Organizational Change in Mental Health Centers in Kazakhstan: A Comparative Case Study of North and East Kazakhstan Oblasts

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Abstract

Kazakhstan faces significant challenges in the field of mental health care and currently, there is an ongoing reform, which aims at improving the overall situation with the provision of quality care and transforming the Mental Health Centers throughout the country.

This master's project is a cross-sectional comparative case study of the organizational changes in two Mental Health Centers of North and East Kazakhstan Oblasts, which are taking place as part of the ongoing reform. The main goal of this study is to determine and analyze the key factors that have affected the organizational changes, as well as evaluate the differences in organizational changes between the two selected Mental Health Centers using such data collection methods as survey and in-depth interviews.

The research findings of this study have demonstrated that the Mental Health Center in the East region experiences more challenges in organizational changes than the Mental Health Center in the North. Moreover, this research has shown the importance of such factors of organizational change as effective communication, commitment to changes, top management support, provision of resources and effectiveness of institutional changes.

Keywords: Mental health care, Mental Health Center, North Kazakhstan Oblast, East Kazakhstan Oblast, organizational changes, primary care.

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I INTRODUCTION AND BACKGROUND

The main objective of this comparative case study is to examine factors that affected the organizational changes in two selected Mental Health Centers in light of the ongoing mental health reform, and challenges in implementing these changes.

According to the World Health Organization (WHO), mental, neurological and substance use diseases make up 10% of the global share of disorders and 30% of non-fatal disease burden. People with severe mental disorders die 10 to 20 years earlier than the general population. The global economy loses about US$ 1 trillion per year in productivity due to depression and anxiety (WHO, 2019). The situation is getting worse with the increased stress in lieu with the pandemic situation.

The overwhelming burden of mental disorders requires many countries to go through reforms in the area to re-distribute the resources and change the locus of treatment and care from mental hospitals to the primary care settings. It is especially important, as according to the World Health Organization (WHO) the most common mental disorders start before 18 years of age, therefore, early diagnostics of these disorders at the primary healthcare level is critical. The World Health Organization states that mental health is "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (WHO, 2013).

Kazakhstan is not immune to these mental health related issues. According to the UNICEF-funded survey, 75% of high-school students in Kazakhstan suffered from depression of various degrees. In 90% of suicide cases children suffered from various mental health disorders. In fact, Kazakhstan is listed in the top 10 countries with the highest suicide rate in the world. Two kids die from suicide in Kazakhstan every day. In addition, suicide victims looked for medical assistance at the primary healthcare organizations as their final resort and attempt to seek for assistance before committing suicide (Vaal, 2019) According to another UNICEF-funded study (2014) half of suicide victims experienced issues with substance abuse disorders. Largely the social, economic, and physical environments in which people live shape mental health and many common mental disorders. Social inequalities are associated with increased risk of many common mental disorders (World Health Organization and Calouste Gulbenkian Foundation, 2014).

The government of Kazakhstan recognizes the importance of reforming the mental healthcare system to improve the treatment of mental health disorders for its population. The mental healthcare reform in Kazakhstan resulted from extensive consultations with the World Health Organization (WHO) and the Ministry of Healthcare of the Republic of Kazakhstan.

The objectives of the mental healthcare reform in Kazakhstan are as follows:

1. Decreasing stigmatization and discrimination and monitoring of the mental health issues.

2. Improved capacity of personnel.

3. Integration of the mental health services with the ambulance and primary care organizations.

4. Development of the medico-social rehabilitation for clients suffering from mental disorders.

5. Sufficient funding of medical services in the mental healthcare system.

The main issues that fueled the reform include the Soviet legacy of having two separate Republican entities that dealt with the two sides of the mental healthcare issues: psychiatry and substance abuse disorders. The merger serves one of the main objectives of the reform – to optimize scarce resources through transformation of the Center. Thus, it led to the transformation of the Mental Health Center and optimization of 47 medical organizations into current 19 organizations during 2016-2020.

The integration of mental health services in primary care is indicated in the “Road map for the development of mental health services in Kazakhstan for 2019-2020”. Primary care physicians and nurses become the patient’s first point of contact with the healthcare system in order to prevent and diagnose the first signs, as well as to help patients suffering from mental health disorders. Relying solely on psychiatrists to provide mental health care services prevents thousands of people from accessing the services they urgently need. Therefore, the primary mental health care system has the potential to improve access to health and social care services (WHO mhGAP Intervention Guide, 2016).

As part of the reform, the Ministry of Healthcare revised financing mechanisms. Thus, from 2019 all oblast centers are funded based on the complex tariff for medical services as per guaranteed medical services that are based on the number of clients that are serviced by the organization. Therefore, there will be increased incentives for

organizations to ensure high quality care, and customer-oriented service through inclusion of the rehabilitation services.

The Center hopes to direct savings from optimization to the equipment of the centers at the sufficient levels, as well as expanding their services and improving continuity of the chronic diseases' treatment by including rehabilitation services. In addition, there is a strong need in renovation of the existing facilities, especially old ones, like in Atyrau and Zhambyl oblasts dated 1963, or Aktobe oblast dated 1977. These and other oblasts' facilities need renovation with the newest requirements.

In light of the mental health care reform, the newly transformed Mental Health Centers in 17 oblasts of the country are experiencing major organizational changes in order to fulfill the above-mentioned goals of the reform. The effectiveness of the reform is directly related to the successful organizational changes of these service providers. Therefore, it is critically important to understand the nature of the factors that influenced the organizational change in the result of the merger of psychiatric and drug treatment centers and what were the challenges.

The following research questions have been identified:

1) What are the key factors that influenced the organizational changes of the Mental Health Centers in North-Kazakhstan and East-Kazakhstan oblasts?

2) What are the differences in the organizational changes between Mental Health Centers of North-Kazakhstan and East-Kazakhstan regions?

3) Why have the two Mental health Centers of East-Kazakhstan and North Kazakhstan oblasts experienced differences in organizational change as part of the same Mental Healthcare reform?

Due to the feasibility and accessibility of the data, the mental health centers in the North-Kazakhstan and East-Kazakhstan oblasts have been selected as the case studies examples to assess the organizational change as per Fernandez and Rainey's framework.

Two case studies of organizational changes demonstrated a significantly more successful implementation of the changes in the North-Kazakhstan Oblast compared to the East-Kazakhstan oblast that resulted in increased interaction between primary and mental health centers, and overall positive perception of medical personnel of the organizational changes. These changes were more successful due to strengthened work of the top management of the Mental Center of North-Kazakhstan oblast on ensuring the need of changes and providing necessary support, building internal support, getting sufficient resources to pursue comprehensive changes.

The comparative analysis of the cases in North Kazakhstan and East Kazakhstan oblasts gives a clear picture of what factors should be strengthened to improve the organizational changes' processes in the East Kazakhstan oblast, and understand why the organizational changes were more successful in the North-Kazakhstan oblast. It also gives a methodological framework for similar analyses of the personnel perception of organizational changes in other regions of Kazakhstan. It is especially important, as the ongoing reform will require further changes on the inclusion of the social rehabilitation divisions within each Mental health Center, as well as further deeper integration of mental health services with primary healthcare organizations.

Section 2 covers the literature pertaining to the organizational changes processes. Sections 3-4 provides a theoretical framework for the research on the perception of personnel of the organizational changes, methodological part on the operationalization of the independent variables, case selection process based on the secondary data available and data collection through online survey and in-depth interviews, and explains limitations. Section 5 presents research analyses and findings. Section 6 provides the concluding part of the recommendations to address research findings.

II LITERATURE REVIEW

Existing literature on organizational change aims at explaining how, why and with what consequences changes in organizations occur. Organizational change is referred to as the notion that appears from comparing the organizations at two periods: before the change occurred and after (Barnett and Carroll, 1995). It is important to study organizational change as the aspects and factors necessary for successful change represent a highly crucial research area for scholars, policy-makers and other practitioners (Fattore et al, 2018).

Change has been a subject of extensive research in the last decades. Before the 1990s the majority of studies have focused on change as an event that has already been accomplished – also referred to as the synoptic accounts of organizational change (Porras and Silvers, 1991; Tsoukas and Chia, 2002). This type of approach considers change from the outside and therefore fails to account for the fluidity and unpredictability of the process of ongoing change. Authors, such as Tsoukas and Chia (2002) argue that organizational change should be regarded as a normal process within the life of an organization, as change is an essential notion in human action and organizations are developed from change.

Barnett and Carroll (1995) have distinguished between the two theoretical views of organizational change: adaptational, which implies adaptive changes in reaction to changes in other factors (technology, environment etc.) and selectional, which assumes that organizations do not change easily and when they do, it occurs with great risks. For instance, with the selectional approach, when external factors do change, the organizations may fail and are replaced by the new ones. Authors note that a number of theoretical frameworks within the both notions have been developed over the past decades, yet the questions on the causes and outcomes of change in individual organizations are still to be answered.

The causes of organizational change can be different. Merton (1936) notes that organizational change often takes a different way and leads to other transformations than initially planned. Change also might occur unintentionally due to decisions and actions within an organization (Burgelman, 1994). Some of the well-known theories in organizational change consider internal factors and assume that transformation occurs when an organization starts to grow (Kimberly and Miles, 1980; Barnett and Carroll,

1995). Others (Miner et al, 1990; Singh et al, 1991) tend to look at the external factors or the environment to explain why organizations change.

Some scholars also note the importance of the readiness to change within the organization. They argue that the capacity to effective organizational change is largely determined by the reaction of the employees in an organization (Armenakis and Bedian, 1999; Oreg et al, 2011; Piderit, 2000). Jacob (2014) in his study mentions that employees tend to be cautious about organizational changes and in many cases are inclined to rely on their senior management for legitimacy gains. Therefore, the knowledge on the sources of resistance within an organization can be helpful in conducting a successful change (Pardo and Martínez, 2003).

In terms of the various frameworks developed throughout the years on organizational change, Samal and Chatterjee (2020) have distinguished between the three main aspects that govern change: the rate in which change is conducted, both intrinsic and extrinsic factors of change, and the scope of the change.

In the past decades, many countries have encountered various management reforms and changes, aimed at changing administrative and political structures, which were in large advocated by the New Public Management (NPM). The elements of the NPM include increasing the quality of provided public services, cost cutting, greater transparency, and moving away from traditional bureaucratic organizations. The main goal of NPM-driven reforms is creating greater efficiency and responsiveness to the recipients of the public services (Pollitt, 1995; Pollitt and Bouckaert, 2011).

Despite its popularity, scholars have noted the negative impact of the NPM on employees through increased stress, dissatisfaction and lessened commitment to organization’s goals (Korunga et al, 2003; Mikkelsen et al, 2000; Young et al, 1998).

Another aspect associated with organizational changes, which has received increased attention from scholars in recent years, is institutional complexity. Organizations often need to deal with logics that can, to an extent, contradict each other (Crane et al, 2014). For instance, healthcare organizations need to incorporate both the logic of medical care and management (Heinze and Weber, 2016). Considering the growth of similar examples, researchers have attempted to look at the adaptive mechanisms that organizations might incorporate to deal with institutional complexity. Most studies have focused on internal mechanisms of organizational adaptation (Raffaelli and Glynn, 2014; Besharov and Smith, 2014), while others have considered how the

historically embedded political logics within organizations shape the methods that tackle new challenges (Waeger and Weber, 2019).

Organizational change in healthcare

Evaluation of changes in healthcare organizations in particular is a challenging task, because they tend to be involved in complex processes and often may move to a different direction than originally intended (Van Eyk et al, 2001). Healthcare organizations are considered “complex adaptive systems" because they are faced with both external and internal pressures and involve a complex interrelationship with multiple stakeholders (Boustani et al, 2007, Matthews and Thomas, 2007). Moreover, as noted by Anders and Cassidy (2014), nowadays, the healthcare organizations around the world are experiencing considerable changes in terms of the aging population and a rise in mental health disorders, which makes a move toward the patient-centered approach increasingly relevant.

In the past decades, healthcare organizations have experienced major changes. According to Lega and DePietro (2005), the functional design of healthcare organizations prevent them from adapting and responding to the ever-changing and complex environment, in which the healthcare organizations have to operate. Taking into consideration the numerous challenges faced by the healthcare organizations, Gabutti and Cicchetti (2017) note that the importance of translating the idea of needed change into solid organizational elements, which could then be easily measured.

Many scholars assessed changes associated with the transition of mental health services from institution to community-based locus, including Aviram U. in Israel (2010), Fleury et al. in Quebec (2016), Faydi E. in African countries (2011), Loukidou E. et al. in Greece (2013). These studies revealed the importance of the following factors to foster effective organizational change: the close cooperation of primary care and mental specialized clinics, and formalized integration strategies, the changes in the policies, funding and the personnel of the system.

Goodwin and Ferrer (2012) identified fragmented services as a critical barrier to mental healthcare, and in order to overcome it, a comprehensive range of continuous, diversified and integrated bio-psycho-social services should be offered to clients. Mental health policies and plans are essential tools for setting strategic priorities, coordinating action and reducing fragmentation of services and resources. They are more likely to achieve the desired effect when they reflect a clear commitment from governments, are

well conceptualized, are consistent with the existing evidence base and international standards, and reflect a broad consensus among key stakeholders (Faydi et al, 2011). However, the integration of mental health into primary care cannot be considered as a panacea for all diseases and treatments in mental health field. Western-style practices need to be regarded with caution when implemented in developing countries. Ignoring the local context may result in a failure to address the issues of community rehabilitation. Furthermore, many developing countries suffer from poor implementation practices, lack of qualified professionals, and insufficient support from the population. All of these aspects might present significant challenges for the integration of mental health into primary care in developing countries (Petersen et al, 2011).

There are also challenges for developing countries due to limitations in policy and technology, lack of scientific evidence for mental health quality measures, insufficient personnel capacity, and cultural barriers to integrating mental health care into primary healthcare system. In order to address these issues, researchers like Kilbourne et al (2018) propose to use a WHO-developed tool called Assessment Instrument for Mental Health Systems (WHO AIMS). WHO AIMS allows measuring key components of the mental healthcare system, such as policy and legislative framework, mental health services, mental health in primary care, human resources, public information and links with other sectors, and monitoring and research. This framework is largely used in healthcare organizations of developing countries to gather important information and assess the effectiveness of their work.

There are currently no studies on organizational changes in the healthcare sector conducted in Kazakhstan and Central Asia at large.

III THEORETICAL FRAMEWORK

The theoretical framework used in this study is based on the seminal work by Fernandez and Rainey (2006) titled ‘Managing Successful Organizational Change in the Public Sector’. This study determines similarities among various research papers in terms of what constitutes successful change in the public sector. Their framework combines eight factors that are commonly considered as the most important in order to achieve effective organizational changes.

Despite existing disagreements in the field, Fernandez and Rainey discovered a common ground over which there is ‘a consensus of existing research’ on the eight distinct micro and macro-level factors central for organizational change in the public sector. Drawing on existing research, the following factors have been determined as essential for ensuring successful change in the public sector: *ensure the need, provide a plan, build internal support for change and overcome resistance, ensure top-management support and commitment, build external support, provide resources, institutionalize change, and pursue comprehensive change.*

Factor #1: Ensure the need

The framework refers to the effective communication of the change to as many stakeholders as possible. In the public sector, the public management literature suggest the need for the leader to verify and communicate the processes of change in the most compelling way in order to build the support for change.

Factor #2: Provide a plan

Careful planning is recognized as an important factor necessary for an effective change within the public sector (Kotter and Schlesinger, 1979). The framework supports this view, as the new idea must be presented as a strategy or a course of carefully planned actions. The existing literature particularly emphasizes clarity as an important feature of the strategy.

Factor #3: Build internal support for change and overcome resistance

Researchers identify various reasons for individuals to resist organizational change; therefore, leaders must build internal support and overcome resistance. Existing literature in the field stresses the need to have a guiding coalition to support the change.

Factor #4: Ensure top-management support and commitment

Fernandez and Rainey’s framework highlights the importance of having a change leader: an individual, a group or a guiding coalition with a strong commitment and ready

to take personal risks. Researchers suggest that leaders must take participation seriously, commit time and effort to it, and manage it properly.

Factor #5: Build external support

According to the Fernandez and Rainey framework, support from political overseers and key external stakeholders positively affects the success of organizational change.

Factor #6: Provide resources

The framework mainly focuses on sufficient budget as the most important resource, which is necessary to have administrative and technical capacity for the successful change process. Planned organizational change requires implementation of various activities: communicating change, ensuring implementation processes, and training, developing new practices and innovations and so on.

Factor #7: Institutionalize change

New policies and procedures need to be incorporated into the daily work of an organization and institutionalized in the long-term.

Factor #8: Pursue comprehensive change

This factor emphasizes the importance of a comprehensive and integrative approach to organizational change. Researchers highlight that leaders need to integrate systemic changes into the subsystems of their organizations. However, Fernandez and Rainey make a reference to the study by Robertson and Senevirante (1995) who point out that consensus within the subsystems is more difficult to achieve in public than in the private sector.

Following are the hypotheses on the eight factors per Fernandez and Rainey framework to be tested:

H1: *Effective communication on the subject of change by the leaders of the Mental Healthcare Centers and the availability of resources will more likely lead to a higher support for organizational change.*

H2: *Existence and knowledge of the Mental Healthcare Roadmap will more likely to facilitate effective organizational change.*

H3: *Higher support among the employees, the top management and the external stakeholders will more likely to speed up organizational change, whereas lower support among the employees, the top management and the external stakeholders will more likely to slow down organizational change.*

H4: *Merger of psychiatry and narcology (institutional change) and partnership of the primary medical care with the Center for mental healthcare (comprehensive change) will more likely lead to effective organizational change.*

IV METHODOLOGY

Cross-Sectional Comparative Case Study

This study is aimed at comparing organizational change as part of the larger mental healthcare reform in two Mental Healthcare Centers of Kazakhstan: North-Kazakhstan and East-Kazakhstan oblasts. In order to address our research questions, we have conducted a cross-sectional comparative case study of the two Centers.

A comparative study allows for explaining differences in the dependent variable by carefully selecting cases for comparison. However, the comparative method does not strictly specify how the selection is made; only that it is an important factor in research. One of the major benefits of a comparative study is in its practicality for the policy-makers as it brings context more directly into the analysis (Peters and Fontaine, 2020).

Cross-sectional study design is a kind of observational study, in which a researcher measures the outcomes and exposures at the same time, as opposed to a longitudinal study. This type of study is commonly used in public health research and is useful for planning and evaluating in the health care sector (Setia, 2016).

Therefore, a cross-sectional comparative study is particularly useful for the purpose of our research.

Case Study Selection

The selection of cases can be a difficult task and for our paper we have chosen to perform a case study with the logic of "most similar systems". As noted by Peters and Fontaine (2020, p. 34), under this logic, researchers can select cases, which are "as similar as possible, except with regard to the research phenomenon of interest". This method allows for retaining constant as many external variables as possible.

We have performed a secondary data analysis of the indicators in accordance with the WHO AIMS instrument to determine regional, as well as yearly differences and similarities in North-Kazakhstan and East Kazakhstan oblasts. This tool has proved to be highly effective in collecting relevant information and identifying major weaknesses in mental health systems in developing countries (WHO AIMS Guide, 2005). This has become a starting point in our research, allowing us to understand the differences and similarities between the regions, compare and assess the implementation of the mental health care reform and associated organizational changes.

With the help of the Republican Center for Mental Health, we have received data in accordance with the WHO AIMS-Brief items (indicators) since the start of the reform in 2017 until the year 2019. The indicators of the WHO AIMS-Brief that we used, their definitions and measures are listed in the Appendix 1 to this study.

The Centers have shared the data for four domains for years 2017-2019 as follows:

1) Policy and legislative framework
2) Mental health services
3) Mental health in primary health care
4) Human resources

The original WHO AIMS-Brief contains more than 40 items, which were difficult to collect in full capacity in the present settings. The current COVID-19 pandemic has put a great burden on the healthcare system in general and the Mental Health Centers have also provided significant help in fighting the pandemic. This has made it more challenging for the Center to provide us with the data on all 40 items. Therefore, within the four domains, the Center has shared data on 15 items, which were more readily available.

It is important to mention the following aspects related to the data provided by the Center:

- Items on expenditure 1.5.1 and 1.5.2 are only available for the year 2019;
- Item 3.1.2 is available for the years 2018 and 2019, since the training programs have started in 2018.

A comparative table of the Mental Healthcare Centers in the two regions in accordance with the secondary analysis of the WHO AIMS-Brief indicators is provided in Table 1.

Table 1: A comparative table between the Centers in North and East Kazakhstan oblasts

Comparison by indicators	NKO	EKO
Merger of drug treatment and psychiatry organization	yes in 2017	yes in 2018
Introduction of the mental health services in the primary healthcare settings	yes	no

Introduction of Social Rehabilitation Services	no	no
Republican Center for Mental Health issues provides: policy guidance on mental health issues in the regions; coordination and planning guidance in the regions.	yes	yes
Republican and Regional Road Maps developed to meet the objectives of the Reform	yes	yes
Number of organisations merged	2	8
Number of geographical locations	1	4
Ratio of funding from total regional healthcare funding in 2019, %	9.80%	8.13%
Referrals from primary healthcare to Mental Health Centers	yes	no
Ratio of psychiatrists per 100000 people	12%	11%
Ratio of drug treatment professionals per 100000 people	11%	9%
Ratio of psychotherapists per 100000 people	0%	1%
Ratio of psychologists per 100000 people	4%	4%
Ratio of social workers per 100000 people	0%	1%
Ratio of nurses per 100000 people	73%	73%
Ratio of labor instructors per 100000 people	0%	1%

Survey

An online survey was used to test the Fernandez and Rainey framework of eight factors to determine which of these factors have contributed to a greater or lesser degree to the organizational changes in the two regions. The following factors have been determined as essential for ensuring successful organizational change: *ensure the need, provide a plan, build internal support for change and overcome resistance, ensure top-management support and commitment, build external support, provide resources, institutionalize change, and pursue comprehensive change.* The eight factors as per Fernandez and Rainey framework have been operationalized in accordance with the

survey questions indicated in the Appendix 2 to this work. In addition, several questions have been asked in order to assess the state of organizational changes in the two oblasts in terms of the positive and negative outcomes of the reform. Two questions related to the budgetary expenses and available resources have been asked only from the top management.

It must also be mentioned that we have tested and piloted the survey among the healthcare workers in Uralsk, Semey and Pavlodar in order to receive preliminary feedback on the relevance of the questions in Kazakhstani healthcare settings and make improvements. We have received good feedback from the selected specialists and adjusted the survey questions accordingly.

The survey was distributed to respondents via Qualtrics system and was conducted in North-Kazakhstan and East-Kazakhstan Mental Health Centers. The total number of respondents in the North Kazakhstan was 42, while in the East Kazakhstan it was 139. Such a difference in the number of respondents can be explained by the fact that East-Kazakhstan oblast has twice the population of the North-Kazakhstan oblast. Consequently, the Mental Health center in the East is considerably larger with a higher number of employees.

In terms of the gender distribution, respondents in both oblasts were primarily female. In North-Kazakhstan oblast 92.5% of respondents were female and 7.5%-male, while in the East-Kazakhstan oblast 89.92% were female and 10.08% were male.

The respondents have been the healthcare workers: nurses, psychologists, physicians (doctors), social workers, administrative personnel and top management. The share of the respondents by their occupations is demonstrated in Table 1.

Table 2: Occupations of survey respondents

Occupation	East-Kazakhstan oblast	North-Kazakhstan oblast
Nurse	59.69%	84.62%
Doctor	24.81%	10.26%
Psychologist	6.2%	0
Psychotherapist	3.1%	0
Administrative staff	2.33%	2.56%
Social worker	1.55%	0
Top management	2.33%	2.56%

As for the age distribution, in both the North and East-Kazakhstan oblasts more than 50% of respondents are 40 years or older. The age distribution is indicated in Table 2.

Table 3: Age distribution of survey respondents

Age	East-Kazakhstan oblast	North-Kazakhstan oblast
21-29	13.18%	15%
30-39	20.16%	30%
40-49	34.88%	35%
>50	31.78%	20%

Interviews

In parallel with the survey, we have also conducted the in-depth semi-structured interviews with the healthcare professionals in the North-Kazakhstan and East-Kazakhstan oblasts. This was done in order to find out what were the challenges faced by the healthcare workers during the implementation of the reform and associated organizational changes, as well as to explore more in-depth understanding of the processes, which influenced the reform. The interview questions are listed in the Appendix 3.

The interviews took place face-to-face through Skype. In total, we have conducted four interviews in the North-Kazakhstan and five interviews in the East-Kazakhstan oblast. In the North-Kazakhstan oblast, we have interviewed the top manager of the Mental Health Center, a psychotherapist, a psychologist and a nurse. In the East-Kazakhstan oblast, we have interviewed the top manager of the Mental Health Center, a Deputy top manager, a psychotherapist, a psychologist and an expert in narcology.

Measurement of Variables

Dependent Variable - Effective Organizational Change

In this study, the dependent variable is the effective organizational change in the Mental Healthcare Centers of North and East-Kazakhstan oblasts. The organizational change, in this study, is measured through online surveys and interviews with the healthcare professionals in both Centers.

In our survey, the operational definition of our dependent variable is mostly qualitative. We measure it through such questions as the degree to which the respondents agree with the statements related to the independent variables and their effects on effective organizational change, the “yes/no” questions related to respondents' awareness

of strategic documents and we also ask to determine which governmental bodies and organizations they work with most. Survey results have been quantified in percentages to demonstrate the effect of independent variables on our dependent variable.

The questions from the interviews ask respondents' opinion on challenges under the ongoing organizational changes. These questions measure employees' perceptions of organizational change.

The questions are provided in Appendices 1 and 2.

Independent Variables

This study includes a number of independent variables, which might have an effect on our dependent variable-effective organizational change. These are the eight factors described in Fernandez and Rainey's framework and operationalized in Section B of the survey in Appendix 2 to this study: *ensure the need, provide a plan, build internal support for change and overcome resistance, ensure top-management support and commitment, build external support, provide resources, institutionalize change, and pursue comprehensive change.*

Personal characteristics, such as age, gender, occupation etc., have been operationalized in the Section A of the survey.

Limitations

First, it must be noted that we have faced limitations in terms of the data collection. The secondary data analysis is limited to the indicators, which were readily available by the Republican Center for Mental Healthcare. This means that the study could not be conducted in its full capacity by considering all WHO AIMS indicators. In addition, we could only compare two oblasts for a number of reasons: The current pandemic made it extremely challenging to travel to the Mental Healthcare centers to collect primary data; some Centers were reluctant to share their views on organizational changes (for example, the Center in Nur-Sultan had refused to participate in the research). Therefore, we had to consider the two oblasts, which were willing to cooperate and share their experience. Moreover, in light of the pandemic, the interviews had to be conducted online. Research in all 17 oblasts could provide us with greater insights into the organizational changes, their causes and effects, as well as demonstrate the general overview of the Mental Health Care reform in Kazakhstan in greater detail.

Secondly, the online data collection is considered to have disadvantages related to the reliability of the provided answers. For instance, Nayak and Narayan (2019) note that since the respondents do not see the researchers, they might be willing to provide incorrect or incomplete information.

Thirdly, the respondents within one organization may be biased or pressured by their top management to reply in certain ways.

Lastly, as can be noticed from Table 1, the predominant occupation of the respondents in both oblasts is a nurse, which means that their views dominate the survey results. However, it must also be noted that in both Centers the majority of the healthcare employees are nurses. According to the secondary analysis as per WHO AIMS indicators, there is a lack of labor instructors, social workers and psychotherapists. Therefore, such distribution was expected.

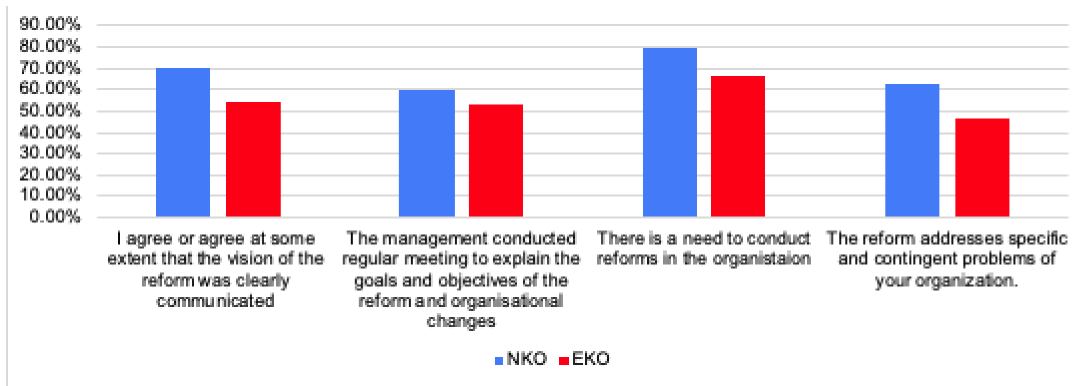
V DATA ANALYSIS AND RESEARCH FINDINGS

Factor #1: Ensure the need

In order to assess perceptions of the respondents on whether they felt the need to change the organization, we asked four questions, such as if management explained the key concept of the mental health care reform, including via various meetings, as well as if they felt the need in the mental health care reforms, and if the reform addressed problems of their organization.

The comparative analysis of the answers to these questions between respondents of East and North-Kazakhstan oblasts shows significant difference in the perception of respondents. In particular, the respondents from EKO felt less need in the organizational changes compared to NKO. Thus, 70% of respondents from NKO agree or agree to some extent with the statement that leadership of their organizations have clearly communicated the key concepts of mental health care reform to the employees versus almost 54% of respondents in EKO. When asked if the leadership of their organizations have conducted meetings to explain the goals of the reform and associated changes, the majority of respondents in both regions have replied "yes" with a slight difference in favor of NKO. Such a difference may be attributed to the remote location of eight organizations in EKO. Thus, in the interviews both top and middle-level managers confirmed difficulties in communications: top managers confessed that it might take a while before the real picture or scale of the problem becomes evident, as distant from the Center locations tend to hide or not report problematic issues until it goes out of control. Whereas, the middle-level managers reported that it takes time before the Center's leadership gets the information and reacts. Overall, lack of in-person meetings makes the management process in East Kazakhstan oblast more complex. Unlike EKO, NKO respondents did not express similar concerns, as the reorganized Center is located in one city.

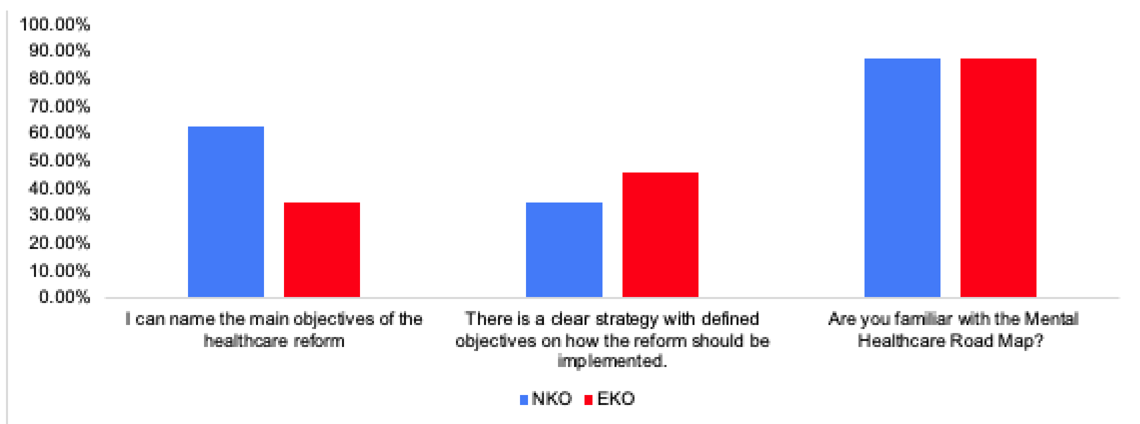
Diagram 5. Comparative analysis of responses on the Factor 1 "Ensure the need".



Factor #2: Provide a plan

In order to assess if a careful planning was implemented, the respondents were asked if they are aware of the Roadmap for Mental Healthcare, and if the respondents are familiar with the main objectives and strategy of the mental health care reform. The respondents have similar overall perception of the planned activities. Thus, respondents from both regions have reported the same level of understanding of the Road Map. However, respondents from EKO are better familiarized with the strategy of the reform, whereas, the respondents from NKO are more aware of the reforms' objectives.

Diagram 6. Comparative analysis of responses on the Factor 2 "Provide a plan".

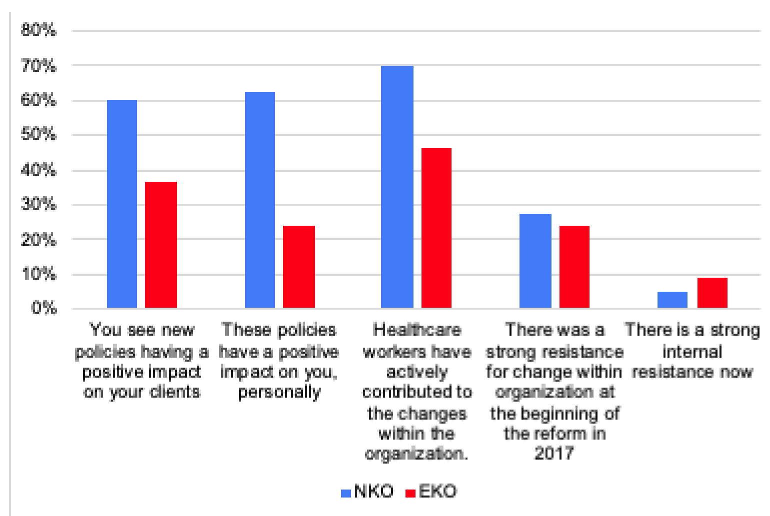


Factor #3: Build internal support for change and overcome resistance

In order to assess this factor, we have asked if the respondents agree with the statement that employees of their organizations have actively participated in organizational changes. Respondents self-reported the dynamics of the internal resistance of personnel in 2017 and 2019. Although respondents of both centers had similarly assessed the level of internal resistance of staff in 2017 and 2019, there is a significant difference between their perception of the positive impact of the reforms at themselves

and their clients. There are significantly more respondents in NKO compared to EKO who reported their contribution to the organizational change process. The respondents self-reported strong internal resistance in the beginning due to natural urge to resist new changes, some told that “in the beginning psychiatrists looked down at drug treatment professionals”, “people were scared that they might lose their job”. However, following the finalization of merger of the mental health centers, there was a better adjustment to new conditions, or some respondents claim that things remained the same.

Diagram 7. Comparative analysis of responses on the Factor 3 “Build internal support for change and overcome resistance”.



Based on the interview with the top manager of the EKO it was very challenging to implement the changes for the age-based reasons. “Many doctors are already retired or close to retirement age, and very conservative by their nature...Therefore, my main task was to retain existing capacity, as I believe that our people, experienced professionals, are the main asset of the organisation.” The age distribution of survey respondents indeed shows that EKO has older respondents compared to NKO (see Table 3.) According to some researchers, there is a negative correlation between age and desire to commit to organizational changes (Preston et al, 2011; Chari et al, 2013). Therefore, the age factor might play its negative role in people’s accepting and participating in the organizational changes in EKO.

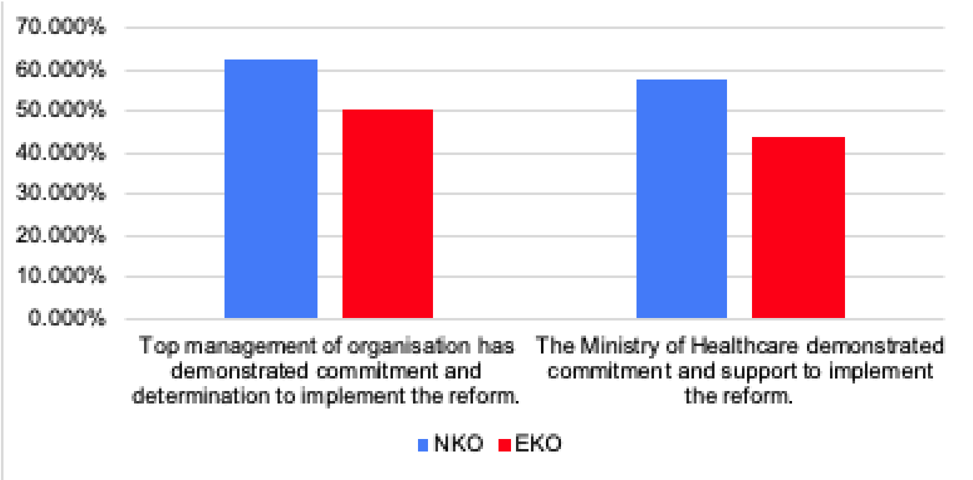
Factor #4: Ensure top-management support and commitment

To determine the relevance of this factor, we have asked the respondents to rate the commitment of their leadership to changes, as well as those of the Ministry of Healthcare as the leader of the reform in itself. The majority of the EKO respondents

(46%) have noted that their leadership have shown commitment to changes to some extent, while 55% of respondents in NKO have indicated that their leadership have shown a strong commitment to changes.

With regard to the Ministry of Healthcare, the majority in EKO have again noted the commitment to some extent, while NKO the most popular response was that there was a strong commitment from the Ministry.

Diagram 8. Comparative analysis of responses on the Factor 4 "Top management support".



The interview respondents in the North-Kazakhstan oblast told that they felt a strong support of their current top manager. They had an opportunity to compare two top managers: the first one who started reorganization, and the second who continued the work. "If the first one wanted to have peace, the second one is the one who led the organization to further changes and was able to positively charge employees...all our requests are satisfied - when I wanted to start working with autistic children, all requests had been satisfied...I like the democratic leadership style of our top manager". The other member of the NKO Center mentioned, that "it became much better with new top manager, we have better funding, replaced the old furniture with new ones, we got paid specialization (once a five years), our salaries has been increased, now there is a differentiated payment method between junior and senior staff".

Factor #5: Build external support

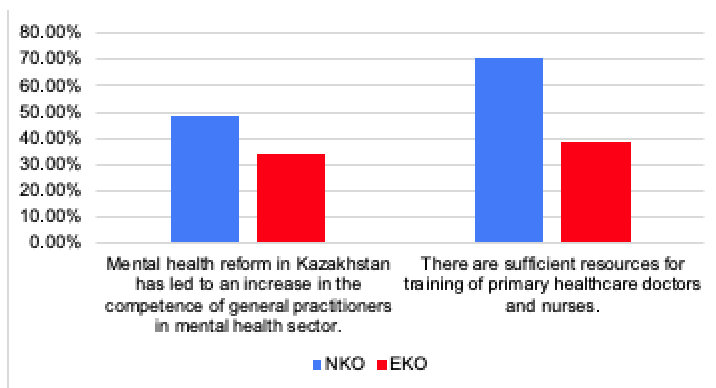
Both EKO and NKO respondents have indicated that the local Departments of Healthcare have demonstrated the highest level of support. When asked, with which

organizations they contact the most in their work, respondents of both regions have put organizations of primary medical care in the first place, followed by the Department of Healthcare, educational institutions and non-profit organizations. NKO Center top manager in his interview mentioned that “we have low level NGOs working with our clients, therefore we haven’t started working with any of them yet”.

Factor #6: Provide resources

The availability of resources is an important factor to consider, thus we have asked the respondents if they agree with the statements that there are enough resources for training of primary care professionals, as well as general resources (material, human etc.) to conduct the changes. Despite the fact that funding of both Centers is above the average level across the country, the funding level of NKO is slightly more than of EKO. It is reflected in a significant difference in perception of personnel reflected both in survey and during in-depth interviews. Thus, 41% of EKO respondents have indicated availability of some resources for the training of primary care professionals; while in NKO 46% of respondents have strongly supported the availability of resources in their region. As for the general resources, the trend is actually the same for both regions.

Diagram 9. Comparative analysis of responses on the Factor 6 “Provide resources”.



According to the secondary data provided by the Republican Center in 2019 North-Kazakhstan and East-Kazakhstan regions spent 9.8% and 8.13% respectively on mental health expenditures from the total regional health expenditure. It must be noted that these indicators are higher than the national average, which is 5,7%.

In the interview with the top manager of the East Kazakhstan oblast Center, he mentioned that the Center is underfunded for 70% of its full capacity needs. According to him, there is a lack of capital investments to build or reconstruct premises. As an

extreme example there is a building in village Nikolaika, that had been recognized as not acceptable for service. It has no water and is extremely old. However, being a sole source of employment for community members, and due to the lack of funding, the EKO Center could not neither close it nor renovate it. With that said, the top manager of the EKO Center believes that the biggest treasury of the organization are well-experienced professionals. It was crucial for him not to lose these professionals because of the merger. Comparing the data as per WHO AIMS, during 2017-2019 EKO Center was more successful in retaining staff per 100000 of the region's population compared to NKO.

There are several reasons why EKO is underfunded that had been given by the top and senior level management during interviews. Thus, according to the top manager of the Center in EKO, introduction of the new tariff system to fund the service does not reflect actual expenditures per client, and thus provides inadequate funding in cases when the number of clients goes down. His deputy shared that absence of integrated systems makes it difficult to reflect death of their clients in a timely manner, also due to specifics of their target audience, they have difficulties in locating their clients. As a result, it is difficult to keep a number of registered clients up-to-date, that in turn lead to half a million tenge fines that are imposed at the Center in East-Kazakhstan Oblast on the monthly basis from one side, and cuts in the funding from the other. He felt very bitter about this fact, saying that “we wrote the letter explaining all the objective reasons and asked that at least during the COVID-19 they could have spared these fines. However, we received no positive feedback”.

Deputy top manager of the Center in EKO also mentioned that COVID-19 caused not only increased burden on the Center in terms of procurement of the unbudgeted items of personal protection, additional requirements to zone out the premises, but also the EKO Center spent the money for project activities to get a new building, that was taken by the Department of Healthcare for new infection and pulmonology diseases’ hospital. He elaborated that further difficulty in the level of funding is due to removal of the paid services, such as confirmations that you are not registered with the Drug or Psychiatric disease from the Center to the single shop services (TSON).

Whereas, the NKO Center top manager was able to keep the same level of funding during the transition from old to new tariffs of funding. The top manager of NKO Center shared that they opened a new division to serve the growing needs of autistic children. He himself complimented his ability to spend money in an effective way, and brought an example of him buying the used fence that they re-painted rather than buying a brand new

one, this way he was able to save a significant amount of funds that was redirected. The top manager of NKO Center in the interview demonstrated that he is very well versed in state procurement regulations due to previous experiences as a manager.

Also according to the top manager of NKO Center, “we have maximally increased the number of the paid services”. He mentioned that: “...primary healthcare centers are well aware of the risks associated with neurological disorders...they refer their patients to us to improve their mental well-being...increased stress, anxiety contribute to cardiovascular diseases...there are many elderly people in the oblast who might suffer from insult and thus, need rehabilitation services...lots of teachers and law enforcement officers who suffer from neurological issues...In our turn we are not psychiatric hospital with high walls around us, we can regulate the sleep, etc...to prevent insults...without registering our clients on the paid and anonymous basis”.

Table 4. Ratio of specialists per 100000 people in EKO and NKO during 2017-2019

Region	Professions	2017	2018	2019
NKO	psychiatrists	4.1	3.8	3.3
	drug treatment professionals	3.7	3.8	3.1
	psychotherapists	0	0	0
	psychologists	2	2	1.1
	social workers	0	0	0
	nurses	20.9	19.7	20.2
	labor instructors	0	0	0
EKO	psychiatrists	5.7	5.4	5.6
	drug treatment professionals	4.5	4.4	4.5
	psychotherapists	0.4	0.5	0.6
	psychologists	2.2	2.2	2.3
	social workers	0.3	0.3	0.3
	nurses	36.2	36.1	37.2
	labor instructors	0.6	0.6	0.7

As can be seen in Table 4, there is a slight decrease in the number of doctors, psychotherapists, and psychologists in NKO unlike in EKO. One of the reasons might be the transfer of psychiatrists and drug treatment professionals to the primary healthcare setting. It might also contribute to a saving effect from one side, and increase in the number of referrals of new clients from primary care to the Mental Center from the other.

NKO Center staff during interviews mentioned that they "...get the bonus payments on a regular basis, at least once a quarter."

The difference between EKO and NKO was that the old top manager of NKO Center during the merger of two organisations in 2017 disposed of one of the buildings, "...deciding that it doesn't make any sense to keep on the books two buildings..". The other respondent complained "...we had to move from a spacious 3-storied building to a small two-storied one". Current top manager of NKO Center also complains that there is not enough space to expand his planned activities, including the work with autistic children, and introduction of social rehabilitation for people with mental health disorders, as it would be required with further implementation of the mental reform. The establishment of such a rehabilitation center in NKO Center was delayed due to COVID-19.

Factor #7: Institutionalize change

In order to assess this factor, we have asked the leadership of the organizations if there are regular checks and assessments on whether the changes have been incorporated into the daily work of the employees. All of the EKO respondents have identified that there are some checks, while all NKO respondents noted that their organization conducts regular checks. 48.79% and 39.52% of NKO and EKO respondents respectively agreed that the merger of psychiatry and narcology services generally had a positive impact on their work.

Though the merger has occurred in both organizations, the structural divisions also affected the fluidity of the organizational changes. Thus, the size of the EKO is significantly larger than NKO: two organizations that merged in NKO and four times more organizations that merged in EKO. According to Edwards (2017), all large healthcare institutions contain a structural obstacle to better organizational development.

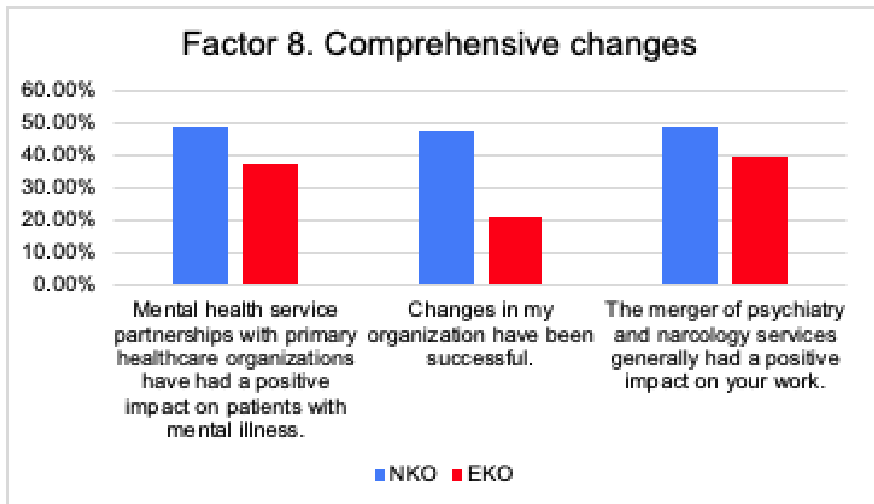
As one of the ways to institutionalize new business processes and regulations included e-registry and digitalization of the business processes that had been introduced. However, interview respondents from EKO heavily criticized the system. Some respondent from the EKO Center mentioned that "e-registry doesn't allow to enter the diagnosis they need, for instance, I couldn't select schizotypal disorder, or dementia in the databases, it didn't allow me to select this diagnosis...it causes lots of stress, when you can't do you job (because of technical issues)...We have frequent cases of the electricity outages, and due to introduced digitalization, we can't serve people when there

is no power...also due to the low speed of the Internet services provided by Kazakhtelecom, the system is very slow. Kazakhtelecom was selected as the cheapest provider of the Internet services, but the speed and quality of connection is very poor...It turns the process of entering all information into a database a very irritating one...Also the digitization process doesn't allow me to establish rapport between myself and client. There is no possibility to maintain eye contact, as I have to enter everything into the database, as the client speaks". The other issue relates not only to digitalization, but also to the new processes of dealing with clients. In particular, clients are routed to psychiatrists via therapists and thus artificially prolonging the way to the specialist and increasing the risk of dropping clients. Some respondents told, that "the system is set up for accounting purposes, but not for peoples' sake", that "system is developed by non-medical staff without account of the mental healthcare specifics...that requires delicate work with the most vulnerable population, whose compliance with the treatment is very low, and it is difficult to get and keep these clients within the treatment system". The other respondent told, that the database shows patients from the whole region rather than their assigned clients - "I can see the clients of Ust-Kamenogorsk, and other locations, not only Semey". The fact that e-system has been changed twice within three years causing discontent among professionals. "We got used to one system, and had to re-educate ourselves to work in a new one."

Factor #8: Pursue comprehensive change

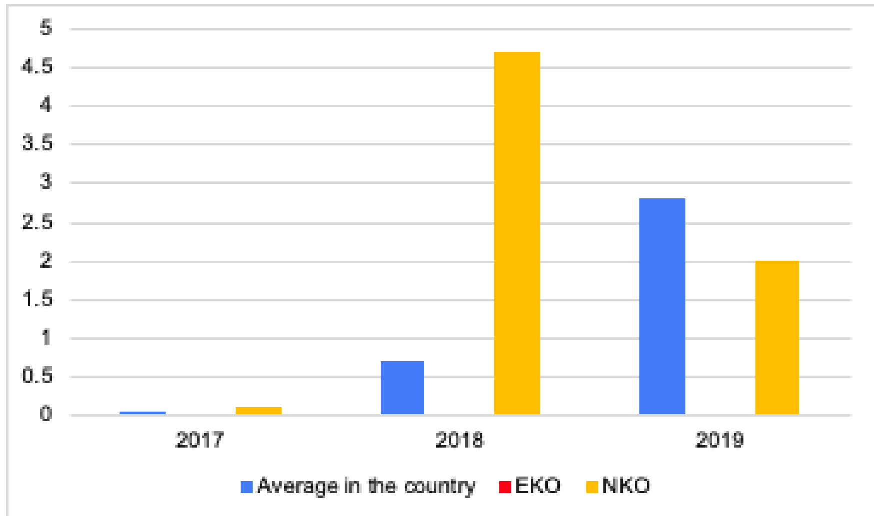
When asked if the implemented changes have been successful or not, 67% of respondents from EKO and 40% of respondents from NKO have noted that changes have been successful to some extent. Interestingly, 8% of respondents in EKO have indicated changes as "disastrous", while no respondent in NKO chose this option.

Diagram 10. Comparative analysis of responses on the Factor 8 "Comprehensive changes".



As it was mentioned in the background, one of purposes of the mental health care reform was further de-stigmatization of the mental health services by changing the locus of the services and focus at the prevention and early diagnostics of the mental healthcare services at the primary healthcare service. Unlike in EKO, the Center in NKO managed to introduce and expand mental health services at the primary care settings. (see Diagram 11.)

Diagram 11. Share of referrals made by primary care providers to the Mental Health Centers in EKO and NKO during 2017-2019.



According to the top manager of EKO they failed to introduce such a change due to strong internal and external resistance of the staff of the Center and primary health care organizations. Thus, staff of the Center was unwilling to transfer to primary care organizations, and threatened to quit their jobs if the Center pursued these changes. Primary care organizations were not willing to accept and accommodate psychiatrists/drug treatment professionals at their premises due to the lack of space. One

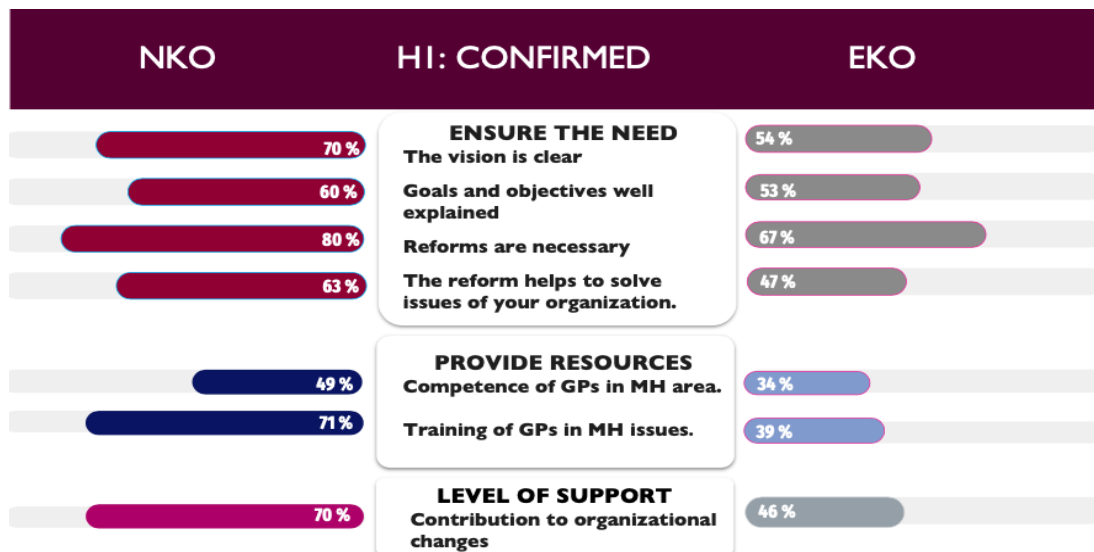
of the top managers of the EKO Center in the interview mentioned that “our clients suffer from chronic diseases, they are monitored during 30-40 years, and in order to keep the medical histories of our clients, the primary organizations should have sufficient space”. The top manager of the EKO Center himself confessed that due to the lack of personnel, he was unwilling to cut down the number of psychiatrists by transferring them to primary healthcare - “once a person is transferred, he/she is not mine” (will not be a part of the Mental Center). Whereas, NKO Center top manager succeeded in implementing these changes, strengthening partnership with primary healthcare organizations. However, according to the doctor from the NKO Center not all partnerships with primary healthcare centers are evenly good, thus “there are 4 primary mental health centers and only one is working really well, whereas others are not doing proper job on early diagnostics of the mental disorders...these might be indifferent people not doing good work...to solve the issue these people should report directly to the Mental Center of the oblast not to primary care”.

The top manager of NKO Center in pursuit of de-stigmatization of the Mental Health Center did everything he could to make the Mental Center more appealing to their clients. Thus, he removed the concrete walls around the former psychiatric facility, renovated the premises, so that division for autistic children became more like a kindergarten, and put more trees around the Center to ensure that people feel more comfortable there. Now NKO top manager is intended to get a new premise in the woods for rehabilitation purposes. In fact, the drug treatment professionals of NKO in the interview noted that it was a useful merger of two Centers as experience of the comprehensive approach in handling a client from diagnostics, treatment and rehabilitation migrated to psychiatry division. It helped psychiatrists to grasp the idea of a comprehensive approach in treatment that includes social rehabilitation. “Psychiatrists almost didn’t work on the rehabilitation...you can’t remedy the person and let him/her go without rehabilitation and adaptation, otherwise there would be relapse...we made psychiatrists work differently especially with autistic children and with those suffering from neurological disorders”.Being pioneers in the region in working with autistic children, the NKO Center plans to issue methodological guidance for its own employees and for their colleagues in other regions. Whereas, the EKO Center’s professionals in their interviews reported that no changes were made in their routine work.

Results of hypotheses test

Analysis of the survey data allowed us to confirm all four hypotheses that we made in the beginning of the research. The first hypothesis confirmed that NKO respondents felt more need in the organizational changes due to effective communication of the management and they felt there were more resources available to introduce necessary changes, and overall they had demonstrated bigger internal support for these changes compared to EKO respondents.

Diagram 1. Comparative analysis of responses on the Factors "Ensure the need", "Provide Resources" and "Level of Support".

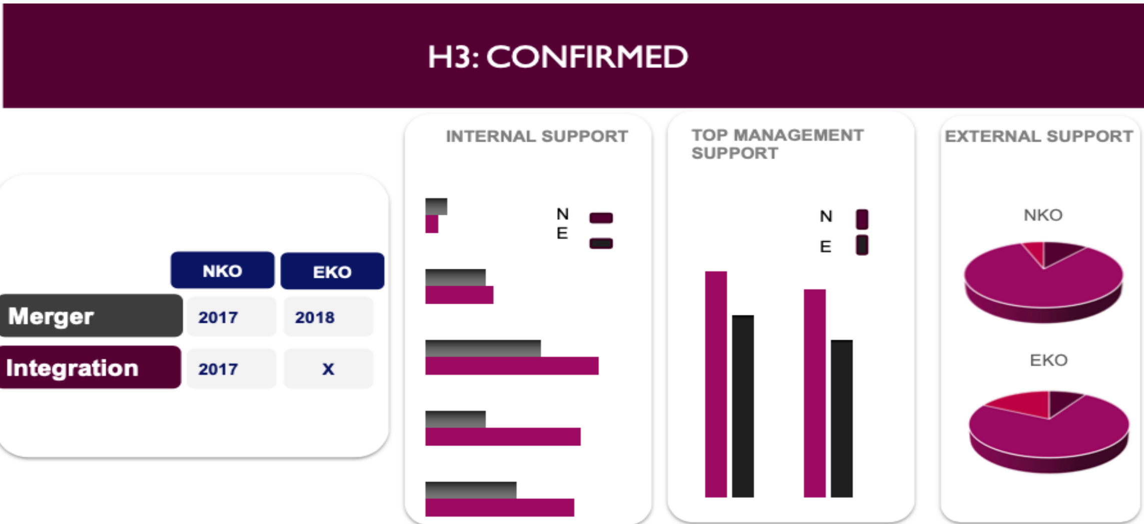


Our second hypothesis has been also confirmed. Cross-tabular data showed that people who could name the main goal and objectives of the Mental Healthcare Roadmap believed that organizational changes were successful. The Diagram 2 provides comparative data that shows the difference in responses between NKO and EKO.

Diagram 2. The cross-tabular analyses of the relationship of Mental Healthcare Roadmap and Successful Organizational Changes

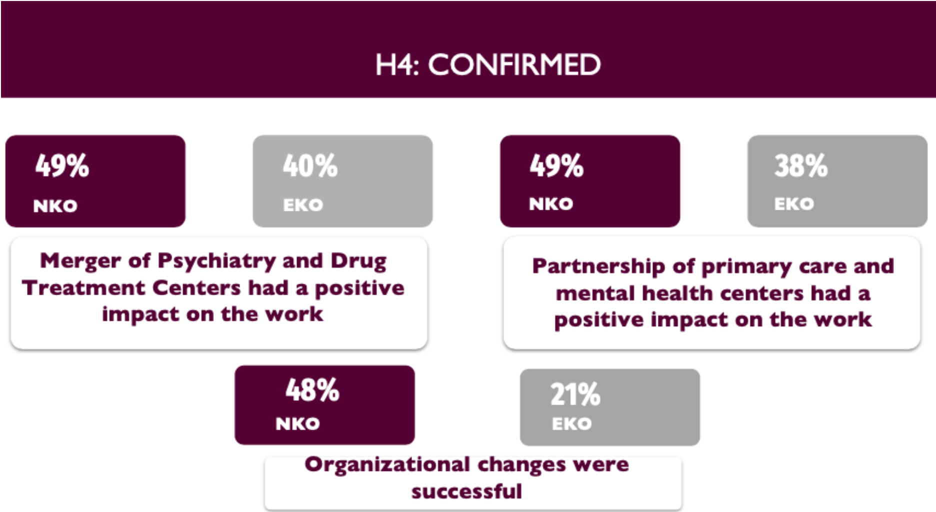
When checking our third hypothesis we saw that the higher support among the employees, the top management and the external stakeholders, the faster organizational change in North-Kazakhstan Oblast Center occurred. In particular, the merger of the Drug Treatment Center and Psychiatry Center into the Mental Health Center, as well as integration of the mental health services into the primary care setting in NKO was faster. Whereas lower support among the employees, the top management and the external stakeholders slowed down organizational change in East-Kazakhstan Oblast.

Diagram 3. The comparative analyses of the Support of Top Management, Internal and External Stakeholders and speed of the Merger of Drug and Psychiatry Centers and Integration of Mental Health Services into Primary Care



The fourth hypothesis: the Merger of psychiatry and drug treatment centers and strengthened partnership of the primary care with the mental health Center lead to effective organizational change.

Diagram 4. The comparative analyses of the Merger of Drug and Psychiatry Centers and Partnership of Mental Health Centers with Primary Care Organizations and the Successful Organizational Changes.



VI POLICY RECOMMENDATIONS

As a result of our research and obtained results we can make the following recommendations for more effective organizational changes, that could be used by the Republican Center for Mental Health to introduce social rehabilitation centers as per the Roadmap of the Mental health care development:

1) Improve communication between internal and external stakeholders

Currently, as the research findings have demonstrated, there are issues related to effective communication. In order to ensure the need of the further changes and raise awareness on the necessity to further integrate the mental health services at the primary healthcare organizations, and thus build internal and external support to the organizational changes, both Centers need to further improve communication both within their organizations, as well as with external stakeholders. For this purpose we propose the following steps:

a) Increase frequency of awareness raising meetings of the representatives from the Republican Center for Mental Health and Healthcare Departments with primary healthcare organizations and Center employees in both oblasts. This step would enable the healthcare workers to improve their awareness and knowledge of the Mental health care reform, consequently resulting in a greater support of the reform and associated organizational changes. This step is particularly important in the East-Kazakhstan Center, as the results have shown that the level of support towards organizational changes is significantly lower there.

b) Involve more stakeholders in both Centers to promote continuity of the services to be provided by the associations and various NGOs. NGOs will improve the capacity of the Centers to take the responsibility and ownership of the ongoing changes. In addition, they can facilitate partnership with governmental bodies, local akimats and Healthcare departments. Local NGOs can prove useful in mental health promotion, advocacy and reduction of the stigma, associated with seeking mental health care help.

c) Change from the top-down approach to the bottom-up approach to ensure that all measures are adequate, as well as to improve ownership of the reforms by field workers, and to promote contribution of field workers in further implementation of organizational changes. This step is particularly important in the present Kazakhstani public sector setting, which is dominated by the top-down approach. As a result, we notice frequent changes in appointments and lack of motivation for ownership of policies by the

employees. Our research has demonstrated that the top-down approach is also present in the Centers for Mental Healthcare and largely affect the quality of communication among the stakeholders. Therefore, the bottom-up style of leadership would allow for a greater fluidity as the decisions will take into account a greater number of opinions.

d) Disseminate best practices amongst interested parties via workshops. The workshops can be conducted on a peer-to-peer basis, which would in turn improve internal communication within each Center by providing support and resources.

2) Provide more training for primary care professionals, psychologists and social workers

According to the WHO recommendations (2019), training and education of primary care professionals is essential in order to shift traditional hospital-based mental health services into mainstream health care. Greater training is required for the professionals, who work at the primary care settings, in order to improve their knowledge and attitude, and to provide an overall better quality treatment of mental, neurologic and substance use disorders. A study to measure changes in the knowledge of the primary health care physicians towards mental health diseases after short-term training courses, conducted in Eastern Saudi Arabia, has demonstrated a significant improvement in the knowledge of the physicians (Al-Khathami et al, 2003).

Another benefit of training courses is that it would integrate the employees of the Centers into the working process, facilitating teamwork and creating a kind of synchrony between physicians, psychologists and social workers.

Training for the health care professionals is also important because it not only improves their skills and knowledge for a better provision of health care, but also strengthens their motivation to do so.

Therefore, a continuous education in the form of short-term training courses would be highly beneficial for the healthcare professionals, providing mental health care services.

3) Develop a more accurate methodology to calculate the tariff to ensure adequate allocation of resources

The methodology that is currently used by the Social Medical Insurance Fund to calculate the complex tariff as envisioned in the Ministry of Healthcare Order dated 31/12/2019 is based on formula: Complex Tariff of the Center = (Volume of funding year/ Average Number of registered clients per year) / m. To ensure better funding mechanisms that will provide more accurate and reliable information, it is recommended

to use one of the reliable methods or tools to calculate mental health services' cost estimation that are listed below.

Micro-costing method is widely used in the healthcare system to assess actual costs of the health interventions with "large variability across providers" (Xu et.al, 2014)

Another tool is the Substance Abuse Treatment Cost Allocation and Analysis Template (SATCAAT) a unit cost protocol based on the cost accounting that had been developed by the Development by the SAMHSA Office of Applied Studies, and the SAMHSA Center for Substance Abuse Treatment. It allows converting accounting data into "cost profile" and estimate average costs per client by unit of service for service delivery units. (SAMSHA)

Another tool is the Treatment Cost Analysis Tool (TCAT) that was developed to calculate accounting and economic costs of the treatment services. It is a Microsoft Excel-based file convenient for budget planning purposes. It has lots of built-in "what-if" analyses allowing to see various scenarios. The tool is openly available and allows to calculate cost per episode of treatment and cost per enrolled client day (Flynn et al, 2009).

4) Reconsider role and status of psychologists

Currently in Kazakhstan psychologists are not recognised as medical professionals despite their tremendous role in the treatment and rehabilitation process. As a result, the status of psychologists is inadequately low that may negatively impact the overall morale of the personnel and thus on the quality of their service. During interviews several respondents expressed their concern about the low status of psychologists that doesn't correspond to their level of contribution.

According to Wahass (2005) psychology is key to the biopsychosocial practice and psychologists play an important role in healthcare providing. For instance, their role is tremendous in conducting Cognitive Behaviour Therapy, that is evidence-based intervention in a wide range of mental disorders. Also there is an emerging trend of combined psychological and pharmacological treatments. (Graham et al, 2014) Therefore, the role of psychologists should be acknowledged and upgraded. It is especially important in lieu with the upcoming plans on opening the social rehabilitation services at all centers.

Introduction of clinical psychologists might help to improve the process, however, their salaries then should be of the same level as doctors' to retain specialists.

5) Improve the e-registry system to facilitate the organizational changes and make it more convenient for use by field professionals and client-centered

According to Hollis (2015) digital technology has the potential to transform mental healthcare by connecting patients, services and health data in new ways. The overall digitalisation of the health services, including mental healthcare had been done without or with limited participation of the field workers that created lots of technical limitations.

The Center should pay more attention to appropriate levels of data protection and to segregate access to the medical records of the clients as per the role, location of the medical personnel to ensure better privacy of the records.

Given remote distance between various geographical locations, existing requirements on isolation, there should be more focus placed on the development of tele-medicine on mental issues to ensure wide accessibility of the services. For the same purposes the Mental Center should consider development of the various mobile applications to monitor progress of clients and increase access to psychosocial educational materials.

VII CONCLUSION

This study has provided a comparative case study of the two Mental Healthcare Centers in East and North Kazakhstan oblasts. We have specifically examined the ongoing organizational change as part of the Mental Healthcare reform in Kazakhstan. The current situation with mental health care in the country is worrying and the government recognizes the importance of reforming the mental healthcare system as a whole. Therefore, implementation of organizational changes in all Mental Healthcare Centers of all Kazakhstani oblasts is highly important, but equally challenging.

The main research questions of this study have been on determining the key factors that affected organizational change, what are the differences between East and North Kazakhstan Mental Healthcare Centers and why the differences are present in light of the same Mental healthcare reform.

The existing literature in the field demonstrates a clear lack of studies of organizational changes in healthcare organizations in the Central Asian region. In fact, there are no studies on the topic conducted solely for Kazakhstan.

We have concentrated on a case study of the two Centers in order to compare organizational changes and determine the key factors that have influenced the changes in both Centers. For this purpose, we have used the framework of eight factors that influence organizational change in the public sector by Fernandez and Rainey. This framework was operationalized in an online survey, which was then sent to the employees of both Centers. There have been 139 respondents in the East-Kazakhstan Center and 42 respondents in the North-Kazakhstan Center. In addition, we have also conducted the in-depth semi structured interviews.

The research findings have demonstrated that overall there are more difficulties in communication in EKO than in NKO. Survey respondents have shown more support for changes in NKO, while EKO seem to be experiencing complexities in the management process. It was also discovered that both Centers have experienced internal resistance to changes at the beginning of the reform, but more NKO respondents have reported their contributions to changes. Interestingly, respondents from NKO have reported a strong role of the top-management of their organization, which to their opinion, have played an important part in positive organizational changes.

It must also be mentioned that EKO respondents noted problems with the current tariffs system, which causes inadequate funding, as well as with the recently introduced

system of e-registry and digitalisation of the business processes that has proved to be highly ineffective.

Organizational change is certainly a complex process, even more complex in healthcare organizations due to the ever-changing environment and interaction with multiple stakeholders. There have already been important first steps in reforming the Mental Healthcare Centers, but more actions need to be implemented in order to achieve effective changes that would improve the mental health services for the population. It is important to improve communication both internally and with external stakeholders, provide training to the healthcare professionals, reconsider the role and status of psychologists, as well as to improve the current tariff methodology and the e-registry system.

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APPENDIX 1

WHO AIMS-Brief Indicators

#	Indicator	Measure	Definition	Notes
1	1.3.3 Procedures and standardized documentation for implementing legislation	1. Access to mental health care including access to the least restrictive care 2. Rights of mental health service consumers, family members, and other care givers 3. Competency, capacity, and guardianship issues for people with mental illness 4. Voluntary and involuntary treatment 5. Accreditation of professionals and facilities 6. Law enforcement and other judicial system issues for people with mental illness 7. Mechanisms to oversee involuntary admission and treatment practices 8. Mechanisms to implement the provisions of mental health legislation Y/N; UN = unknown; NA = not applicable NOTES Describe all relevant legislation on mental health,	Components included in legislation on mental health	Describe all relevant legislation on mental health, which may be found in diverse areas of law. It may be found in specific mental health legislation (defined in previous item) but it may also be found in legislation that is primarily on health or other issues (e.g. violence, suicide).
2	1.5.1 Mental health expenditures by the government health department	Proportion; UN = unknown; NA = not applicable	Proportion of mental health expenditures from the total health expenditures by the government health department	This item covers expenditures on mental health services (i.e. money spent). It does not cover budget allocation. Budget allocation and expenditures may be different because allocated money are often spent on other services.
3	1.5.2 Expenditures on mental hospitals	Proportion ; UN = unknown; NA = not applicable	Proportion of mental health expenditures spent on mental hospitals	

4	2.1.1. Existence and functions of a national or regional 'mental health authority'	1. A national or regional mental health authority exists. 2. The mental health authority provides advice to the government on mental health policies and legislation. 3. The mental health authority is involved in service planning. 4. The mental health authority is involved in service management. 5. The mental health authority is involved in monitoring and quality assessment of mental health services. Y/N; NA = not applicable	Existence and the specification of roles of a national or regional 'mental health authority'	• The 'mental health authority' is an organizational entity responsible for mental health care within a region or country. The Department of Mental Health or the Mental Health Office in the Ministry of Health may be considered to be a 'mental health authority'. • Rate NA = not applicable if there is no 'mental health authority'.
5	2.6.2 Availability of mental hospital beds	Rate per 100 000 general population; UN = unknown; NA = not applicable	Number of beds in mental hospitals per 100 000 population	
6	2.6.3 Change in beds in mental hospitals	Proportion; UN = unknown; NA = not applicable	Decrease/increase of the number of beds in mental hospitals in the last five years	E.g. if the year of assessment is 2004, then one should compare with the number of beds in 1999.
7	2.6.8 Time spent in mental hospitals	Number; UN = unknown; NA = not applicable	Average number of days spent in mental hospitals	The cumulative number of days spent in mental hospitals is the sum of the number of days across all patients and across all mental hospitals
8	2.6.9 Occupancy of mental hospitals	Proportion; UN = unknown; NA = not applicable	Occupancy rate in mental hospitals	
9	3.1.2 Refresher training programs for primary health care doctors	Proportion; UN= not known; NA = not applicable	Proportion of primary health care doctors with at least two days of refresher training in psychiatry/mental health in the last year	

10	3.1.4 Referrals between primary health care doctors and mental health professionals	A = none (0%) B = a few (1 – 20%) C = some (21 – 50%) D = the majority (51 – 80%) E = all or almost all (81 – 100%) UN = unknown; NA = not applicable	Full-time primary health care doctors who make on average at least one referral per month to a mental health professional	In the data entry file (a) indicate data source or (b) check relevant box if response is based on a best estimate.
11	4.1.1 Human resources in mental health facilities per capita	Number of human resources working for mental health facilities or private practice: 1. Psychiatrists 2. Other medical doctors, not specialized in psychiatry, 3. Nurses 4. Psychologists 5. Social workers 6. Occupational therapists 7. Other health or mental health workers (including auxiliary staff, non-doctor/non-Physician primary health care workers, health assistants, medical assistants, professional and paraprofessional psychosocial counsellors) Rate per 100 000 population; UN = unknown	Number of human resources working in or for mental health facilities or private practice per 100 000 population by profession	Include mental health staff working in government-administered, NGO, for-profit mental health facilities and private practice.
12	4.1.6 Staff working in mental hospitals	Number of mental health professionals: 1. Psychiatrists 2. Other medical doctors, not specialized in psychiatry, 3. Nurses 4. Psychologists, social workers, and occupational therapists 5. Other health or mental health workers Proportion; UN=unknown; NA= not applicable	Number of full-time or part-time mental health professionals per mental hospital bed	Include mental health staff working in government-administered mental hospitals, NGO mental hospitals and for-profit mental hospitals. Exclude professionals engaged exclusively in private practice.
13	4.1.7 Psychiatrists working in or near the largest city	Ratio; UN = unknown; NA = not applicable	Per capita ratio of psychiatrists working in mental health facilities that are based in or near the largest city to the total	Choose the largest city in terms of population. Include the greater metropolitan area (agglomeration) of the city to determine the

			number of psychiatrists working in mental health facilities in the country (or region)	largest city. Exclude professionals engaged exclusively in private practice.
14	4.4.3 Interaction of mental health services with user/consumer associations	A = no interaction (0% of facilities) B = a few facilities have had interaction (1-20% of facilities) C = some facilities have had interaction (21-50% of facilities) D = a majority of facilities have had interaction (51-80% of facilities) E = all or almost all facilities have had interaction (81-100% of facilities) UN = unknown; NA = user/consumer associations do not exist	Mental health facilities interacting with user/consumer associations in the last year	In the data entry file (a) indicate data source or (b) check relevant box if response is based on a best estimate.
15	4.4.5 User/consumer association involvement in community and individual assistance activities	Number; UN = unknown; NA = not applicable	Number of user/consumer associations involved in community and individual assistance activities (e.g. counselling, housing, support groups, etc.)	

(source: WHO AIMS Guide)

APPENDIX 2

Survey Questions

A. DEMOGRAPHIC DATA

1) What is your gender?
Female
Male

2) What is your age?
20-29
30-39
40-49
>50

3) What is your highest academic degree?
Professional/college
Undergraduate
Graduate/Masters
PhD

4) What is your job position?
Administrative staff
Nurse
Doctor
Senior management
Social worker
Psychologist
Psychotherapist

5) How long have you been working within the organization?
4 years
➢ 4 years
Your answer

B. FERNANDEZ AND RAINEY MODEL

Factor 1: Ensure the need for change
6) Select the extent to which you agree or disagree with the following statement: The vision of the reform has been clearly communicated by the management of your organization.
Strongly disagree; disagree; neither agree nor disagree; agree to a certain extent; agree

7) Did the top management of your organization hold meetings to explain aims of the reform and the course of actions?

Yes; No; Cannot respond

8) Do you think there was a need for change within your organization?

Yes; No

9) Select the extent to which you agree or disagree with the following statement: The reform addresses specific and contingent problems of your organization.

Strongly disagree; disagree; neither agree nor disagree; agree; agree to a certain extent

Factor 2: Provide plan

10) Can you name the main objectives of healthcare reform?

Yes; Hardly; No

11) Select the extent to which you agree or disagree with the following statement: There is a clear strategy with defined objectives on how the reform should be implemented.

Strongly disagree; disagree; neither agree nor disagree; agree; agree to a certain extent

12) Are you familiar with the Mental Healthcare Road Map?

Yes; To some extent; No

Factor 3: Build internal support and overcome resistance

13) Do you see these policies having an impact on your clients?

Yes, in a positive way; Yes, in a negative way; No

14) Do these policies have an impact on you, personally?

Yes, in a positive way; Yes, in a negative way; No

15) Select the extent to which you agree or disagree with the following statement: Healthcare workers have actively contributed to the changes within the organization.

Strongly disagree; disagree; neither agree nor disagree; agree; agree to a certain extent

16) How strong do you think was the resistance for change within your organization during at the beginning of the reform in 2017?

Very strong; Strong; Neither strong nor weak; Weak; Very weak

17) How strong do you think is the resistance now?

Very strong; Strong; Neither strong nor weak; Weak; Very weak

Factor 4: Ensure Top-Management Support and Commitment

18) Select the extent to which you agree or disagree with the following statement: Top management of your organization has demonstrated commitment and determination to implement the reform.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

19) Select the extent to which you agree or disagree with the following statement: You think that the Ministry of Healthcare demonstrated commitment and support to implement the reform.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

Factor 5: Build External Support

20) Which of the governmental bodies have demonstrated their support of the reform?

Local akimats; Department of Healthcare; Other political overseers; Your option

21) Put these agencies that you work with in descending order based on the frequency of your interaction with them. (The most frequent is the first in sequence)

Primary medical organization; Healthcare Department; Educational Institution; NGO; Other (Please specify)

22) How frequently do you interact with other agencies in your work?

Very frequently (once a week); Sometimes (once every two months); Seldom (once every half a year); Always (every day); Never

Factor 6: Provide Resources

23) Mental health reform in Kazakhstan has led to an increase in the competence of general practitioners in mental health sector.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

24) Select the extent to which you agree or disagree with the following statement: There are sufficient resources for training of primary healthcare doctors and nurses.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

25) Select the extent to which you agree or disagree with the following statement: There are sufficient resources to introduce the changes. (Question only for the top management)

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

26) Put in the descending order the level of resources for these budget lines at your best knowledge. The most funded line is the first one. (Question only for the top management)

Personnel; training; facilities; quality improvement infrastructure; information technologies; your option

Factor 7: Institutionalize Change

27) Select the extent to which you agree or disagree with the following statement: The changes in your organization are continuously monitored and evaluated.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

28) The merger of psychiatry and narcology services generally had a positive impact on your work.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

Factor 8: Pursue Comprehensive Change

29) Select the extent to which you agree or disagree with the following statement: The changes are implemented in all units of your organization.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

30) Mental health service partnerships with primary healthcare organizations have had a positive impact on patients with mental illness.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

31) Select the extent to which you agree or disagree with the following statement: Changes in my organization have been successful.

Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree

C. ADDITIONAL QUESTIONS ON ORGANIZATIONAL CHANGE

32) Which of the following positive organizational changes that occurred during your work in 2017-2019 can you name? You may select several options.

1. Merger of psychiatry and narcology

2. Opening of social rehabilitation centers
3. The program on substitution of methadone therapy has been launched
4. Integration of a single information system for all units, as well as single requirement for observation and treatment of patients
5. Simplification of the reporting forms
6. Increase in employees' salaries
7. More training programs
8. Increased interagency cooperation between different services
9. Your option

33) Which of the following negative organizational changes that occurred during your work in 2017-2019 can you name? You may select several options.

- Absence of additional methodological recommendations
- Due to stigma, patients with mental illnesses do not come to primary medical center to see a psychiatrist-narcologist
- Less rehabilitation programs for patients with drug addiction
- Lack of social rehabilitation for mental health service patients
- Different treatment forms (list of medications) are used in different departments
- Difficulties in obtaining medications: prescriptions are provided in polyclinics, while medications in mental health centers
- Low salaries among the employees
- Reduction of employees
- Your option

APPENDIX 3

Interview questions

- How do you think you, as a specialist, are in demand and are an important link in your organization?
- What is it like working for your organization? How comfortable are working conditions, organization of the workplace, remuneration for your work?
- What positive aspects does your job bring you (team, working conditions)? What do you like least of all?
- Are there any unwritten rules in your organization (additional unpaid workload, unplanned reimbursement, material assistance)?
- What are the most challenging problems with the patients you work with?
- What patient problems do you feel most confident about working with?
- What do you think has changed in your work compared to 2015? Can you give me an example of what you mean?
- What do you think was needed for successful reforms?
- What are the main messages of the Mental Health Roadmap?
- What system-wide policies (internal regulations such as roadmap, treatment protocols, internal orders) make it difficult for you to do your job? What internal regulatory documents facilitate your work? How do these policies affect your ability to serve clients?
- Does the reform address specific and unforeseen problems for your organization? Please provide examples.
- What impact do these policies have on you personally?
- How does this relate to your work before the change?
- How are people in your organization responding to changes? Can you give us some examples?
- What would you like to change yourself?
- What will make you more capable of doing your job?
- What do you think is needed for further professional development?
- In what areas would you benefit from further training to carry out your job? What are these areas?
- Can you provide an example of leadership support provided to facilitate the change process?

- What partnerships work well and who else could you work with?
- What worked best?
- What does not seem to work?
- What changes or additions need to be made?
- How can the organization solve these problems and in what period?
- How can the reform improve service to your clients?
- What metrics do you use to measure success in your work?