications of renal transplant recipients. Research results will determine the treatment regimen for crises related to rejection of transplanted organs

Table № 1

Major indicators of general surgical activity

Indicators	2009	2010	2011	2012	2013
The surgical activity	34.4%	40,5%	50.8%	52.4%	54.4%
The average length of hospital stay (days)	48.0	46,5	45,0	44.5	43,7
The mortality after the operation	7.0%	6.5%	6.3%	4.5%	3.8%

3. The share of the Centre on the market of services provided (in %):

According to the statistical compilation "Health of the Republic of Kazakhstan and the activities of health care organizations for the year 2009", in the Republic of Kazakhstan on the main activities of the Center for the Ministry of Health of the Republic of Kazakhstan holds 129,488 operations for adults and children, among them (Table number 2):

Table №2

Share activity of NSCS in providing surgical care in the country

Types of operations	number conducted operations in RK	number conducted operations "NSCS named.. A.N.Syzganov"	The volume occupied by the company in the market of services provided in%
Heart Surgery	10511	885	8,4
vascular Surgery.	8674	400	4,6
pulmonary surgery	1572	201	12,8
General elective surgery for adults and children	107716	557	0,52
Organ and tissue transplantation	No data	44	
Total	**128473**	**2087**	**1,62**

4. Human Resource Development

In order to develop human resources for planned training and retraining of scientific staff NSCS by increasing the number of researchers, received training on evidence-based medicine, increase the proportion of academic staff, management training and research standards with foreign specialists, increasing the number of academic staff trained in various specialties abroad. Also important is the planning of reserve training faculty center by educating them with in Kazakh National Medical University specialists in PhD- doctorate with leading foreign professors.

Center to provide qualified personnel planned revitalization of the medical educational institutions (universities, academies, colleges) . To prevent the outflow of medical personnel from the Centre will be improved system of remuneratio.

5. Analysis of activity of JSC "NSCS named A.N.Syzganov"

Table №3

The results of the SWOT-analysis

Strength	**Weaknesses**
1) The dominant position in the field of surgery and diagnostic medical services market . 2) Diversification of Center`s activity. 3) The strategy of innovative development transfer technologies in the regions. 4) Availability of highly skilled surgeons and physicians . 5) Tax benefits . 6) Convenient geographical location. 7) The wide range of surgical, therapeutic and diagnostic services . 8) Center is the clinical base of medical universities . Students will be trained in a technologically - equipped clinic with the use of modern equipment. 9) Recognition of the market (Brand) . 10) Reduction of mortality in the dynamics .	1) Poor development of voluntary health insurance in Kazakhstan. 2) Lack of qualified personnel in some specialties (cardio-reanimatology, neonatologists , Arrhythmologists, Perfusionists , laboratory experts , etc.). 3) Lack of international accreditation. 4) Imperfect technique billing for services financed from the state budget (DRG) . 5) Delays in response to market development, due to insufficient income. 6) Lack of proper overhaul. 7) Fast moral and physical obsolescence material and technical equipment .
Opportunities	**Threats**
1. Increase inventory and volume of services provided. 2. Increased minority services. 3. Enhanced versatility Center (by optimizing and changing for profile of hospital beds, training of professionals). 4. Training ("growing its human resources"). 5. Introduction of new methods of financial, management and in-hospital management. 6. Exchange of experience with leading clinics RK and abroad.	1. Increased competition in the market of medical services. 2. Numerous number of inspections. 3. Changes in legislation (normative legal acts). 4. The financial crisis.

6. Strategic direction, goals and objectives, target indicators for 2011-2015.

Based on the analysis of NSCS defined strategic directions, goals and objectives, target indicators for 2011-2015. In this direction will be the development of medical technologies aimed at getting competitive scientific and practical products and interests of the practical public health through the development of scientific and educational potential of the Centre in accordance with international standards.

Table №4

Strategic direction, goals and objectives, target indicators for 2011-2015.

Name	*Unit.*	*Report period*		*Planning period*				
		2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*
1 Strategic direction. Improving the efficiency of research.								
Objective 1. Develop science-based innovation in the diagnosis and treatment of complex categories of surgical patients. Task 1.1 Develop science-based innovative proposals for the diagnosis and surgical treatment of heart disease.								
Target indicators:								
1. Number of operated patients with complicated forms of coronary heart disease (CHD)	Ед.	15	20	20	30	35	40	45
2. Number of patients with CHD who had surgery minimally invasive manner (endovascular setting occluders)		2	3	5	8	16	20	25
4. Number of innovative technologies in providing anesthesia and intensive care in cardiac surgery.		0	0	1	1	1	2	3
Task 1.2 Development and implementation of innovative technologies in the diagnosis and surgical treatment of patients with thyroid disease.								
Target indicators:								
Number of patients with diffuse toxic goiter form who underwent endovascular embolization of thyroid arteries and thyroid resection Assisted Surgery.		0	0	1	10	10	10	10
Objective 1.3 Develop and implement related liver transplantation.								
Target indicators:								
The number of patients in the "waiting list" (recipients) who need liver transplantation		0	5	10	15	20	25	30
The number of completed fences liver or part of the liver: - Rigor - From a living donor		 0 0	 0 0	 0 1	 0 2	 0 3	 0 4	 0 5
Number of liver transplants performed		0	0	1	2	4	6	8

Scientific and clinical work on topical issues in cardiac surgery performed by NSCS for a long time. In cardiac surgery practice introduced surgical correction of ventricular septal defects in children less than three years of age. New methods of surgical treatment of ventricular septal defects developed. Developed and put into practice the high technique of pulmonary hypertension. Recently recognized

need surgical correction of functional insufficiency of the heart valves. In the department of cardiac surgery, a new method of plastic failure of the heart valves developed. Advantage of the process is to restore normal anatomy and functional capacity of the valve and prevent damage to the pathways of the heart. The developed methods of annuloplasty give possibilities to achieve good and satisfactory results in 97 % of cases.

In cardiac practice primary heart tumors are rare diseases. Surgeons have developed new ways to treat them. To date, proposed a number of surgical interventions in isolated aortic heart defects.

Interventional surgeons more than 500 patients underwent balloon dilatation of the coronary arteries, followed by stenting of coronary arteries with good clinical effect.

In the department of cardiac surgery operation coronary artery bypass grafting (CABG) performed in 520 cases, on a beating heart - at 74. Increased surgical activity indicators are shown (in Table number 5). In connection with this, from 2011 to 2015. Research is focused on improving and improving outcomes of surgical and endovascular treatment of coronary heart disease (CHD) patients .

Table №5

Increased activity in the surgical department of cardiac surgery

Indicator	**2009**	**2010**	**2011**	**2012**	**2014**
Surgical activity	83,7%	86,7%	89,1%	88,0%	89,0%
The average duration of hospital stay (days)	34,7	39,1	29,1	25,3	24,5
Postoperative mortality	5,2%	5,3%	7,6%	5,9%	5,3%

The angiosurgery department provides assistance and advice in the Republic of pathology in acute arterial blood vessels (thrombosis, aneurysm, ileofemoralny flebotromboz and injury). The department is working on the problems of diagnosis and surgical treatment of diseases of the aorta and its branches. Accumulated experience of surgical treatment of various diseases of the aorta. Implemented and carried out the reconstruction of aortic branches extra-pleural approach. Particular attention is paid to the clinic and on the surgical treatment of malignant and symptomatic hypertension, various forms of aneurysms and arterio-venous fistulas. Successfully produced postthrombotic surgery syndrome, leaving the thorax. Developed and introduced into clinical practice new endoscopic and minimally invasive methods of surgical treatment of chronic venous insufficiency of the lower limbs of the decompensation .

Table № 6

Surgical activity of angio-surgery Department in the introduction of new management techniques

Indicator / year	2006 г.	2010 г.	2011 г.	2012 г.	2014 г.
Activity	62,9%	64,2%	66,0%	68,7%	70,0%
Duration of stay of patients in hospital (days)	20,5	20,3	18,4	17,5	17
Postoperative mortality	3,0%	3,6%	2,4%	1,6%	1,7%

In connection with this from 2011 to 2015 research focused on optimization methods for early diagnosis of atherosclerotic lesions of the aorta and its branches, simultaneous development of tactics, phased and combined surgical and related remote arterial beds in multifocal atherosclerotic lesions of the aorta and its branches, the introduction of improved diagnostic methods and X-ray endovascular

surgery. Optimization of monitoring the brain in patients during operations Brahio-cephal vessels and improved methods of anesthetic management during operations on the abdominal aorta. To assess the immediate and long-term results of operations in patients with atherosclerotic lesions of the aorta and its branches using the new tactical and technical aspects of surgical treatment developed. Electron microscopic study of morphological and functional changes and altered into the aneurysmal aorta. Development of prediction method and prevention of venous thromboembolic complications based on the nature of the distribution of genetic polymorphisms. Improving clinical outcomes by improving angio-dysplasias and development of new endovascular treatment of arterio-venous pathology and extensive hemangiomas of the skull. Improved results of endovascular surgical treatment of patients with atherosclerotic lesions of arteries.

The Department of Reconstructive and Plastic Microsurgery (table number 6) has developed a system of simultaneous reconstruction surgery on nerve trunks, peripheral vessels and other anatomic structures of the limbs and neck and subclavian region in acute trauma and its consequences. Also performed a number of surgeries to transplant tissue complexes on microvascular anastomosis. Microsurgical techniques are used to implement the operations of the joint bone and tendon of the flexor of the fingers as well as a device for allocating intraoperative and postoperative development of damaged tendons of the fingers.
In connection with this, from 2011 to 2015 research study aimed at optimal treatment strategy in surgery tissue defects and deformities, improvement of medical tactics depending on the nature and severity of the damage functionally important anatomical structures of the extremities (blood vessels, nerves, tendons).

Table №6

Activity of the Department of Reconstructive and Plastic Microsurgery

Indicator	2009	2010	2011	2012	2014
Surgical activity	95,7%	96,0%	96,6%	96,6%	97%
Average length of hospital stay (days)	19,8	21,6	15,4	14,5	14,0

In the department of thoracic surgery developed and implemented all kinds of complex reconstructive surgery on the trachea and large bronchi, the correction of expiratory stenosis hysterectomy with preservation of bronchial pulmonary parenchyma and vessels. Fundamental research on the hemodynamic features of the pulmonary circulation, endoscopic and functional characteristics of the bronchi and the lungs of patients with suppurative lung disease. Studied especially surgical treatment congenital and hereditary diseases, pulmonary echinococcosis . Address issues of surgical treatment of lung disease in children, particularly surgical tactics they reconstructive operations on the trachea and traheo-larynx junction with stenosis of various etiologies, problem diagnosis and treatment of purulent infection in lung surgery. Over the past four years there is a high surgical activity (Table number 7) with an average duration of hospital stay reduced postoperative mortality decreased .

Table №7.

Indicators of activity of Department of Thoracic Surgery

Indicators	2009	2010	2011	2012	2014
Surgery activity	89,2%,	90,2%	91,6%	91,0%	93%
Duration of stay of patients in hospital (days)	25,0	24,2	23,8	20,1	17,7
Postoperative mortality	3,8	3,6%,	2,9%	2,1%	2,0%

In connection with this , from 2011 to 2015 research aimed at identifying the causes of traumatic injuries of the respiratory complications, the definition of the indications for surgical intervention, rehabilitation and development of methods for drainage of the pleural cavity and the development of evidence of treatment effectiveness traumatic injuries respiratory complications, development issues for the treatment of tracheobronchial stenosis "tree". Improvement of anesthetic management in reconstructive operations on the trachea. Improvement and optimization of diagnosis of stenosis of the trachea and bronchi. Development of differential diagnostic criterion for stenosis of the bronchial tree. Determination of optimal treatments with stenosis of the trachea and bronchi of various etiologies. The development of the diagnostic algorithm, differential diagnosis and treatment of patients with stenosis of the trachea and bronchi of various etiologies.

In the department of surgery of the gastrointestinal tract and endocrine organs developed surgical treatment of various questions of organic disease of the esophagus. Introduction of modern minimally invasive video-laparoscopic technology. To date, with one-stage plastic esophagus stomach and various segments of the colon made more than 250 different esophageal resections. Indications and contraindications for colonic esophago-plasty, which applies in cases of inability to use the stomach as a graft. On the esophagus and stomach are performed virtually all known surgery today. With minimal morbidity and mortality. Over the past four years there is a high surgical activity in the department of surgery of the digestive tract and endocrine organs (Table number 8) , with a decrease in the average duration of hospital stay , postoperative mortality dynamics (in 2009 -2010 -2011 - 2012 -)

Table №8

Indicators of activity of the department of surgery of the gastrointestinal tract and endocrine organs

Indicators	2009	2010	2011	2012	2014
Surgery activity	92,7	93,9%	94%	95,7%	96,8%
Duration of stay of patients in hospital (days)	21,2	20,3	19,7	17,7	17,3
postoperative mortality	4,7%	3,6%,	2,7%	2,1%	2,4%

Therefore, from 2011 to 2015 scientific research focused on the development and introduction of new technologies in the endoscopic treatment of transient dysfunction of the esophagus, the development of various methods for the prevention of complications after endoscopic procedures on the esophagus, improved treatment outcomes, and the introduction of new endovideosurgical endovascular techniques in the treatment of diseases of the esophagus, stomach and thyroid.

Now the department of surgery of the liver, biliary tract and pancreas is leading to provide specialized care for patients with diseases hepatopancreatobiliary system. Over the past 4 years there is an increase in the department of surgical activity (Table number 9), while the average duration of hospital stay decreased steadily, whereas postoperative mortality declines.

Table №9

Activity of liver surgery, biliary tract and pancreas

Indicators	2009	2010	2011	2012	2014
Surgery activity	93,1%	93,6%	94,3%	97,8%	98,0%
Duration of stay of patients in hospital (days)	26,0	25,7	25,1	24,0	23,0
Postoperative mortality	4,3%	3,3%	3,5%	3,1%	2,6%

In connection with this, from 2011 to 2015 scientific research aimed at studying the immediate and long-term results of surgical treatment of hepatic echinococcosis, which will identify the causes and factors of disease recurrence after surgical treatment of different methods; development of indications and contraindications to radical surgical intervention and improvement of techniques and

pericystectomy resection for hydatid cyst of the liver; development of a diagnostic algorithm for the treatment of strictures of the bile ducts.

Improved methods of surgical treatment of children and adolescents with focal liver disease. In the department of organ and tissue transplants are carried out to develop a means of diagnosis and treatment of complications before and after renal transplantation. Comprehensive survey of transplant, including kidney ultrasound diagnostics before her transfer, allowed to determine the cyst in transplants in 98.8 % of cases. The developed methods for preventing infectious complications has reduced the inoculation of pathogenic organisms by 42.5 %. A great deal of work on the organization of a single service hemodialysis and transplantation in Kazakhstan. In all regional centers opened for the treatment of hemodialysis patients with acute and chronic renal failure. On the basis of Republican Children's Hospital organized children republican center hemodialysis and transplantation.

Recently strengthened service organ and tissue transplantation, improved medical equipment, scientific equipment. Department of Organ and Tissue Transplantation NSCS includes scientific and clinical department with operating unit and resuscitation group harvesting and preservation of donor organs, the separation of extracorporeal detoxification group immunological typing and biochemical laboratory.

During the existence of the Centre 2025 patients prepared the for transplantation produced over 53 thousand hemodialysis sessions and more than 1200 hemosorbtion, 2015 plasmapheresis, produced 592 kidney transplant donor, 7 auto grafts and more than 20 kidney transplants for children. Over the past 4 years there is an increase surgical activity in the department, and the average duration of hospital stay was decreased, postoperative mortality was decreased.

In connection with this, in 2011 and 2015 research aimed at objective and clinical evaluation of graft function that will trace different nature and severity of nephropathy in transplant recipients. results of studies will determine the treatment regimen nephropathy, transplant rejection when crises. Additionally, this department will be developed on the introduction into clinical practice of liver transplantation.

Table №10

The transplantation activity dynamics

Indicators	2009	2010	2011	2012	2014
Surgery activity	34,4%	50,8%	52,4%	58,4%	62,2%
Duration of stay of patients in hospital (days)	48,0	49,0	46,5	43,7	40,1
Postoperative mortality	7,0%	6,5%	6,3%,	4,5%	3,8%

Conclusion

Improving treatment methods and quality management in the health facility has a very significant role, since this depends directly on the patient's life. In recent years, the trend in Kazakhstan to continuously improve the service rendered services, which leads to the development of modern management systems in health care organizations. The Business Excellence Model was implemented according to example of the "National Research Center of Surgery named by A.N.Syzganov", in other similar medical institutions, such as "Research Institute of Traumatology", "Research Center of Urology named by A. Jarbussynov","Institute of ophthalmology","Research Center for Obstetrics and Gynecology. In all that organizations noted the positive impact of the development of integrated QMS with EFQM Business Excellence model on the basic parameters of diagnostic and treatment activities. In each of the institutions have developed new documented procedures, developed and implemented improvements projects, self-assessment was conducted using the RADAR methodology, which revealed the organization's strengths, areas for improvement. Top management of medical organizations have been trained to become familiar with the Fundamental Concepts of Excellence, with the Model Criteria and essential requirements for self-assessment in organizations to assess the efficiency and effectiveness of departments and the organization as a whole. As a result of this

project, the Organization received appropriate recognition in the form of European certification at "Committed to Excellence"

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