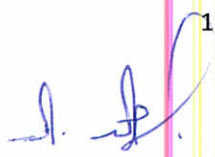




**APPROVED**  
by the decision of the Board of Trustees  
of the corporate fund  
«University Medical Center»  
on " 25 " May 2019  
Minutes # 25.05.19

**STRATEGIC PLAN**  
**of the corporate fund**  
**«University Medical Center»**  
**for 2019 - 2023 years**

**Nur-Sultan city, 2019**

  
1

## GLOSSARY

- Academic Medical Center (AMC) - integrated academic medical center, combining medical higher education institution with scientific organizations and health organizations, for the purpose of sharing resources to improve the quality of medical services through the integration of education, research and clinical practice.

- Bachelor of Science - practice-oriented specialist in nursing care, who has mastered educational programs of post-secondary education, and has extended functionality and advanced scope of practice.

- BP - budget program

- Clinical Department - structural unit of UMC, integrated for the purpose of implementing clinical, educational and research activities, developing and increasing the potential of medical staff within a specific clinical profile.

- «Densaulyk» – the State Program for the Development of Healthcare of the Republic of Kazakhstan for 2016-2019, that aims to ensure the development of an effective and sustainable system of protecting the health of citizens, through developments in healthcare. One of the main directions of the program is the modernization of medical education.

- d.m.s. - doctor of medical sciences

- GVPMC – guaranteed volume of free medical care

- HTMS - high-tech medical services and available resources of UMC

- ICP – Infantile cerebral palsy

- ISO - International Standard Organization

- IT - Information Technology

- JCI - Joint Commission International accrediting health care organizations for quality and patient safety throughout the world

- Just Culture - an approach that fosters an environment of open communication and shared accountability. It's a workplace model that empowers staff to voice concerns about patient safety without fear of retaliation and ensures confidence that leaders will listen and take action in a fair and consistent manner.

- Key clinical areas - areas defined in accordance with the industry's priorities

- NLA - National Laboratory Astana

- NU - Nazarbayev University

- NUSOM - Nazarbayev University School of Medicine

- OECD - The Organization for Economic Co-operation and Development

- SBP - government funded medical care

- SOP - standard operating procedure

- UMC - «University Medical Center» Corporate Fund

- UPMC - University of Pittsburgh Medical Center

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*"Nazarbayev University School of Medicine and its teaching hospitals are a unique model which should be disseminated to the other medical institutions in the country"*

***President of the Republic of Kazakhstan N. Nazarbayev***

*Message of the President of the Republic of Kazakhstan  
N. Nazarbayev to the people of Kazakhstan.*

*"New development opportunities in the conditions of the fourth  
industrial revolution", January 10, 2018*

## **INTRODUCTION**

"University Medical Center" Corporate Fund (hereinafter - UMC) was established in accordance with the decision of the Board of Trustees of the "Nazarbayev University" autonomous education organization, dated September 20, 2015. Central to UMC are three innovative medical centers: the Republican Diagnostic Center (RDC), the National Research Center of Mother and Child Health (NRCMCH), and the National Children's Center of Rehabilitation (NCCR). Each of these centers are currently independently managed, with strong vertical control of finance, human resource and supply chain management. UMC established the Kyzylorda branch and the National Research Center of Oncology and Transplantation (NRCOT), in 2016 and 2017, respectively. However, in the early part of 2019, the NRCOT will be legally transferred to the Ministry of Health of Kazakhstan; therefore, this document assumes UMC is comprised of the three aforementioned hospitals and the pediatric rehab branch location only.

The vision for UMC is to be the first integrated academic medical center (AMC) in Kazakhstan, integrating patient care, education and research. As an AMC, UMC will be comprised not only of the health system (hospitals, satellite clinics, physician office practices) for delivering clinical care services, but also Nazarbayev University School of Medicine (NUSOM), NU schools for science and health (e.g. Science and Technology, Engineering), NU private entities (e.g. National Laboratory Astana), and potentially other national and international higher education institutions and research centers. Ultimately, UMC will be a comprehensive healthcare ecosystem that fosters and reinforces education, innovation and experimentation that will ultimately translate into cutting edge, high quality, cost-effective healthcare for patients, first within UMC and ultimately throughout Kazakhstan and beyond.

Creating a world-class AMC will require significant changes from what UMC is today. The organization will need to streamline functions and services, merge financial flows and outsource effectively. A sophisticated, "connected" health information system will need to be successfully implemented and adopted, as it will be the virtual "glue" that enables the true benefits of an AMC to materialize. The hospitals, although



separate in geography and clinical specialization, will need to embody the mantra of “one hospital, with multiple locations”, operating under a uniform set of policies, procedures and organizational objectives. This kind of change will inevitably require a great deal of perseverance, political capital, human capital and financial investment. Even more important however, will be the cultural shift and evolution in mindsets needed in order to create something new and different. The health system will not only “be” the transformation, but it will be the *model for transformation* throughout the country. In the end UMC’s success will be a significant win for Kazakhstan and its citizens, as it will raise the bar for health services and health outcomes. Furthermore, the UMC will connect Kazakhstan with global scientific and clinical communities in ways previously untapped, providing Kazakhstan the opportunity to achieve competitiveness for medical services in the global market, in effect delivering on the First President of the RK Nursultan Nazarbayev’s greatest wish to elevate and modernize healthcare delivery in the country.

Creating an integrated academic medical care system is capable of:

- ✓ developing an integrated academic healthcare system can;
- ✓ create breakthroughs in clinical diagnosis and treatment by uniting the roles of researcher and clinician and blending scientific expertise across disciplines;
- ✓ improve quality of care and propel advances in cost-effective care with a multifaceted mission built on care delivery, teaching, and research;
- ✓ opens doors to new partnerships, increasing connectivity between Kazakhstan and the rest of the world;
- ✓ draw on a comprehensive set of clinical information collected over time, for the purpose of improving care practices, thereby maximizing the health of the community and general population;
- ✓ educate and build workforce capacity, the next generation of clinicians, as well as translational and clinical physician-scientists;
- ✓ attract premier research and clinical talent, resulting in a strong brand that differentiates UMC from other medical centers.

This UMC Strategic Plan for 2019 - 2023 (hereinafter - Strategic Plan) reflects the vision for UMC’s transformation and should serve as the foundation for UMC activity for the period 2019-2023.

## **1. ANALYSIS OF THE CURRENT SITUATION**

### **1.1. External environment analysis**

The status of healthcare in Kazakhstan can serve as a powerful indicator of the nation’s future. Particularly, the quality of healthcare of Kazakhstan’s people can be a measure of its socio-economic, cultural and industrial development.

Therefore, developing a national socially-oriented system that ensures the availability, timeliness and continuity of high-quality medical care, is one of the main priorities in Kazakhstan.

During its initial years of independence, Kazakhstan's healthcare system was challenged by the critically low levels of funding and a low volume of available and qualified workforce. In spite of a decrease in the workforce and financial constraints, Kazakhstan has maintained the essential infrastructure of its healthcare sector to provide vital services to the population.

For example, life expectancy in Kazakhstan has increased by 5.55 years and amounted to 73.15 years (in 2018, with 67.6 - 1991). Maternal mortality decreased by 5.3 times, infant mortality by three times, mortality from tuberculosis three times, from diseases of the circulatory system - twice, from malignant neoplasms - 1.5 times. Kazakhstan is recognized as a free zone against malaria and polio.

During the years of independence, 1326 health facilities (hospitals, clinics, medical ambulance stations and medical and obstetric centers) have been built in Kazakhstan.

Improving the quality of medical care is impossible without highly specialized medical personnel to provide it: over the past 20 years, admission to medical schools for grants has increased by 3 times. More than 300 thousand specialists were trained, including 2 thousand abroad.

One of the driving forces behind the positive growth in workforce and population health has been an adequate financial support. Health financing increased from about 6 million tenge in 1991 to 1.14 trillion tenge in 2017.

However, despite the positive dynamics of population health indicators, as noted in the review of the Kazakhstan health system prepared by OECD experts (November 2017), **the efficiency and quality of medical services in Kazakhstan is much lower than in most OECD countries<sup>1</sup>.**

As pointed out by the OECD experts, Kazakhstan's impressive economic growth **has not been accompanied by an equally appreciable improvement of health care** (see Figures 1 and 2). As seen in Figure 2, the mortality rate by primary diseases, like respiratory and digestive diseases, illustrates an increasing trend.

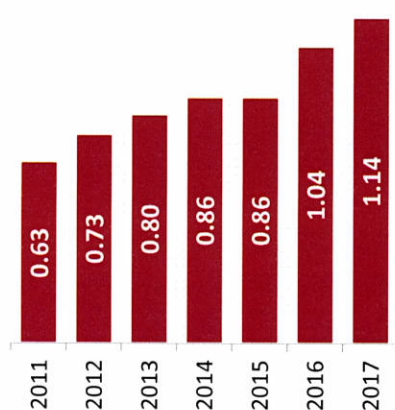


Figure 1 - State budget expenditures on health care (trillion tenge)

Source: MH RK, 2018.

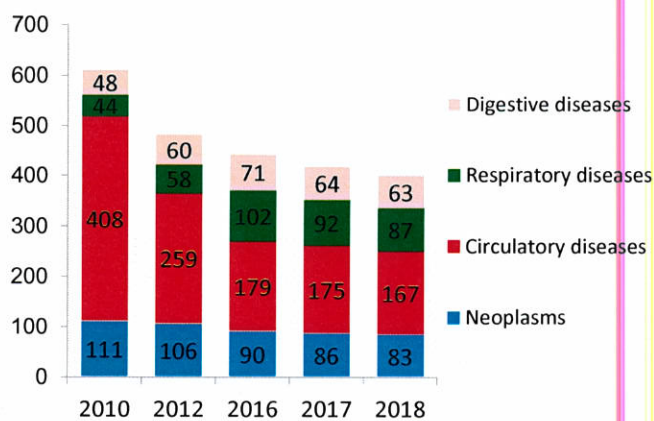


Figure 2 – Mortality by primary causes (per 100 thousand of population)

<sup>1</sup> [http://www.oecd-ilibrary.org/social-issues-migration-health/oecd-reviews-of-health-systems-kazakhstan-2018\\_9789264289062-en](http://www.oecd-ilibrary.org/social-issues-migration-health/oecd-reviews-of-health-systems-kazakhstan-2018_9789264289062-en)



Some indicators are still lagging behind the level of OECD member countries: Kazakhstan's life expectancy is more than 8 years lower than in OECD<sup>2</sup> countries, maternal and infant mortality rates are lagging, and mortality rates for certain chronic diseases, including as a result of injuries and suicides.

Many **countries with similar levels of income and expenditure** on health exceed Kazakhstan in key indicators in the field of health, and some manage to achieve greater results with less means.

It should be noted that there are **four basic health care models in the world**:

1) budget financing - at the expense of general taxation (Great Britain, Australia, Canada, Nordic countries);

2) social health insurance - at the expense of mandatory joint insurance deductions for employers and employees (Germany, France, Japan, Korea);

3) private medical insurance - at the expense of voluntary insurance premiums of employers or employees (USA);

4) mixed model - a combination of various elements of the above models (accumulative medical bills and voluntary medical insurance in Singapore).

At the same time, **no country in the world has a pure budget, insurance or private financing system**. As a rule, all health care models are based on **one dominant source of funding**. A common feature for all models is the provision of medical services to socially vulnerable groups at the expense of the state.

In the future, the health sector faces **challenges** associated with the development of **new medical technologies, increased life expectancy, and chronic non-communicable diseases**, which will inevitably lead to a further increase in the consumption of medical services. As a result, health care costs will increase.

The need for medical care grows the same in all countries, developed and developing, and **health care budgets**, regardless of their growth dynamics and economic level, **do not have time to serve changing demands** in expensive medical technologies, new medicines and technical equipment<sup>3</sup>.

The consumer of medical services has become more informed, he seeks to obtain high-precision diagnostics on modern equipment, to operate with the help of the latest techniques, to use the latest line of drugs, which translates into rising costs. The moment will come when it becomes difficult to control the costs of medical care, they can grow exponentially.

Therefore, based on the practice of other countries, there are two ways: to constantly increase budget allocations or insurance pool of funds in pursuit of growing needs, or **initially strive to create a rational system of medical care and try to provide more services at lower cost**<sup>4</sup>.

<sup>2</sup> OECD experts in their assessments (November 2017) note that the average life expectancy in Kazakhstan in 2016 is more than eight years lower than the average OECD countries in 2015

<sup>3</sup> According to World Bank expert on public health, Marcelo Bortman.

<https://kapital.kz/gosudarstva/67851/transformaciya-garantirovannoj-medpomocshi-boleznennaya-lomka-i-zdorovij-pragmatizm.html>

<sup>4</sup> <https://www.kursiv.kz/news/obshestvo/marselo-bortman-vsemirnyj-bank-nuzhno-uhodit-ot-illuzii-besplatnosti-v-medicine>



The creation of an effective health care system based on joint responsibility of the state, employers and citizens, the prevention of risk factors for public health and the occurrence of diseases, the promotion of healthy lifestyles should qualitatively increase the level of medicine and ensure sustainable socio-demographic development of the state.

## 1.2 Internal (organizational) environment analysis

In accordance with the UMC **Charter**, the **main purpose of UMC activity** is to provide safe, effective and high-quality medical care, to develop, introduce and distribute modern technologies in the field of medical science, education and practice, including at the republican level.

**The subject of UMC activities** are:

- ✓ provision of medical services;
- ✓ approbation, implementation and transfer of medical technologies in UMC;
- ✓ carrying out an examination of the quality of medical services provided by UMC;
- ✓ development and implementation of protocols for the treatment and diagnosis of diseases based on evidence-based medicine;
- ✓ providing targeted training for highly professional and competitive employees of UMC, and / or its Affiliates, by sending them for training, passing research and professional internships at research universities of international level;
- ✓ organization and provision of postgraduate and additional medical education, as well as the implementation of educational activities in the framework of additional education and general educational programs of primary, basic secondary and general secondary education;
- ✓ introducing a system of continuing professional education, organizing master classes with the involvement of foreign specialists and internships at foreign medical centers;
- ✓ conducting research in the field of health; development and / or implementation of scientific and technical programs on the most relevant scientific priorities, taking into account the versatility and scientific potential of UMC, the introduction of the results of scientific activities in UMC;
- ✓ organizing and holding forums, symposia, conferences, including internationally, as well as seminars, trainings and other educational events, including scientific and practical ones;
- ✓ organization of a pharmacy chain selling drugs and medicines for UMC workers and patients, etc.

**The structure of UMC** is formed by a centralized corporate center and 3 medical centers with a strong management vertical in the following functional areas: finance, personnel appointments, procurement. Production (clinical) processes in UMC are relatively horizontally integrated. The management of medical centers independently make production decisions and interact horizontally with each other.

In 2018 a survey was administered to UMC's personnel, to gather **their insights on UMC's competencies and resources**. The results of this survey are reflected in the following matrix (Table 1). Drawing on the findings, UMC's basic resources can be largely categorized within four main areas: **fixed assets, human resources, financial and intellectual capital**.

**Table 1** – Survey Results: Matrix of Resources and Competencies

	Resources	Competencies
<b>Basic</b>	<ul style="list-style-type: none"> <li>✓ Material and technical base;</li> <li>✓ Modern equipment;</li> <li>✓ Medical personnel of all levels;</li> <li>✓ GVPMC</li> </ul>	<ul style="list-style-type: none"> <li>✓ Availability of vocational education;</li> <li>✓ Licenses and certification;</li> <li>✓ Corporate governance;</li> <li>✓ Provision of the GVPMC and paid services;</li> <li>✓ Outpatient services;</li> <li>✓ Skills of implementing and analyzing standards</li> </ul>
<b>Unique</b>	<ul style="list-style-type: none"> <li>✓ Infrastructure;</li> <li>✓ Complete set of clinical and non-clinical standards and services;</li> <li>✓ Experts in JCI;</li> <li>✓ 024 budget program (training of doctors in international medical centers);</li> <li>✓ Leading doctors in HTMS;</li> <li>✓ Strategic sponsorship from "Nazarbayev University"</li> </ul>	<ul style="list-style-type: none"> <li>✓ Organizational and methodological supervision of regional health care in priority areas;</li> <li>✓ HTMS, SMS in priority areas in the framework of the GVPMC (motherhood, childhood, oncology);</li> <li>✓ Strategic Partners (UPMC) and NUSOM;</li> <li>✓ Development of clinical guidelines;</li> <li>✓ Mentoring of foreign medical specialists, exchange of experience;</li> <li>✓ JCI International quality and safety standards of health care (qualified JCI expert)</li> </ul>

### ***Fixed Assets***

UMC's fixed assets such as property and advanced equipment, is a significant source of support for business activity and contract activity. Isolated and alone, these assets cannot currently be considered a competitive advantage for the organization, but in the future as the organization expands geographically, it may become a differentiating factor.

### ***Human Resources***

Workforce capacity of the three UMC clinics is more than 3.1 thousand employees, including about 670 doctors and 1194 mid-level health professionals. 68% of doctors and 40% of nurses have qualification categories and 12% of doctors have academic degrees and titles. Professional development / training of production and administrative personnel is made possible through state funded programs and through exchange of experience with key international partners,



diversification of personnel professional skills that collectively move human resources from basic to unique level, turning it into a UMC competitive advantage.

However, it should be noted that a key issue in this area for UMC is the insufficient level of competencies of secondary medical personnel, in comparison with the accepted international practice. The result is nurses with limited involvement in the treatment process and an underutilization of this important resource. Meanwhile, the implemented international standards of quality and safety through the Joint Commission International (JCI) has increased the requirements and compliance with the standards for the mid-level health professionals of UMC clinics.

### ***Finance***

Today, UMC's **revenue structure** consists of **72% GVPMC** and **28%** other services (Figure 3). Average length of hospital stay is approximately 10 days.

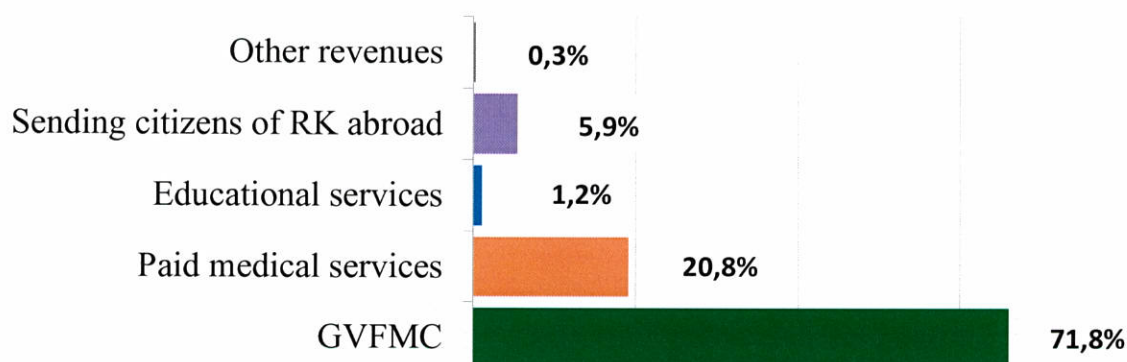


Figure 3 - UMC revenue structure in 2018

Financial and economic structure and operating business model, where **the ratio of GVPMC** and other services is 72% and 28% respectively, provides sufficient funds to UMC to cover short- and medium-term liabilities. Despite some gaps in sustaining long-term financial stability, GVPMC is a unique resource, forming a platform for competitive advantages of UMC.

### ***Intellectual Capital***

In its activities, UMC has and maintains a high level of intangible resources, such as corporate images of the Fund and its Founder, brand, patents and publications, certificates and quality standards, as well as other intellectual property. For example:

- ✓ The UMC brand and reputation have become recognizable in recent years thanks to unique highly skilled medical care and diagnostics, such as organ transplantation, positron emission tomography, pediatric surgery, etc.;

- ✓ Dynamic and balanced relationships with the NU School of Medicine, the University of Pittsburgh Medical Center (USA), key suppliers of drugs and medical devices, and other business partners;



- ✓ Development of staff training under the NU and MH RK programs;
- ✓ Conditions in the workplace and social support for staff: safety, equality, training, a system of caution against social and commercial errors, training, evaluation and promotion of professionalism;
- ✓ Effective cooperation with charitable foundations;
- ✓ Technological development is supported by budgets, grants, prizes, etc.

Possessing unique resources and core competencies, UMC undoubtedly plays a leading role in the structure of the healthcare industry of the Republic of Kazakhstan. Considering the above, the potential of UMC can be maximally realized when setting new strategic objectives and increasing financial and economic sustainability. UMC is a non-profit organization, however, the achievement of strategic goals will require investments, the main sources of which, as international experience of medical centers shows, are profit organizations, sponsorship of third parties, domestic (state) and international grants, etc.

### 1.3 SWOT ANALYSIS

UMC is at a pivotal point in its development as an academic medical center, and the next two to five years will markedly impact the future of the organization and its ability to deliver on the promise of a new model of care that will bring higher quality, more cost-effective healthcare to Kazakhstan. The key to UMC's success will be the honest evaluation of weaknesses and threats to realizing the vision for the AMC, and the timely action to grab hold of opportunities, capitalizing on the organizational strengths and collectively working to mitigate risks.

The following SWOT analysis outlines the strengths, weaknesses, opportunities and potential threats UMC currently faces as it embarks on its transformation into an AMC. This list should be updated and utilized to assess and plan responses to risks and opportunities for UMC and to prioritize activities to ensure the most critical items are addressed early on.

#### STRENGTHS

- ✓ Affiliation with Nazarbayev University;
- ✓ Strategic partnership with UPMC; cooperation with leading foreign medical centers;
- ✓ JCI accredited medical centers;
- ✓ Opportunities for integrated laboratory diagnostics: more than 700 types of studies;
- ✓ Ability to perform some complex clinical operations: including bone marrow, liver and kidney transplantation.

## **WEAKNESSES**

- ✓ Insufficiently developed information system: the lack of a properly integrated IT system, which is an integral part of the creation of the AMC and is crucial for optimizing data management;
- ✓ Insufficient integration of science, education and clinical practice, as well as medical centers;
- ✓ Absence of internationally recognized highly qualified clinicians-researchers, leaders in particular clinical areas;
- ✓ Imperfection of the system of payment for medical services and tariffs;
- Low rate to the rate of the guaranteed volume of state interest for JCI;
- ✓ Aging equipment and high cost of services.

## **OPPORTUNITIES**

- ✓ Organization of multicenter clinical trials in partnership with large pharmaceutical companies;
- ✓ Development of a translational platform and commercialization of scientific research;
- ✓ Social and voluntary health insurance: the ability to maximize the positive effects of increased financing of the health care system through the system of compulsory and voluntary social insurance;
- ✓ Potential of Biobank and Vivaria;
- ✓ Expansion of paid medical services;
- ✓ Expansion of the medical tourism market.

## **THREATS**

- ✓ Unfavorable socio-economic changes in the country;
- ✓ Lack of resources to attract and retain talented employees;
- ✓ Global challenges of biomedicine;
- ✓ Growing competition.



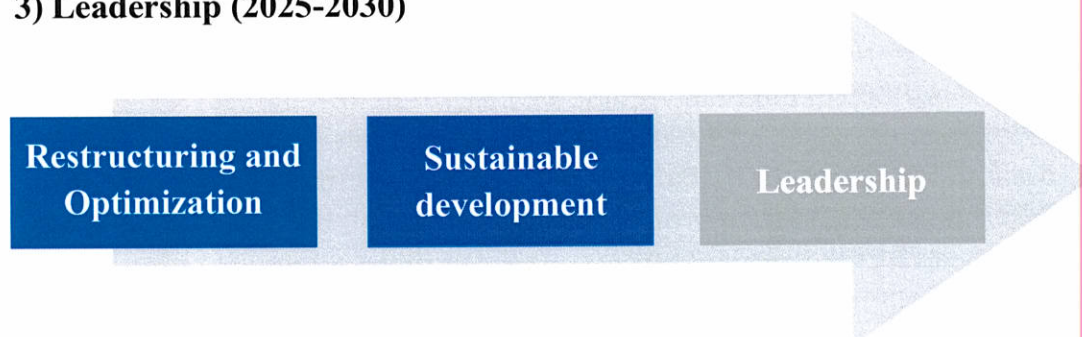
## 2. UMC TRANSFORMATION STRATEGY INTO THE AMC

### 2.1 Stages of Transformation

The aim for the transformation strategy is to map out the systematic changes that UMC will need to undergo to have a successful transformation into an AMC. This document will give a high-level overview of the anticipated trajectory from 2019 to 2030, and a more detailed roadmap for the first phase of transformation «Restructuring and Optimization», and partially the second phase of transformation «Sustainable Development» to occur over a five years period (2019-2023). Phase three strategies will build on the foundations laid in phase one and two, and will be further developed after phase one has been initiated and a set of performance data has been collected and evaluated.

The UMC Strategic Plan for integration and transformation is divided into three main stages:

- 1) **Restructuring and Optimization (2019-2021)**
- 2) **Sustainable Development (2022-2024)**
- 3) **Leadership (2025-2030)**



**Restructuring and Optimization Stage (2019-2021).** The first stage of transformation will focus on the restructuring of UMC's infrastructure to reflect that of an integrated and streamlined AMC. This phase will also involve continued advanced training and development of staff, systematic planning for new, competitive services and prioritization of innovative research.

*Objectives will be achieved in the following areas during this phase:*

- Preliminary planning for the AMC - to clearly define the mission and vision and the associated short-term and long-term goals and strategies for UMC. This includes in-depth data-gathering about the internal and external environments, a comprehensive analysis of risks and opportunities for UMC, and exploration of financial options for UMC to be independently sustainable in the future;
- Integrate AMC corporate and institutional structures - Revisions will be made in the corporate and institutional governance structures to reflect a



unified, interdependent organization with clinical-academic departments; hiring for needed positions will ensue. Key functional areas will be streamlined across the UMC hospitals, NUSOM and the university-affiliated research institute; a structure for joint appointments will be initiated and policies and procedures will be standardized as appropriate, across all entities;

- Develop initial clinical-academic scopes of service. Three pilot clinical academic departments, within women's health, pediatrics and anatomic pathology, will be developed, where reporting structure and potential, new payment structures for clinicians will additionally be tested. In addition, clinical, research and innovation priorities will be identified, new competitive services will be planned for and initiated, and strategic affiliations to fill in gaps in the current UMC will be determined;
- Adopt a comprehensive and "connected" IT system: the IT system will enable enhancement of financial management, automation of business processes, facilitate research and enable seamless continuity of patient care across UMC institutions;
- Promote medical education and professional development, including continued training and capacity building for clinical staff, administrative leaders and researchers, improving existing training programs and implement new education opportunities, such as the new Residency Programs based on the U.S. system of residency training, and a nursing education program to enhance UMC nursing capabilities and advanced scope of practice;
- Enhance research capabilities - Collaborate with local and international partners on clinical trials, develop required clinical trial infrastructure and regulatory entities, create a platform at NU to enable collaboration in the National Biobank research and solidify UMC's research priority areas;
- Explore and test potential financing options, to enable UMC to become a financially sustainable organization, with less reliance on government funding; create a financial system that will allow comprehensive tracking of each UMC institution;
- Maintain/enhance clinical quality through continued JCI accreditation of previously accredited UMC hospitals in addition to other patient safety, patient experience and clinical outcomes initiatives.

**Sustainable Development Stage (2022-2024).** The second stage of transformation will involve continued progress on the objectives in phase one as determined at the end of the two-year period. It will also include activities that will further develop and define UMC's service offering and capabilities, improve outcomes and quality of care, establish the UMC reputation, and accelerate planning and execution for expanding the UMC network to the next stage:

*The following are example areas phase two may address, following the successful execution of the phase one initiatives:*

- Determine clinical areas of strength and high volume and further grow and expand these departments; invest heavily in these areas by hiring renowned clinicians and investigators, purchase of cutting edge equipment, intensive marketing etc. Clinical areas of interest outside of the existing offerings will be developed and strategic expansion and partnering in these areas will be pursued;
- Ramp up financial diversification efforts. Evaluate financial data from phase one and identify / implement strategy for diversification of funding sources; obtain necessary government approvals and further refine the revenue cycle process etc.;
- Expand research collaborations with local and international partners; potential to start utilizing data collected from participation in biobank research; work closely with pharmaceutical industry for collaboration on international clinical trials and pursue research with commercial potential; invest heavily into priority research areas;
- Establish further cross-functional programs. Grow percent of clinicians with joint appointments in schools and research units; develop thesis co-supervising of PhD students of Nazarbayev University;
- Build on UMC's national and international network through activities such as establishing an International Advisory Board with leading domestic and foreign scientists, aggressively publish in priority research areas, recruit renowned research scientists etc.; aggressively pursue domestic and international marketing strategy;
- Continue to implement institutional programs that encourage a unified culture. This may include leadership training, intensive orientation programs / workshops, internal and external marketing efforts etc.

**Leadership Phase (2025-2030):** By the Growth and Leadership Phase, UMC should be an operationally integrated academic medical center with streamlined functions across education, research and patient care. During this third phase of transformation, UMC will focus heavily on positioning itself as the top clinical organization in the country within its chosen focus areas. There will be an emphasis on building reputation, differentiation, growth and expansion, marketing, obtaining financial independence and growing revenue. By this stage, UMC will have enough performance data to inform its strategic plan going forward. UMC may decide to enter the market for voluntary health insurance and/or plan to build a network of national and international referral centers. Key performance indicators will likely include improving patient outcome metrics, increasing



enterprise output, enhancing brand awareness and other initiatives that will serve to position UMC as a top clinical institution in Kazakhstan and in the region.

As previously noted, this UMC integration and transformation strategy focuses on the strategies for the *change* that needs to occur in order for UMC to effectively evolve from its current, disparate state into a unified and integrated academic medical center. Comparatively, UMC as an existing, fully-developed academic medical center may have a different focus, such as maintaining its position, growing in size and scope of services, further differentiating itself from competitors and managing its reputation in the market place.

## 2.2 Mission, Vision and Strategic Goals

### Mission

UMC aims to provide the highest quality health services in a financially sustainable manner by pioneering the integrated academic medical center model of care – one that integrates medical education and innovative research with clinical practice, generating medical science discovery and innovation that translates into excellence in patient-centered, family oriented healthcare.

### Vision

UMC will be the leaders in the advancement and modernization of health care in Kazakhstan by developing the first integrated academic medical center, which will serve as the model and “gold standard” for high quality, efficient and cost-effective patient care throughout the country and region.

In order for UMC to operate as a successful AMC, there are critical goals that must be accounted for in the transformation. The following five goals demonstrate UMC’s top priority areas and are reflected in the mission statement for transformation. These goals will serve as a guide for the transformation strategy and activities over the next two to five years (2019 – 2023):

**GOAL 1:** Excellence and innovation in patient-centered and family-oriented medical care

**GOAL 2:** Financial sustainability

**GOAL 3:** Excellence in medical science, education and practical training of health professionals

**GOAL 4:** Integration of medical care, research and education

**GOAL 5:** An effective corporate management system



## **GOAL 1: Excellence and innovation in patient-centered and family-oriented medical care**

At the heart of the academic medical center model of care is the provision of high quality, coordinated care, exceptional service to patients and their families, and optimization of patient outcomes. Optimal outcomes create the societal benefit of a decreased burden of illness on both the patient and his or her family. Furthermore, the cost of care is reduced, as less hospitalizations and healthcare resources will be used on unnecessary services and unnecessarily progressed disease, thus creating cost savings to the government, the institution and the patients.

*Successful implementation of Goal 1 will require achieving the following key strategic initiatives in the first phase of transformation:*

- ✓ **Initiative 1.1** Develop and grow a complex range of clinical offerings that enable well-coordinated patient care across the organization's continuum
- ✓ **Initiative 1.2** Expand the level of quality care by hiring renowned and well-trained clinicians and faculty to UMC, as well as enhancing the role and importance of nurses
- ✓ **Initiative 1.3** Improve overall patient safety and experience through a cultural change that emphasizes incident reporting and fosters a culture of safety mentality
- ✓ **Initiative 1.4** Maintain all compliance with international and JCI standards of care, quality and safety

### **Initiative 1.1 Develop and grow a complex range of clinical offerings that enable well-coordinated patient care across the organization's continuum**

As part of the implementation of this initiative, it is planned to expand the comprehensive list of medical services by joining institutions of the appropriate profile, concluding partnerships or creating internal units to provide such services.

As UMC is still at its beginning stages of transformation, expansion should focus on advancing services within the three key areas chosen as pilot clinical academic departments: **women's health, pediatrics and anatomic pathology**. The goal for this strategic growth in services is to be able to provide patients with options across the continuum of care, while keeping them within the UMC health system. This allows seamless collaboration between physicians and specialists caring for the patient, and helps to establish consumer loyalty to UMC. One method of supporting this clinical structure is devising incentives that encourage inter-disciplinary disease focused team-based programs. The position of Clinical Care Coordinator could be introduced, to serve as support to patients throughout their care journey. Development and expansion of ambulatory care capacity should be addressed early on, as this will serve as the entry point for many patients, into the UMC hospitals.

### **Initiative 1.2 Expand the level of quality care by hiring renowned and well-trained clinicians and faculty to UMC, as well as enhancing the role and importance of nurses**

As part of the implementation of this initiative, it is intended to search for and hire renowned doctors and professors who will subsequently be able to attract patients, increase the awareness of the organization and the degree of confidence in it, and also help invite new specialists. At the initial stage of the implementation of this initiative, it is planned to begin with the search and appointment of the Directors of the areas indicated in initiative 1.1 (pediatrics, women's health and anatomic pathology). The success of hiring specialists will depend on the proposed compensation package, so UMC will provide mechanisms for attracting and retaining talented employees who are invited to become part of the UMC team and move to Nur-Sultan.

In addition, as part of the implementation of this initiative, it is intended to strengthen the role and importance of nursing staff in UMC. The role of the nurse in modern healthcare has changed significantly and intensified, and nowadays it is necessary to consider a nurse as an equal partner of a doctor. In her new capacity, the nurse is able to plan the nursing process, as well as make independent decisions within her competence. Nurses provide services as an equal partner to a doctor who makes independent nursing decisions, plans and provides evidence-based nursing care, as reflected in nursing documentation.

In order to involve nurses in the process of raising the level of their competencies, the nursing staff will be divided into different categories depending on the complexity of the work and the level of skills required. The ranking of nursing staff will be the basis for differentiated remuneration for each category, and transparent and unified conditions and requirements for transition from one category to another will be developed.

Given the degree of preparedness of nursing staff, the functional responsibilities of nurses will be expanded through the transfer of certain medical functions. Moreover, in the form of a pilot project, it is planned to transfer the clinical unit to the management of trained nursing staff.

Thus, the new model of interaction between clinical staff will allow medical personnel to be released from their unusual duties, significantly increase the status of a nurse, and improve the quality and safety of medical care by training nursing staff in accordance with high international requirements for nursing.

### **Initiative 1.3 Improve overall patient safety and experience through a cultural change that emphasizes incident reporting and fosters a culture of safety mentality**

Patient safety and patient experience are central to a premier healthcare organization, and when prioritized, leads to a high level of trust and confidence from patients. UMC will establish quality and patient safety core values and develop a communication plan for all UMC managers and employees.



A significant aspect of improving patient safety and patient experience is the reporting of medical errors or adverse events, for the purpose of continuous improvement. An incident reporting IT system will be purchased for all hospitals, and quality department staff will be trained on report development, including error reporting, classification of errors, post-error follow up and adopting the philosophy of Just Culture.

In order for these quality improvement initiatives to be put in place, UMC will need to address the cultural and behavioral aspects causing fear around incident reporting. Incident reports are not aimed at punishment for clinical staff and should not be used in this manner; rather, they are intended to inform the appropriate committee that there may be an institutional process flaw that resulted in the error. Thus, a committee dedicated to addressing organizational culture will be developed, and will engage with leadership to determine the best approach for changing the organization's culture to one of collaboration and pursuit of continuous improvement. The Committee may also explore and implement policies that guarantees UMC clinical employees will not be held liable in the case of unintentionally causing harm to the life or health of a patient and their interests will be protected; only with this guarantee can UMC employees fully participate in the Just Culture UMC is looking to establish.

#### **Initiative 1.4 Maintain all compliance with international and JCI standards of care, quality and safety**

The three UMC hospitals have successfully been JCI accredited, which is a testament to the hard work and dedication of the UMC staff. It will be critical for UMC facilities who have had JCI accreditation to ensure continuation of the prestigious status. UMC hospitals will engage in ongoing preparation for accreditation, including participation in mock surveys. UMC clinics will take extra measures to improve and expand internal control processes through internal audit of clinical and non-clinical processes. The process of internal audit will involve all structural units of UMC, including financial, administrative and human resource units. Expertise will be improved for compliance with their clinical protocols with an emphasis on monitoring the validity of prescribed medicines, where a special role should be played by clinical pharmacologists of UMC centers / branches.

Part of complying with international standards is fully utilizing nurses to enable a care "team" to work with patients (more on nurse training in Goal 3). A Nursing Education Department will be developed that will focus on the continuous professional development of nurses and will involve the best representatives of this category as teachers, to create and distribute the best practices in nursing, both within UMC centers and in the regions of Kazakhstan. Other objectives of the department will include:

- Guide efforts to standardize processes involving nurses
- Develop an evaluation system for nursing
- Engage key physician stakeholders to support nursing advancement efforts.

- Introduce specialized nursing roles at UMC, to support advanced nursing clinical practice.

## **Summary**

### **Goal 1: Excellence and innovation in patient-centered and family-oriented medical care**

#### **Initiative 1.1 Develop and grow a complex range of clinical offerings that enable well-coordinated patient care across the organization's continuum**

- ✓ Expand on services within the three key areas chosen as pilot clinical academic departments: women's health, pediatrics and anatomic pathology;
- ✓ Introduce the position of Clinical Care Coordinators who will serve to supports patients throughout their care journey;
- ✓ Develop and expand on ambulatory care capacity as this will serve as the entry point for many patients, into the UMC hospitals.

#### **Initiative 1.2 Expand the level of quality care by hiring renowned and well - trained clinicians and faculty to UMC that will be expected to lead the key clinical divisions**

- ✓ Conduct world-wide hiring search to recruit renowned clinicians and faculty starting with Chair positions for pediatrics, women's health and anatomic pathology;
- ✓ Implement mechanisms to attract and retain top talent;
- ✓ Strengthening the role and importance of nursing staff.

#### **Initiative 1.3 Improve overall patient safety and experience through a cultural change that emphasizes incident reporting and fosters a culture of safety mentality**

- ✓ Establish quality and patient safety core values and develop a communication plan for all UMC managers and employees;
- ✓ Identify an incident reporting IT system to be purchased and deployed at each UMC hospital;
- ✓ Train identified quality department staff on incident report development;
- ✓ Establish a committee dedicated to changing the organization culture to one of collaboration rather than a culture that fears punishment.

#### **Initiative 1.4 Maintain all compliance with international and JCI standards of care, quality and safety**

- ✓ Maintain standards and engage in ongoing preparation for JCI re-accreditation;
- ✓ Develop a UMC system-wide Nursing Education Department that will be responsible for the continued education, professional development and advancement of nurses within UMC;
- ✓ Improve and expand internal control processes through internal audit of clinical and non-clinical processes.



## **GOAL 2. Financial Sustainability**

The long-term viability of UMC as a premier health system will depend on the organization's ability to generate positive cash flow and reinvest in advancing its education, research and clinical care components. Becoming a financially sustainable organization will inevitably require a reduction in reliance on government funds / income received from the provision of the GVPMC. UMC must be bold and innovative in identifying and pursuing multiple avenues for revenue generation, as presently there is no clear and certain path. Success in this area will require careful strategic planning informed by reliable data from internal entities as well as market data.

UPMC will work with UMC to develop a business plan that will enable UMC to become incrementally more financially independent. As data becomes available over time, the financial models will progressively become more accurate and informative and will be inclusive of all aspects throughout UMC (e.g. building updates and repairs, equipment purchases, recruitment, professional development training, and so forth). In-depth market analysis efforts may also be pursued, particularly as UMC begins to develop its growth and expansion strategy.

*Successful implementation of Goal 2 will require achieving the following key strategic initiatives in the first phase of transformation:*

- ✓ **Initiative 2.1.** Develop mechanisms for increasing UMC revenues;
- ✓ **Initiative 2.2.** Implementation of cost savings and/or cost management initiatives across the UMC system;
- ✓ **Initiative 2.3.** Use of standard, central internal controls and information technology systems to track and report on volume, revenue and expenses on a regular basis.

### **Initiative 2.1. Develop mechanisms for increasing UMC revenues**

One method for reducing dependence on the GVPMC is through the development of advanced clinical offerings that can command a higher out-of-pocket contribution from patients. These new and improved clinical service offerings will improve revenue through both increases in patient volume from patients seeking these services and increases in the total revenue generated per patient, due to more services being offered. Further, UMC's pricing strategy will be a consideration across various services and patient populations. At present, tariffs for services, which are compensated under the GVPMC, cover only direct costs of the clinics.

In order to increase the range of medical services, UMC should consider pilots for expansion of care offerings, starting with the three clinical academic departments (women's health, pediatrics, anatomic pathology) and/or in the following directions (as provided by UMC):

1. Improvement of the ophthalmological service through introduction of new medical services, including:
  - a. operations on refractive laser surgery;

- b. phacoemulsification of cataracts using toric, multifocal, pseudo-exponential, phakic lenses;
- c. complex treatment of progressive myopia in children with the use of hardware treatment and orthokeratological lenses.
- 2. Development of recovery treatment and rehabilitation of adult patients with motor, speech disorders and pain syndromes, including:
  - a. opening of the clinical and research laboratory of epilepsy;
  - b. opening of the clinical and research laboratory of sports medicine;
  - c. opening of the department of adult rehabilitation;
  - d. providing restorative treatment and rehabilitation to adult patients.
- 3. Enhance existing paid services and develop other paid medical services, including:
  - a. introduction of new paid medical services;
  - b. market analysis and price adjustment for existing paid medical services;
  - c. increase in the volume of paid medical services;
  - d. improvement of paid medical services (service and quality).

In addition to clinical services, the ability to offer patients non-cash payment methods – and patients’ willingness to use non-cash forms of payment – is standard in well-developed health systems across the world. For the convenience of consumers and to attract new patients to the UMC clinics, new methods of payment will be introduced into each hospital. Having multiple methods for payment will not only be more convenient for patients and visitors but the ability to extract payment directly from a patient’s bankcard or other non-cash payment mechanism may reduce bad debt and the administrative burden of collecting cash visit-by-visit.

A potential opportunity for additional revenue for UMC could be in attracting Kazakh patients who would otherwise travel overseas from Kazakhstan to get their medical care. In this case, expanding clinical offerings and providing advanced services proven to be at international standards, could be effective in capturing this cohort, provided the marketing of the services is targeted and strategic. A second potential opportunity could be in becoming the primary choice for foreigners living in Kazakhstan or other nearby countries and seeking treatment. In 2016-2017, 5690 foreign patients were treated at UMC clinics, and 340 foreigners received inpatient care (SMC, HTMC). A more impactful method for attracting these patients, aside from expanding clinical offerings and providing advanced services that meet international standards, would be the hiring by UMC of experienced, well-known physicians, who trained and/or practiced abroad. Targeted marketing will also be critical in this approach. The former approach would likely be most effective in attracting expatriates currently residing or visiting Kazakhstan. The latter approach also may drive citizens and visitors from surrounding countries to travel to Kazakhstan to seek treatment.



Before the organization can promote the UMC brand to countries outside of Kazakhstan, it must first develop its clinical capabilities, quality of care and bolster its reputation in-country. In other words, UMC's excellence must be "proven" by past performance, exceptional clinical outcomes and some level of positive and exceptional media exposure, in order to attract large numbers of foreign patients. However, bringing in a renowned clinician, with his or her own following and prestige, could be a more direct route to attracting this population. While feasible, attracting foreigners to travel to Kazakhstan for medical care should not be a "priority" strategy during phase one, as it is unlikely to be lucrative at this stage and would require extensive resources. Given that medical tourism typically is not a material contributor to even world-renowned health systems, UMC will not rely heavily on this approach to fuel growth.

Finally, another non-traditional source of revenue under consideration would be contracting directly with employers or organizations in risk-sharing agreements or offering insurance policies to individuals and families. However, this would be an initiative pursued at a future stage of UMC development, so it is not explored in depth here.

#### **Initiative 2.2. Implementation of cost savings and/or cost management initiatives across the UMC system**

In addition to increasing revenue, UMC will focus on identifying opportunities to lower expenses through efficiencies, workflow design and dynamic supply chain management across the system. In addition, UMC will implement mechanisms and plans to ensure that expenses increase at a lower rate than revenue to promote long-term financial sustainability. UMC will work with finance experts of strategic partner, UPMC, to develop a financial sustainability vision and strategy for UMC, in collaboration with NU leadership. The assignment of resources will then be modified to align with the financial vision and strategy. A process for tracking and reporting financial performance and assuring data validity will additionally be developed in collaboration with UPMC.

As a first step, a clinical and financial dashboard will be developed in partnership with UPMC for one selected specialty at the Women's and Children's Hospital; a tracking system within the finance department of the Women's and Children's Hospital will be developed, as a pilot project designed to manage cost and quality. UPMC will oversee data collection and analysis. Once the pilot has been successfully implemented, UMC will seek to rollout the tracking system and dashboard in other areas.

#### **Initiative 2.3. Use of standard, central internal controls and information technology systems to track and report on volume, revenue and expenses on a regular basis**

UMC will develop and implement a centralized management model to oversee all of its hospitals. Along with this centralized management structure, UMC will institute standard internal controls to track and report on performance. The ability to review statistics, including volume, revenue and expenses, on a real-

time basis is critical to promoting positive financial performance. Further, this is a first step toward the implementation of proper internal controls around all financial processes (e.g., revenue cycle, supply chain, accounting and reporting). Selection and implementation of an information technology system that meets UMC's reporting requirements is an absolute requirement in achieving this goal.

## **Summary**

### **GOAL 2. Financial sustainability**

#### **Initiative 2.1. Develop mechanisms for increasing UMC revenues**

- ✓ Plan for and develop advanced clinical offerings that will drive patient volume and can command a higher out-of-pocket contribution from patients;
- ✓ Improve convenience and ease of payment for patients by introducing electronic capabilities within each UMC hospital, to accept debit card, credit card and other non-cash payment methods in addition to cash payment;
- ✓ Explore revenue diversification through non-core sources and services;
- ✓ Conduct activities to promote brand recognition in social networks, on websites, radio and television, as well as in print media (newspapers, magazines, brochures and booklets).

#### **Initiative 2.2. Implementation of cost savings and/or cost management initiatives across the UMC system**

- ✓ Develop a financial sustainability vision and strategy for UMC;
- ✓ Develop a process for tracking and reporting financial performance;
- ✓ Develop a clinical and financial dashboard for one selected specialty at the Women's and Children's Hospital and build a tracking system as a pilot project designed to manage cost and quality.

#### **Initiative 2.3. Use of standard, central internal controls and information technology systems to track and report on volume, revenue and expenses on a regular basis**

- ✓ Institute standard internal controls to track and report on performance.
- ✓ Select and implement an information technology system that meets UMC's reporting requirements.

### **GOAL 3. Excellence in medical science, education and practical training of health professionals**

Creation and continued development of highly qualified staff that meet or exceed international educational standards and have diverse interests, expertise and capabilities is a main priority in UMC's development. Ultimately, it is UMC's human capital that will generate the knowledge, innovation intellectual property and best practices that will raise UMC's academic and scientific activities to international standards.



The medical education and training programs at UMC will cater to the differing educational needs of a range of healthcare professionals and therefore, will involve close partnership with the university, NUSOM and UPMC partners. As UMC is transformed, the education focus will initially be on developing medical students, residents, lead physicians, lead hospital administrators and nurses to meet international standards.

*In pursuit of Goal 3, the following strategic initiatives will be realized in phase one:*

- ✓ **Initiative 3.1** Develop high quality residency program that will meet ACGME International standards;
- ✓ **Initiative 3.2** Develop nurse education program to advance the practice of nursing at UMC;
- ✓ **Initiative 3.3** Develop human resources in preparation for the clinical trials research program;
- ✓ **Initiative 3.4** Provide continuous opportunities for professional development, advanced training and retraining to executive management, hospital and department leads and other clinical and administrative staff.

#### **Initiative 3.1 Develop high quality residency program that will meet ACGME International standards**

The Residency Programs being implemented at UMC will be developed in accordance with the Accreditation Council for Graduate Medical Education (ACGME) International guidelines. UMC faculty has collaborated with UPMC faculty to develop the foundation for residency programs within five pilot specialty areas: surgery, obstetrics and gynecology, internal medicine, family medicine and pediatrics (further specialties will be developed over time). Applications for the UMC Residency Program is anticipated to open early 2019 and the first residency class will begin September, 2019.

Given the UMC residency programs are fashioned according to the US style and format and will be open to medical students globally, admitted Residents will be required to speak the English language; attending physicians will be expected to know or learn English, to fully participate in the training of residency students. With each year and new residency class, the programs will be refined to better meet the ACGME requirements for accreditation so that by the time the program is fully enrolled (approximately four to five years), the program will be well prepared to apply for ACGME accreditation. Ultimately, the UMC residency program will be a significant “feeder” of highly qualified medical professionals into the UMC health system. In the future, UMC will consider development of Fellowship programs for talented residents in research areas.

#### **Initiative 3.2 Develop nurse education program to advance the practice of nursing at UMC**





In western hospitals and clinics, nurses are an important member of the multidisciplinary patient care team, and are expected to implement independent nursing decisions based on the evidence-based medical and nursing plans of care, as reflected in nursing documentation. Nursing specialists are trained not only at the level of basic technical vocational education, but also in the bachelor's, masters and doctoral studies in nursing. The aim for nursing at UMC is to train nursing staff in accordance with the international requirements for nursing, and build up a new model of interaction between clinical personnel, enabling a sharing of responsibility for patient care. Such efforts will improve the status of nurses and concurrently enhance the quality and safety of medical care.

In order to increase the level of competence of nursing professionals at UMC, the training opportunities for nurses will continue to be developed, in partnership with NUSOM. UMC will also build further nursing education through various educational programs (accelerated undergraduate program, PDP program, etc.). Over time, nurses working at UMC will be encouraged to obtain a bachelor's and a master's degree in nursing.

As part of initiatives to involve nurses in the process of improving their competencies, the mid-level health professionals will be divided into different categories depending on the complexity of the work performed and the level of required professional skills. The ranking of paramedical staff will be the basis for a differentiated salary for each of the categories. Transparent and consistent requirements for transition from one category to another will also be developed. Taking into consideration the degree of competence of nursing staff, the functional duties of nurses will be expanded through the transfer of certain medical functions. Moreover, in the form of a pilot project, it is planned to transfer the clinical structural unit to be managed by the trained mid-level health professionals (nurses), in addition to physicians supervising nurses.

### **Initiative 3.3 Develop human resources in preparation for the clinical trials research program**

The building of the research program at UMC will benefit from taking a measured, systematic approach to growth and development to ensure the foundational aspects are in place for a long and successful program. In the future, once research infrastructure and research teams have been well-established and UMC's research portfolio has expanded, there will be increased opportunity for publications in international journals and commercialization of products derived from scientific studies, which will contribute to UMC's prestige, visibility and bottom line.

Participation in international multi-center studies is an effective means to quickly enter the clinical trials space, however, participation requires adherence to demands for specific conditions and strict data management requirements. As such, each site will have pre-specified IT and database requirements and Clinical Research Coordinators will be charged with conducting high quality management of research data in order to avoid errors. The requirements imposed are the same



across all clinical sites, regardless of which country is participating, and the high expectations for adherence to research protocols will be non-discriminatory. Therefore, the culture around research at UMC must be closely managed and molded to adhere to these high standards. Furthermore, clinical research is resource intensive, not only requiring a funding source but also adequately sized teams to carry through the research requirements. Research teams must understand the importance of following protocols to ensure high quality data collection and proper documentation to avoid negative implications.

In the initial phase of transformation, UMC will focus on developing required infrastructure for clinical trial research, which will include the training and development of high potential students in clinical trials, in preparation for becoming future primary investigators at UMC. To start, the research and innovation arm of UMC will work with its international partners UPMC, to identify and participate in two interventional pharmaceutical clinical trials, phase three or four, which are already ongoing in UPMC clinics and for which hospitals at UMC have sufficient patients for trial recruitment. UMC would thus become an additional site of an active, multi-site clinical trial and will have the opportunity to have hands-on training in the discipline. Other opportunities for training include exchange programs for clinical trials training (including study of clinical trial design, conduct and interpretation), attending major international research meetings or bringing in renowned scientists to give a masterclass. This continued exposure to the clinical trials research environment is critical as it will give UMC trainees a sense for the culture of research and will demonstrate the set of high standards the UMC research program will need to reach.

**Initiative 3.4 Provide continuous opportunities for professional development, advanced training and retraining to executive management, hospital and department leads and other clinical and administrative staff**

In order to further develop clinical knowledge and skills of executive management, hospital and department leads and clinical and administrative staff, UMC will continue development of the mentoring institute involving foreign specialists-mentors. Coordination of master classes on the basis of UMC clinics with the participation of leading international experts will also continue.

**Summary**

**GOAL 3. Excellence in medical science, education and practical training of health professionals**

**Initiative 3.1 Develop high quality residency program that will meet ACGME International standards**

- ✓ Continue to develop the pilot residency programs within the five specialties of surgery, OB/GYN, internal medicine, pediatrics and family medicine;
- ✓ Continue to plan for additional specialties where residency programs can be developed at UMC;

- ✓ Continue to strive for ACGME International standards for residency programs, in preparation for future accreditation.

### **Initiative 3.2 Develop nurse education program to advance the practice of nursing at UMC**

- ✓ Continue to build on existing nurse training such as the PDP program;
- ✓ Develop a pay scale for mid-level health professionals, by identifying categories depending on the complexity of the work performed and the level of required professional skills; transparent and consistent conditions and requirements for promotion will additionally be developed;
- ✓ Leadership to deliberately and publicly transfer certain medical functions over to nurses, so all staff are aligned on the expanded responsibilities allocated to nurses; ensure adherence with regular check-ins and evaluations;
- ✓ Pilot the model of having mid-level health professionals (nurses) manage the clinical structural units instead of physicians in alignment with the practice within the UPMC hospital system.

### **Initiative 3.3 Develop human resources in preparation for the clinical trials research program**

- ✓ Participate in international multi-center studies to gain “hands on” experience with clinical trials, through partnership with UPMC; pursue potential collaboration with pharmaceutical industry clinical trials;
- ✓ Select a number of high potential students and provide additional training and development opportunities within clinical trials, in preparation for becoming a future primary investigator at UMC;
- ✓ Provide continuous training to personnel involved in research and include topics on reporting, high quality data collection, proper documentation; emphasize the critical importance of following protocol;
- ✓ Establish and train on the IT and database infrastructure requirements for participating in clinical trials.

### **Initiative 3.4 Provide continuous opportunities for professional development, advanced training and retraining to executive management, hospital and department leads and other clinical and administrative staff**

- ✓ Continue to develop a mentoring institute within UMC that involves foreign specialist – mentors

## **GOAL 4. Integration of medical care, research and education**

The model of the AMC is to integrate education, research and clinical care so as to provide the best possible healthcare to patients. The vibrant and diverse ecosystem that forms from the AMC encourages the continuous pursuit of improvement and it facilitates knowledge exchange, discovery and innovation that will enhance the quality and efficiency in patient care. In short, the sum organization is greater than each of its individual parts.



As described by the Joint Commission International, in addition to the eligibility requirements for JCI-accredited hospitals, academic medical center hospitals must also meet each of these criteria:

- ✓ The applicant hospital is organizationally or administratively integrated with a medical school;
- ✓ The applicant hospital is the principal site for the education of both medical students (undergraduates) and postgraduate medical specialty trainees (for example, residents or interns) from the medical school noted in criterion 1;
- ✓ At the time of application (for JCI academic medical center accreditation), the applicant hospital is conducting academic and/or commercial human subjects' research under multiple approved protocols involving patients of the hospital.

UMC will thus need to focus heavily on these components early on in transformation, as integration, collaboration and cohesion within the organization is the central characteristic of an AMC on which, everything else builds.

*In pursuit of Goal 4, the following strategic initiatives will be realized in phase one:*

- ✓ **Initiative 4.1** Structural and functional integration of clinical services, research and education in UMC;
- ✓ **Initiative 4.2** Standardize policies and procedures;
- ✓ **Initiative 4.3** Establish and reinforce the culture of UMC as an AMC.

#### **Initiative 4.1 Structural and functional integration of clinical services, research and education in UMC**

In order to streamline processes, UMC clinical services structure will be reorganized into clinical academic departments lead by Department Chairs, who will have both clinical and academic appointments, thus uniting specialists within a service, across UMC centers. In this case, a system of matrix reporting is employed, however, this may look different by institution depending on the organizational structure.

For instance, a clinical department head of surgery in a hospital would report directly to the Department Chair of Surgery (who is responsible for Surgery across the organization). However, since the clinical department head and his/her staff is located on-site at the hospital, they are in essence, leased back to that hospital. The clinical department head indirectly reports to the hospital president and the Department of Surgery is held accountable to the leadership of each hospital in which they have a presence. Along similar lines, the Department Chair may have an indirect reporting responsibility to the Dean of the School of Medicine, for matters involving education and research, within that service.

The UMC of today is comprised of separate hospitals, research and educational entities, all functioning independently of the others. The UMC

hospitals also have a vertical structure, where there is minimal collaboration or consolidation across facilities. To successfully integrate, the UMC must be considered holistically, across all of its component entities. A central steering group/alignment committee will be formed that will be responsible for identifying, prioritizing and leading the efforts to align and centralize select functions in the organization. These may be administrative functions such as finance and human resources, or clinical functions such as radiology or pharmacy. The committee will be responsible for ensuring centralization and alignment activities promote efficiency and lower costs, while assuring safe clinical practice.

Within an AMC, medical staff are expected to be actively involved not only in UMC clinical departments, but also in teaching and/or in research engagements. Thus, an administrative mechanism for dual appointments must be developed to enable clinicians/researchers/faculty to be employed under multiple entities. This dual appointment structure will encourage participation in cross -functional responsibilities and lessens the risk of dropping one set of obligations in favor of the function that provides the clinician's salary. Furthermore, an overarching physician organization that centrally pays and employs physicians will be developed. Physicians will report directly to the physician organization, and indirectly to the hospitals in which they work. There are several benefits of this structure, one being that resource allocation can be assessed across the UMC and physicians can be allocated to locations as needed. This structure also allows physicians to work somewhat independently from hospitals, thus enabling more flexibility to engage in education and research activities.

To pilot the concept of the clinical academic department and dual appointments, UMC will start with the development of three clinical academic departments within the areas of women's health, pediatrics and anatomic pathology. These three areas were selected based on the current capabilities and resources of the UMC hospitals. A new physician payment system for the departments will also be designed and piloted, which will include built in incentives and specifications around the percentage of fixed salary versus performance-based compensation.

#### **Initiative 4.2 Standardize policies and procedures**

UMC's strategic partner, UPMC, will support the organization's standardization of HR regulations and policies related to both clinical and administrative personnel. Further support will be provided for standardization of processes such as recruitment, onboarding, assessment, promotion and remuneration. Standardization of policies and procedures across UMC will serve to unify the organization and culture and will strengthen the UMC brand both internally and externally to potential patients and the public.

#### **Initiative 4.3 Establish and reinforce the culture of UMC as an AMC**

An organization's culture has a substantial impact on its ability to execute on its strategy and business objectives and is potentially a differentiating component



for the organization. A strong culture is a common characteristic of the most successful companies and will largely dictate the organization's brand and reputation, not only to patients and the public, but also internally to employees and potential future hires.

The success of culture change will be heavily dictated by the leaders of the organization and the degree to which they support and communicate the culture through words and action. While culture organically will change over time, it will be important for UMC leadership to deliberately, strategically and thoughtfully define, monitor and manage culture, to ensure the evolution progresses as desired and in the optimal direction.

To define the UMC culture as an AMC, UMC leadership will develop a Culture Vision. The Culture Vision should align with the AMC's business objectives, performance priorities and core ideologies. Drawing on internal research, interviews and / or surveys, the current culture of UMC will be clarified and a gap analysis conducted to identify where the most critical behavior changes are needed. The gaps will demonstrate the path towards changing the UMC culture, and will help identify the behaviors, values and principles that must be promoted and instilled in UMC staff to enable the company to be successful in meeting its business objectives and performance priorities.

Culture change requires frequent and continued reinforcement of expected behaviors and results, and every opportunity available to emphasize culture and values, whether in a formal setting or informal discussion, should be taken. To ensure employees are trained as necessary, a plan for communicating and implementing the culture vision and associated core values and guiding principles throughout the organization, will be established. Part of this plan will be a strategy for recruiting individuals who will align well with the organizational culture, so as to strengthen culture over time. Training for leadership on company culture and methods for imparting it on their own teams should also be included. Communication to employees will be transparent, genuine and consistent, clearly laying out the expected behavior and sharing the role of culture in the organization's success. It will be important that staff leave these culture education sessions / activities feeling connected to the transformation, and inspired to make the change as part of something greater. Finally, it is impossible to anticipate all potential issues that will arise due to efforts to shift the organizational culture. Therefore, a system for monitoring progress, challenges and roadblocks should be developed to enable tracking and refinement of the approach as needed.

## **Summary**

### **GOAL 4. Integration of medical care, research and education**

**Initiative 4.1.** Structural and functional integration of clinical services, research and education in UMC

- ✓ Develop a central steering group / alignment committee to lead the efforts around consolidation of duplicate services at UMC;

- ✓ Develop an administrative mechanism for dual appointments, to enable clinicians/researchers/faculty to be employed under multiple entities within UMC;
- ✓ Develop a centralized physician organization that will employ and compensate physicians;
- ✓ Implement three pilot academic departments that integrates patient care, education and research, in the areas of Women's Health, Pediatrics and Anatomic Pathology.

**Initiative 4.2** Standardize policies and procedures

- ✓ Standardize policies and procedures across the organization, with the support of UPMC.

**Initiative 4.3** Establish and reinforce the culture of UMC as an AMC

- ✓ UMC leadership will develop a Culture Vision;
- ✓ Develop and implement a plan for consistent communication of the culture values and principles, throughout the organization;
- ✓ Develop a system for monitoring and evaluating implementation of organizational culture.

## **GOAL 5. An effective corporate management system**

Successful integration will largely depend on how well UMC is able to integrate clinical functions, establish links between disparate business operations and integrate financials and IT across entities. The degree of interconnection and functioning of AMC entities determines the level of integration and thus, an effective organizational structure that is well suited for an interconnected organization, will need to be formed. Complete integration will be accomplished in stages, ultimately resulting in the medical, educational and scientific activities of the AMC being accountable to one central governing body.

Strengthening the competitive environment in the provision of medical care, in turn, stimulates the creation of effective resource management systems in medical organizations to reduce costs and achieve optimal results in terms of the quality of services provided. In this connection, the development and improvement of the operational management system in the health care sphere is of particular importance.

Good corporate practice creates the necessary incentives to achieve the strategic goals set, and also facilitates effective control, encouraging the rational use of the organization's resources.

In accordance with its vision, UMC will become the benchmark - the leader in corporate governance in health care.

*In pursuit of Goal 5, the following strategic initiatives will be realized in phase one:*

- ✓ **Initiative 5.1** Improvement of corporate and operational management;
- ✓ **Initiative 5.2** Develop an effective system of human resources management for an AMC.



### **Initiative 5.1. Improvement of corporate and operational management**

The effective corporate management system of UMC will be built on the principles of the best foreign practice - culture and atmosphere of coherence, clear allocation of responsibility, accountability, and fairness, through the prism of which the actions of all UMC employees will be assessed. The mechanisms of internal control and leveling of potential risks will be reviewed, such as the risk management system, the structure of commissions and committees, internal audit (audit committee), etc.

The management system will be divided into two blocks: strategic (tactical) management and operational management (administrative).

Strategic (tactical) management is currently represented in the UMC Charter and expressed in the following management bodies:

- High Authority is the Founder;
- The collegial governing office is the Board of Supervisors;
- Executive office (collegial) - Management Board;
- Office for Medical Activity - Medical Council;
- The control authority is the Audit Commission;
- The current system of strategic (tactical) management will not change, as it corresponds to the principles of corporate governance and does not contradict the requirements of the current legislation.

For the "flexibility" of management, the competencies of the Board of Trustees will be reviewed, transferring some functions (operational plan) to the Founder and/or the Board, leaving control over the compliance of the Fund's activities with the Charter and the Strategy. The improvement of the operational management system will be initiated with the formation of an effective organizational structure of UMC.

A direct consequence will be a fundamentally new system that will ensure effective management of all implemented changes. The basis for effective operational management of UMC is standardized business processes. Particular attention will be paid to the management of patient flows, the volume and quality of services provided, the supply chain (logistics), the lean manufacturing system and the management of constraints. The introduction of a system for assessing and eliminating corruption risks, the division of management rights and control rights will have a significant impact on minimizing the potential risks of corruption, fraud, clan system, etc.

The main goal of the development of UMC information technologies is the creation of an information infrastructure to ensure the effective management of its resources, the creation of an information and technological environment for the provision of quality medical care to patients through the introduction of modern information technologies. To achieve this goal, the development of UMC information technologies will be ensured with application of national and international standards in the field of e-health, thereby promoting the recognition of UMC as the leading academic center for providing the best medical care in the country and beyond.

To achieve these goals, it is necessary to modernize the UMC's information system by applying modern web programming technologies, build a modern, fault-



tolerant IT infrastructure, and optimize, regulate and complete the automation of all business processes, from clinical to managerial. This will ensure the expansion of the functionality of information systems, taking into account the needs of all categories of users and will be the basic principle of its further development.

The development of the hospital information system UMC will be carried out using the basic principles described in the Concept of e-Health Development of the Republic of Kazakhstan for 2013-2020, approved by the Ministry of Health of the Republic of Kazakhstan and coordinated with the Government of the Republic of Kazakhstan.

Particular attention will be paid to the development and modernization of the IT infrastructure. With the purpose of building a modern, high -performance and fault-tolerant architecture, the main groups of information system levels will be provided: application systems, computing infrastructure, network infrastructure in active network equipment, systems, integrated security. The key requirement for the computing infrastructure is its reliability, so the main technical solutions will be duplicated.

The strategy of the Nazarbayev University for 2013-2020 envisages the creation of an integrated academic health care system that integrates the educational process, research and clinical practice, of which UMC clinics will be an integral part. As part of the further development of the UMC information system, activities in this strategic direction are aimed at transforming the bank of clinical data into a clinical knowledge bank. The use of anonymized data of e -passports for patients' health will be ensured, as well as the capabilities of analytical storage and visualization tools, which in turn will allow research both on the Fund's own resources and participate in multicenter clinical trials. The implementation of these processes will cover all aspects of UMC activities and provide quick access to full and reliable information to all users.

The successful implementation of the task of automation of management processes and the development of information technologies will contribute to the effective implementation of strategic goal 3 to ensure the quality and safety of patients.

### **Initiative 5.2 An effective system of human resources management for an AMC**

Human resources and their continuous development and the effectiveness of their management system will contribute to the leadership of UMC in the provision of medical services, education and science, as well as the growing competitiveness of medical, nursing and management personnel.

UMC understands that the effective implementation of the stated strategic goals and objectives of UMC directly depends on the availability of a critical mass of motivated and highly productive employees. In connection with this, UMC needs to carry out profound transformations in the sphere of human resources management.

Currently, clinical structural units use most of their own procedures and regulatory documents developed during their work as Affiliates. UMC needs to be updated through implementation of uniform operational standards and procedures in the management of the UMC's human resources, starting with selection and



orientation, followed by evaluation to further assess, develop and motivate UMC employees.

Increasing the attractiveness of the employer (HR-branding) will become one of the important areas of personnel policy to ensure a constant stream of highly qualified candidates. The selection of clinical personnel will be conducted with the participation of representatives of NUSOM to ensure the effective integration of human capital. Step by step the human potential management system will be developed on the basis of an individual assessment of the employees. Assessment of the effectiveness of the medical and nursing staff will be considered in different areas to include - competence, professionalism, effectiveness, etc.

A system for motivating employees based on evaluation and career planning will be introduced. For these purposes, it is necessary to review the profiles of posts of secondary medical and medical personnel, to develop a system for grading and promoting employees on the career ladder. It is necessary to develop an internal document regulating the development of individual development plans, pre-requisites for promotion, etc.).

Additional staff motivation will be implemented through social support tools, which requires the development of the UMC's own Social Policy in accordance with the regulatory documents of the Founder.

## **Summary**

### **GOAL 5. An effective corporate management system**

#### **Initiative 5.1 Improvement of corporate and operational management**

- ✓ Initiate operational management systems with the formation of an effective organizational structure of UMC;
- ✓ Implement appropriate information and technological environment to enable effective management of resources.

#### **Initiative 5.2 Develop an effective system of human resources management for an AMC**

- ✓ Implement uniform operational standards and procedures in the management of the UMC's human resources; develop a process for selection of clinical personnel that includes participation by representatives of NUSOM to ensure the effective integration of human capital;
- ✓ Increasing the attractiveness of UMC as an employer, through HR branding and marketing to generate a constant stream of highly qualified candidates;
- ✓ Develop assessment for the effectiveness of the medical and nursing staff that includes - competence, professionalism, effectiveness, etc.;
- ✓ Develop a system for motivating employees based on evaluation and career planning.

### 3. EXPECTED RESULTS AND MONITORING OF IMPLEMENTATION OF THE STRATEGIC PLAN

The quantitative part of the expected results consists of the key performance indicators reflected in table 1. "List of key performance indicators".

*Table 1. List of key performance indicators*

Name of the indicator		2018	2019	2020	2021	2022	2023
<b>Goal 1. Outstanding quality and innovation in patient-centered and family-oriented medical care</b>							
1.1	Number of new medical technologies introduced (not less)	12	12	12	12	12	12
1.2	JCI reaccreditation of UMC centers (RDC, NCRC, NRCMCH) (number of certificates)	1		2	1		
1.3	Accreditation and re-accreditation of centers/branches of UMC for compliance with the accreditation standards of medical organizations of the Republic of Kazakhstan (national accreditation) (number of certificates)	1			1		
1.4	The number of foreign patients who received inpatient treatment in UMC centers (not less)	78	40	100	150	200	250
1.5	Patient Satisfaction Level (%)	72%	76%	80%	82%	84%	86%
1.6	Nosocomial infection rate (%)	1,8%	1,8%	1,7%	1,6%	1,5%	1,4%
<b>Goal 2. Financial Sustainability</b>							
2.1	The share of the GVFMFC income in the total income from clinical activities (%)	78%	75%	72%	70%	68%	65%
2.2	Growth in revenues from paid medical services compared to the previous year (%)	7%	7%	9%	10%	12%	15%
2.3	Increasing the share of non-cash payment methods for paid medical services and reducing cash payments (%)	40 %	50%	55%	60%	65%	70%
<b>Goal 3. Outstanding quality in the field of medical science, education and practical training of health professionals</b>							
3.1	Number of research projects carried out by UMC doctors as PI	2	2	2	6	8	10
3.2	Number of publications in international peer-reviewed journals with Impact - factor	6	7	10	12	14	16
3.3	Number of conducted multi-centered clinical research projects based on UMC with the participation of international	2	2	2	3	3	4



	research centers						
3.4	Creation of the Center for clinical trials based on UMC						1
3.5	Number of nurses enrolled in PDP Nursing at NUSOM	20	15	15	15	15	15
3.6	The number of UMC specialists who have completed internships in leading foreign centers and clinics (at least)	23	25	25	25	25	25
<b>Goal 4. Integration of medical care, research and educational activities</b>							
4.1	The number of established clinical departments		8				
4.2	Share of involved UMC clinicians in teaching at NUSOM (%)	2,0%	2,0%	4,5%	5,0%	5,5%	6,0%
4.3	Share of involved UMC clinicians in research activities in NU / CLS (%)	1,2 %	1,2%	4,0%	4,5%	5,0%	5,5%
<b>Goal 5. Effective corporate governance system</b>							
5.1	Optimized management system (%)			100%			
5.2	Automated key business processes (%)		20%	70%	90%	100%	
5.3	Modernized hospital information system (%)			100%			
5.4	Standardized processes for human resource management are implemented in all structural divisions of UMC (based on JCI standards) including the processes of hiring, adaptation, evaluation and management of talent. (%)			80%	100%		
5.5	The system of individual assessment of UMC employees is implemented (%)			50%	100%		
5.6	UMC employee motivation system (%)			30%	70%	100%	

Monitoring of implementation of the Strategy will be carried out on a regular basis in accordance with the terms established by UMC, as well as internal documents of UMC.

## CONCLUSION

There are several critical components that are absolutely necessary to have in place throughout the transformation process, in order for the strategy to succeed. First and foremost, leaders throughout the organization must be aligned and “buy-in” to the organizational values and culture as an AMC. They will need to be diligent and firm in implementing the transformation strategy, in reinforcing the desired organizational culture and deliver a consistent message at every possible opportunity to effectively manage those who run counter to the organization’s objectives. While soliciting support for change to organizational structure, mindset and approach will be challenging, the right leadership will invariably improve the likelihood of success.

Additionally, the organization and stakeholders funding the transformation must recognize and acknowledge the large capital investment requirements of developing a high caliber AMC. Providing the highest quality treatment within the setting of an AMC is costly, considering the investment in human resources, teaching, education, research and technology, amongst other areas. For instance, a comprehensive, sophisticated and well “connected” electronic medical record system is imperative and central to development of an AMC, but is a substantial investment to purchase and maintain. Without it however, the organization, patients, researchers, clinicians and staff would not realize the benefits of the integrated system. Recruiting top faculty, clinicians and researchers, purchasing advanced technologies, training and research initiatives are other examples that require a substantial capital investment.

The benefits of the AMC however, are also significant and the impact of implementation will arguably be more substantial than the investment. Keeping in mind the greater goals of piloting the AMC model of care, as the model is adopted throughout the regions, this healthcare approach will have a lasting impact on the health of Kazakhstan’s citizens. It will improve efficiency and quality of medical services and improve health outcomes to match those of other developed nations. Furthermore, the AMC will foster knowledge exchange, discovery, expertise and global recognition that will take Kazakhstan to the next level of modernization and globalization. Patients and their families will experience less burden due to illness and individuals will live longer, healthier lives, thus being more productive contributors to society.

In addition to the societal benefits of the AMC, there are also long-term financial benefits to introducing this model of care, and potential cost savings to an overburdened national healthcare budget. With the focus on evidence-based, coordinated, personalized care, illnesses will be diagnosed earlier and treated more effectively, mortality will decrease and low-cost prevention methods will become mainstream.

There will be less re-admissions and shorter hospitalization stays, two of the greatest contributors to healthcare costs. With better care available in-country, there will be less outmigration and improved immigration for medical care, creating another source of revenue. And with advanced research capabilities and increasing global partnerships, UMC’s AMC will become a center for innovation



and discovery, leading to local and global enterprise opportunities. Furthermore, the population based data that will become available through the AMC will be invaluable to global companies positioned to develop targeted healthcare interventions and treatment, which will be utilized for the continued improvement of the health and quality of life of the people of Kazakhstan.

As a result of the implementation of the strategic goals and objectives of the “UMC” CF Strategic plan for 2019-2023, UMC will move closer to realizing its Vision for becoming the leader in the advancement and modernization of health care in Kazakhstan by developing the first integrated academic medical center, which will serve as the model and “gold standard” for high quality, efficient and cost-effective patient care throughout the country and region.

