Report:
Permanent practices in nursing research collaboration in Kazakhstan

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SUMMARY

Collaboration between academic and healthcare institutions is essential for reaching the aim set for nursing education, creating knowledge, and transferring scientific evidence into practice. The Work Package 2.3 of the AccelEd (Accelerating Master and PhD level nursing education development in the higher education system in Kazakhstan) project aimed to create sustainable structures and systematic processes for cooperation on nursing research between Kazakhstani medical universities (MU) and healthcare institutions through several activities. The responsible institutions for this development process were Jamk University of Applied Sciences (Jamk) and Karaganda Medical University (KMU). The purpose of this report was to describe and analyze the implemented changes and current permanent practices in nursing research collaboration in Kazakhstan through a mixed methods study including online interviews and related questionnaire, an online survey, and an analysis of the follow up data of the project's qualitative and quantitative indicators.

Medical Universities' strategy level collaboration concerning nursing at organizational level with the Ministries of Education and Health care, National Research Center for Health Development named after Salidat Kairbekova (NRCHD), and professional associations could be more intensive. Various collaborative practices at nursing faculty level in nursing with local healthcare stakeholders were reported. Some MUs have formalized collaborative practices, although typically the collaboration is still at an individual level and not formalized. Challenges in staffing and workload limit collaboration in nursing research to foster evidence-based practice, although research capacity and skills of the MUs' nursing departments' staff improved during the project through systematic review and service design trainings. The number or scientific publications and projects in nursing increased. The new collaborative structures established, the JBI Affiliated Group and the National Repository for Nursing, have potential in enhancing creating permanent collaborative nursing research practices.

This report presents seven recommendations to further develop academic-clinical nursing research collaboration in Kazakhstan:
The Ministry of Health and Ministry of Science and Higher Education **1)** should provide sustained support and stability for development of nursing by a long-term plan of higher education nursing workforce; and **2)** create structures that support the collaboration between medical universities and healthcare institutions to develop evidence-based nursing.
The universities **3)** should ensure and sustain the development of advanced level of nursing research and collaboration competency among their staff for post-graduate programs; **4)** establish formal collaboration agreements with local healthcare institutions, especially with primary health care that contain mutual goal setting for research and development of evidence-based nursing practice; and **5)** maintain funding and resources for international collaborations and nursing-specific databases, the JBI Affiliated Group, and the National Repository for Nursing to ensure their long-term sustainability.
Healthcare institutions **6)** should work towards mutual goal setting for the development of nursing in Kazakhstan in tandem with medical universities; and **7)** formalize research collaboration practices between medical universities and healthcare institutions that would ensure continuity and direction to the collaboration.

In conclusion, the findings of this report highlight the importance of research collaboration in nursing and the potential for enhancing evidence-based practice in Kazakhstan. By implementing the recommended actions, the nursing profession in Kazakhstan can further develop its research capacity and contribute to improved healthcare outcomes. To meet the national needs for nursing healthcare workforce with up-to-date competency to secure universal health coverage and safe evidence-based practice, it is crucial to enhance the academic-practice collaboration.

1 INTRODUCTION

Creation of sustainable structures and systematic processes for cooperation on nursing research between medical universities and healthcare institutions to foster evidence-based nursing was the aim of the Work Package 2.3 in the AccelEd project. Activities that were planned to reach this outcome included creation of collaborative structures, processes, and capacity to recognize nursing topic areas for research and development, capacity building of medical universities' nursing departments' teaching staff on service design, and establishment of permanent practices on nursing research collaboration in order to support implementation on evidence-based nursing (EBN). The responsible institutions for this development process and report were Jamk University of Applied Sciences (Jamk) and Karaganda Medical University (KMU). The activities in project have been facilitated in collaboration between European universities, Åbo Akademi University (ÅAU) and University Medical Center Utrecht (UMCU) and coordinated by Lithuanian University of Health (LSMU).

Collaboration between academic and health care institutions is necessary for reaching the aim set for medical and nursing education. In addition to collaboration in implementing nursing education, collaboration between academia and practice is an essential component in the knowledge triangle in creating new knowledge and innovation as well as translating scientific evidence to practice (Olander Roese & Batingan Paredes 2015). Albert et al. (2022) have defined academic-clinical nursing research collaborations as research collaborations between academic- and clinical-based nurses or between academic and clinical sites. Especially when addressing the postgraduate education level academic-clinical collaboration, the aim is to enhance the conduct, translation, and dissemination of research that is important to nursing, multidisciplinary practice stakeholders, and the populations served. (Albert et al. 2022).

In the USA, the American Association of Colleges of Nursing has been leading nursing practice, education, and research development for decades. They have defined collaborative partnerships as official structural linkages between universities and clinical centers (most often hospital medical centers, but may involve community health, nursing homes, home care, wellness centers, etc.) that have a shared vision for best practices. Highly structured partnerships are characterized by formal contracts, strategic plans, and financial arrangements as well as joint management structures. Moderately structured partnerships lack highly structured components and clear management structures; instead, they are developed ad hoc to meet specific or situational needs. (Albert et al. 2019, De Geest et al. 2013)

The literature review conducted in spring 2021 by Meyermanova and Hopia for the AccelEd project identified four categories to describe the best international practices that foster EBN through collaboration between academic and healthcare. The first category, **characteristics of a fruitful partnership between academic and healthcare**, included principles and activities that are recommended to have a good, beneficial partnership between university staff and personnel from healthcare institutions. The second category, **ways to build a successful partnership/managing partnership,** described the required strong leadership and supportive management from both sides: academic and healthcare practice. The third category, **created structures and models**, contained description of different kinds of models and structures targeted on collaboration between academic and healthcare. The last category, **applied methods and techniques**, contained all sorts of practices which promote and reinforce collaboration between the employees from scientific and healthcare institutes.

For the further development of the collaboration in nursing between Kazakhstani Medical Universities and Healthcare Institutions, it was recommended in the report by Meyermanova et al. in spring 2021 to:

1. identify the key structures and core processes of selecting new topics for nursing clinical guidelines on a regional level and implementing the existing ones;
2. further agree on ways to employ the resources of the Center of Nursing Excellence of Kazakhstan (CNE) in the collaborative development of nursing;
3. create a structure and/or process for identifying and sharing research and development needs/topics in nursing;
4. jointly prioritize and document the regional development areas for nursing relating to the current regional health problems of the citizens, and
5. collaboratively set regional long-term goals for developing evidence-based nursing that will enable positive health-related outcomes for the citizens.

2 METHODS

The purpose of this report was to describe and analyze the permanent practices in nursing research collaboration of Kazakhstani universities and practical healthcare and their existing state. To achieve this goal, a mixed methods study was conducted on the implemented changes and sustained practices based on the results of the *Report on recommendations for the development of structures and processes of interaction between universities and healthcare institutions* (Meyermanova et al. 2021). The research methods included online interviews and related questionnaire, an online survey, and analysis of the follow up data of the project's qualitative and quantitative indicators.

The interview questionnaire was compiled based on international research (Albert et al. 2022) and a literature review (Meyermanova et al. 2021). The interview included a pre-questionnaire and the actual online interviews. The pre-questionnaire was related to the upcoming interview and required collection of evidence in the form of lists and data. The questions covered the resources available at the universities, the results achieved, and individual advantages in cooperation, as well as questions about existing barriers to further collaboration. The first area of questions was aimed at determining the existence of cooperation and understanding the common goals and plans between the medical university and practical healthcare organizations. It was also asked whether there exists formalization of scientific-clinical/practical cooperation in nursing in form of contracts, memoranda, and other documents. In order to identify cooperation with professional associations and departments of health care nursing representatives and other medical universities' nursing faculties/departments, questions about cooperation with, for example, the *Paryz Association* and the *National Scientific Center for Health Development named after Salidat Kairbekova* were asked. Several questions were aimed at identifying the post-implementation of the *Report on recommendations for collaboration structures and processes development between universities and healthcare institutions*. That is, questions concerning processes and structures of collaboration at various levels. In addition, questions were aimed at determining the impact of the results of the AccelEd project related to the outcomes of service design projects, comprehensive systematic review training, access to the CINAHL database, support for the sustainability of the JBI Affiliated center, and the nursing science repository.

To support the interview data, the online survey, conducted in May 2023, concerning the sustainability and implemented changes after *the Report on recommendations* as well as institutional qualitative and quantitative data collected yearly (2020-2023) from the Kazakhstani universities during the project were used in the analysis. The survey and the follow-up data were collected from seven (7) medical universities in Kazakhstan: Astana Medical University (AMU), Karaganda Medical University (KMU), Semey Medical University (SMU), South Kazakhstan Medical Academy (SKMA), Kazakh National Medical University (KazNMU), West Kazakhstan Medical University (WKMU), and Nazarbayev University School of Medicine (NUSOM). The online interviews were conducted with five (5) project partner universities (AMU, KMU, KazNMU, NUSOM, and SKMA) in September 2023.

3 RESULTS

3.1 Strategy level collaboration in nursing development

This chapter will discuss Medical Universities' (MU) collaboration in nursing at organizational level with Ministries, National Research Center for Health Development named after Salidat Kairbekova (NRCHD), and professional associations, as well as between the educational institutions.

Ministerial level of collaboration is connected merely in the frame of preparing structural changes and executing strategy. For example, KMU and NUSOM take part on developing the new concept of Nursing education. Collaborative activities with ministries, such as Master Classes, workshops, and projects, were reported at least between NUSOM, SKMA, AMU, and KMU. Other mentioned collaboration forms included round table discussions in nursing (SKMA), and collaboration with the Ministry of Healthcare in developing nursing (KazNMU).

When it comes to the **National Research Center for Health Development named after Salidat Kairbekova (NRCHD)** (former Republican Center for Healthcare Development, RCHD), few universities reported current collaboration in the field of nursing, and most did not. SKMA has nowadays only official correspondence with the NRCHD. Previously the collaboration was more intensive, yet due to changes in the personnel and organization, there is no collaboration at the moment for the development of nursing practice, education, or research.

The interviewed Kazakhstani MUs did not report systematic initiative towards collaborating with the **national professional associations for nurses,** for example Paryz, on the issues regarding nursing education and development. Nevertheless, some collaboration was reported, for example, SKMA had received help from Paryz in reviewing their educational program, and AMU mentioned informal collaboration with Paryz in organizing a conference with them. KMU reported that they did not have collaboration with nursing associations as nursing associations in Kazakhstan are not very active towards universities, however, they mentioned collaboration with a regional nursing association Shapagat.

Moreover, there is active collaboration between **Kazakhstani MUs and representatives of heads of nursing education departments from MUs and colleges**. Furthermore, SKMA and KMU participants pointed out that every Kazakhstani MU except NUSOM are members of the Committee of groups of managing education programs (ГУП) and Republican educational and methodological association (РУМО). There are three committees: one on research, second on clinical practice, and third on education process to discuss nursing education and exams. KMU also mentioned work focusing on developing a roadmap with representatives of the nursing, where they have received many ideas for nursing development from colleagues. During the interview, KMU participants had a thought of inviting NUSOM experts in that committee to exchange views and thoughts to strength the collaboration between medical educational organizations. KazNMU noted that their collaboration between MUs is mainly informal.

3.2 Current collaborative practices in nursing between Medical Universities and the local stakeholders of healthcare

The interviewed Kazakhstani MUs have various collaborative practices in nursing with local healthcare stakeholders. These collaborative practices mostly concern nursing students' clinical practice, theses, education program development, and nursing profession development. In Table 1, the most common forms of collaboration with healthcare institutions of seven MUs are presented. Mentoring nursing students in clinical practice was the most common form of collaboration. More than half of the MUs also noted such forms of cooperation as launching nursing research, finding dissertation topics and practical clinical problems to be addressed, and participation in designing courses and curricula. Less than half of the MUs collaborate by identifying common nursing development projects, developing clinical guidelines for nursing, and including nurses in school meeting. Only one of the universities have included nurses on the scientific council.

Table 1. Forms of cooperation between practical healthcare and medical universities on nursing education and development reported by seven Kazakhstani medical universities.

Forms of collaborations	f	%
Mentoring nursing students in clinical practice	6	86
Launching nursing research	5	71
Finding dissertation topics and practical clinical problems to be addressed	4	57
Designing courses and curricula	4	57
Identifying common nursing development projects	3	43
Developing clinical guidelines for nursing	3	43
Nurses are included in school meeting	2	29
Nurses are on the scientific council	1	14

From the interviewed five MUs, slightly more than half (3/5) have formalized their collaboration in writing, either as a contract, agreement, or a memorandum of agreement. Only one of the universities has set shared aims, vision, and goals for nursing development and collaboration with clinical practice. In addition, meetings are arranged with a clinical practice partner mostly quarterly or ad hoc. Typically, the collaboration is still at individual level and not formalized. The medical universities do not share a common opinion on whether there would be a need to formalize collaboration with healthcare institutions.

Collaboration with healthcare organizations is built on constant contacts of teaching staff with nurses who are involved in educational activities as mentors for students' clinical practices in different clinics and hospitals, and based on the interviews, there are no major problems in the cooperation concerning nursing students' practices. NUSOM, KMU, and KazNMU have a university hospital, therefore collaboration concerning specialized health care areas is easy to arrange, however the linkage to Primary Health Care seems practically missing. In addition, MUs sign agreements on collaboration with other hospitals/clinics. KazNMU pointed out that they are mainly working with the university hospital/clinics to develop nursing and that they collaborate with the chief nurses' council, chaired by the chief nurse of Almaty city, in developing regulations and changes related to extended practice nurses and in developing guideline on how to implement the position of an extended practice nurse. They invite her, the chief nurse of the city, on conferences and workshops, and moreover, she is an advisor for the nursing department, although she is not a member of any of the committees. In addition, NUSOM has provided trainings for nurses and participated in organizing journal club based on Joanna Briggs Institute approach.

The quality of the collaboration between MUs and healthcare institutions in nursing students' clinical practice was evaluated annually during the AccelEd project on a scale from 1 (the worst) to 10 (outstanding) by asking local chief/head nurses (n=25in 2022 to 2022 and n=27 in 2023) and the deans/ heads of nursing education (n=7). By the chief nurses, the quality of the collaboration in organization of the nurse students' clinical practice with healthcare institution was evaluated to be improved from good (7) to very good (8). The low quality of collaboration in NUSOM can be explained as they did not have nursing students in clinical practice before 2022. See Figure 1. There is discrepancy in the evaluation of the quality of collaboration between MUs and healthcare institutions. The deans of nursing evaluated the quality of collaboration to be at higher lever. See Figure 2.

Figure 1. The quality of collaboration between Kazakhstani medical universities and healthcare institutions in nursing student's clinical practice in 2020-2023 as evaluated by chief nurses (n=25) on a scale from 1 (=the worst) to 10 (=outstanding).

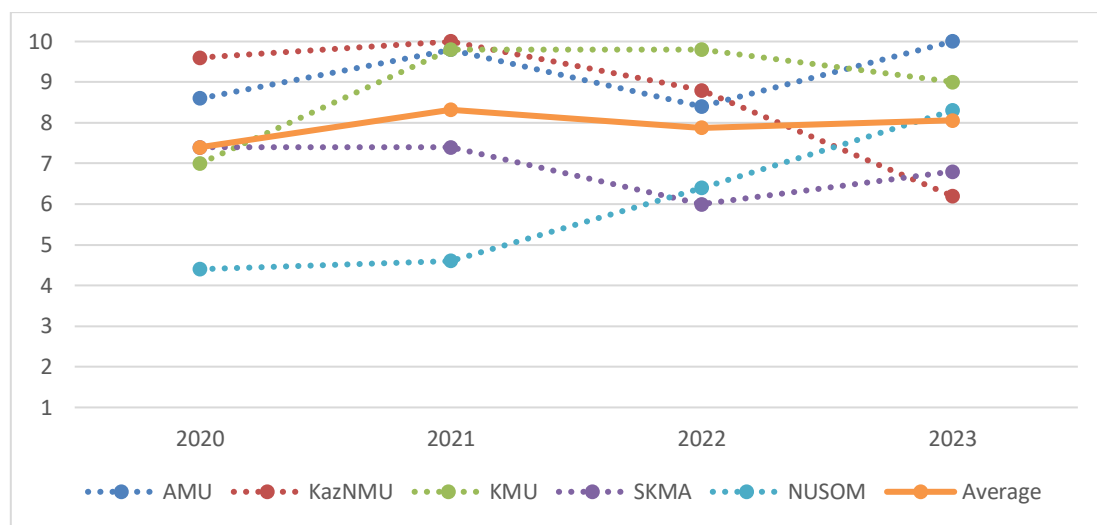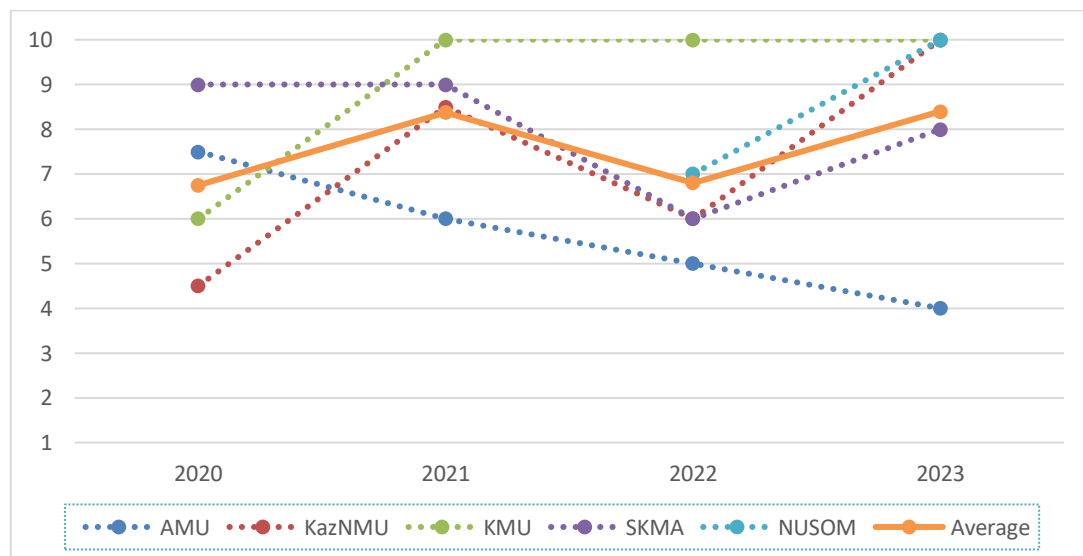*Figure 2. The quality of collaboration Kazakhstani medical universities and healthcare institutions in nursing student's clinical practice in 2020-2023 as evaluated by deans of nursing (n=7) on a scale from 1 (=the worst) to 10 (=outstanding).*

In addition, students' research projects (capstone) and dissertations (thesis) are conducted in collaboration with healthcare institutions, and for instance, head and chief nurses are constantly invited to bachelor theses defense committees, and SKMA noted that the goals of collaboration depend on the projects of students. However, not all universities have included implementation of research to their bachelor curriculum as obligatory course. KMU and AMU noted that nurses are members of the school of nursing meeting and quality assurance committees' meetings of nursing department.

Communication with employees was also mentioned as a factor in nursing education development. For example, KMU listens to healthcare managers' visions on what kind of nurses they would want to have. Moreover, SKMA organizes open doors day, meeting with the graduates and employees. This has been found very functioning for receiving immediate feedback through an informal way and has led to changes.

The quality of collaboration between MUs and practical healthcare in development and implementation of syllabuses and nursing education content was evaluated by the local chief nurses (n=25 in 2020-2022 and 27 in 2023). On average, the quality of collaboration, according to the local chief nurses, has remained good (7) from 2020 to 2023, and in 2021 and 2022 it was rated even very good (8). In AMU and NUSOM, the evaluated quality level had increased from 2020 to 2023, while in SKMA and KazNMU there has been a decrease from very good (8) and excellent (9) in 2020 to above average (6) and (5,6) in 2023. See Figure 3.
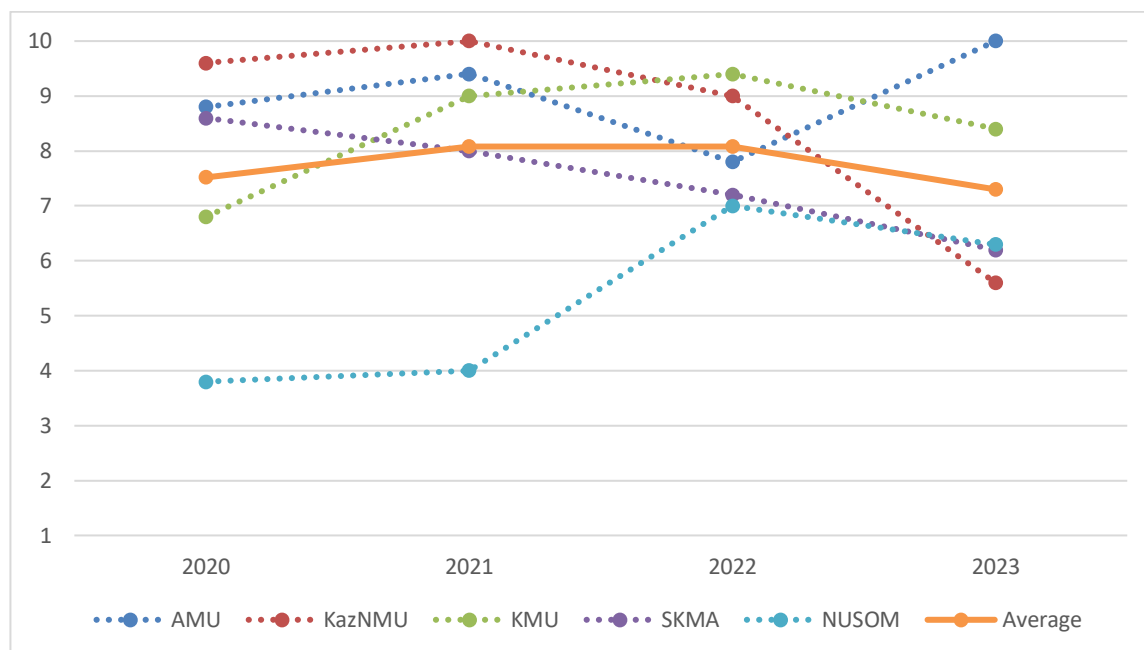
Figure 3. The collaboration between Kazakhstani medical universities and practical healthcare in syllabus development and content of nursing education in 2020-2023 on a scale from 1 (=the worst) to 10 (=outstanding) evaluated by the local chief nurses.

Moreover, the preparedness rate of healthcare institutions (chief nurses, coordinators, senior nurses) on implementing research and development was evaluated by the deans/heads of nursing education (n=7 in 2020-2021, n=6 in 2022 and n=5 in 2023). On average, the perceived preparedness increased from average (5) in 2020 to above

average (6) in 2023. In KMU, the nursing deans and department head evaluated the preparedness positively to be at very good or outstanding level during the project time. SKMA evaluated it to be at good level. See Figure 4.

Figure 4. The preparedness rate of healthcare institutions on implementing research and development projects on a scale from 1 (=the worst) to 10 (=outstanding) in 2020-2023 according to the Kazakhstani medical universities' deans/heads of nursing education.

3.3 Capacity of the medical universities' nursing departments on nursing research collaboration to foster evidence-based practice

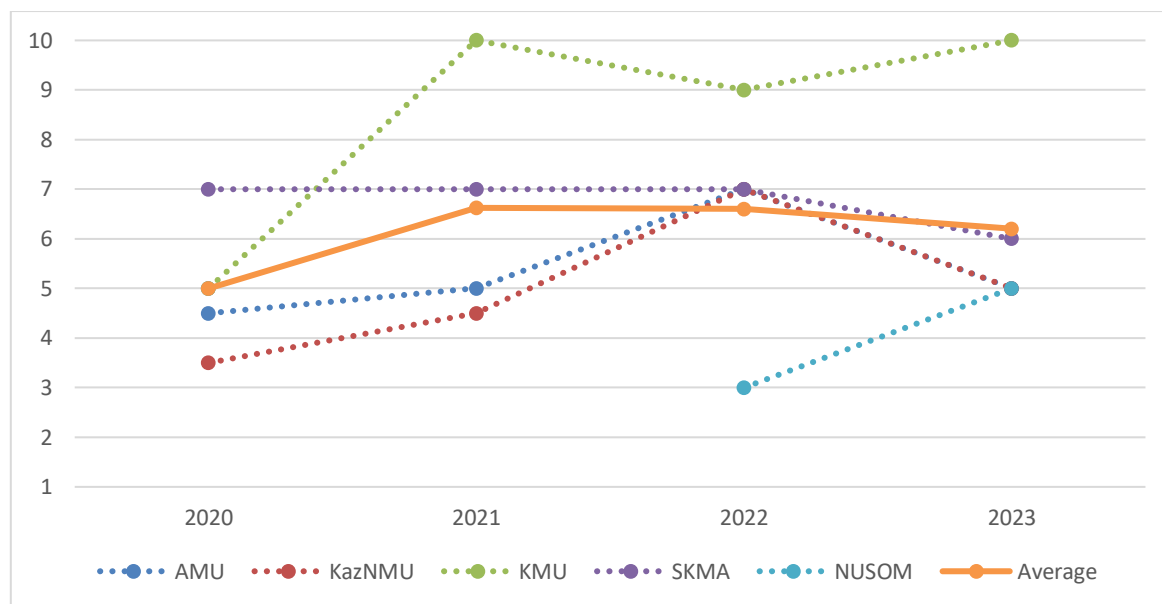Capacity of the MUs' nursing departments on nursing research collaboration to foster evidence-based practice was evaluated through the current number and quality of staffing in the nursing departments as well as the capacity of the nursing departments' staff to conduct nursing research that benefits the healthcare.

The number of staff in the nursing faculties and departments has been changing every year depending on the number of students and the grants allocated for nursing education on bachelor level. AMU and KMU have nursing education school with dean offices. AMU has 13 persons in their nursing staff, eight of which work part-time. There are also Master's in nursing among the staff, however the professor is a Doctor of Medical Sciences. In KMU, the number of teaching staff is 12. Six of them have a master's degree, although correspondingly to AMU, the master's degrees of the staff are not all from nursing. However, all have received their basic education (bachelor) in nursing. In KazNMU, the bachelor-level nursing education is organized in the department of nursing and led by a head of program with a degree in public health. The professors of the department do not have nursing background - they are physicians. At present, they have 20 assistants, all of whom have a master's degree. Half of the assistants had graduated from the master's program in nursing last year. Additionally, KazNMU tries to engage primary health care (PHC) nurses who have degrees and are working in clinical practice in their education process. In SKMA, nursing is being taught in the department for emergency medicine and nursing; there is no separate department for nursing due to lack of students. There are six teachers in nursing, all of whom all have a master's degree in nursing. NUSOM

has several programs on nursing. There are five nursing teachers in the NUSOM staff, four with a PhD and one with a master's degree, and one without nursing degree.

There are challenges in the workload of the teachers, for example lack of time and difficulties to combine work in practice and teaching, however improvements have been made in **the research opportunities of the faculties.** In KMU, the staff workload is divided by lecturing, education, science, and research, and starting last year, they also have teacher-researchers, who have substantial part of their workload dedicated to research. In SKMA, efforts to enhance staff's research activity have been made by improving management, and in addition, the academy is paying for the research publication fees for the staff. NUSOM prioritizes in nursing research, which accounts for 45-50 % of working time. AMU has internal grant funding for research projects to stimulate staff to improve the research opportunities. According to the quantitative follow-up data of the AccelEd project, only NUSOM and SSMU have employed nurse-researchers (four in NUSOM, one in SSMU in 2023) who either hold a PhD or are employed as researchers. In 2020, there were only three in total, all at NUSOM. The number of scientists if the field of nursing having other background than nursing has, however, increased more in 2020-2023. In 2020, only four were reported (three in KMU and one in NUSOM), whereas in 2023, the total number was 12 with all MUs except AMU reporting having scientists in the field of nursing with other background than nursing.

The capacity of the nursing departments' staff to conduct nursing research that benefits the healthcare has been improved by **the systematic review** training organized during the AccleEd project. There were 29 participants from SKMA, AMU, KNMU, KMU, NUSOM, SMU and WKMU in the training. In SKMA, the staff that participated in the training is now applying the knowledge in their research activities and they are also trying to disseminate their knowledge on systematic review practices to teachers and staff in other departments as well. Systematic reviews have also been conducted in KMU. In KazNMU, the persons that participated in the training are no longer working there, however the nursing department still has the materials from the training to use. NUSOM staff pointed out that they planned to write an integrative review by using JBI methodology, while AMU has not decided their plans on writing systematic reviews.

Access to **the CINAHL (Cumulative Index to Nursing & Allied Health) database**, the largest database for full-text nursing and allied health resources, was provided to the partner universities for the project time by the AccelEd funding. The access was provided for the MUs to have access to current research results to be used in theses writing, research, and systematic reviews and to have understanding on contemporary nursing research. Currently, NUSOM staff has full access to CINAHL. KazNMU has prepared an application to prolong their CINAHL subscription, but yet no university has purchased further access to CINAHL after their access during the AccelEd project has ended.

The two Master Classes on **service design** that were organized in the AccelEd project were very liked and influential among the participating nursing departments' staff and nurses from clinical practice (Hopia et al 2022). All universities, except KazNMU, reported that they had added the service design theme in their teaching in nursing education and by that disseminating the knowledge to students and nurses from healthcare institutions. For example, KMU has added the topic of service design to their bachelor students' syllabus, SKMA included service design particularly in management in nursing studies, and AMU and NUSOM have organized workshops on service design for students and nurses.

The skills of MUs to implement nursing research and development projects were evaluated annually on a scale from 1 (the worst) to 10 (outstanding) by asking the deans/ heads of nursing education (n=7 in 2020-2021, n=6 in 2022 and n=5 in 2023). On average, the deans' and department heads' perception on the skills improved from above average (level 6) in 2020 to good (level 7) in 2023. KMU showed the most progress by improving from average (5) in 2020 to very good (8) in 2023, reaching even outstanding (10) in 2021 and 2022. See Figure 5.
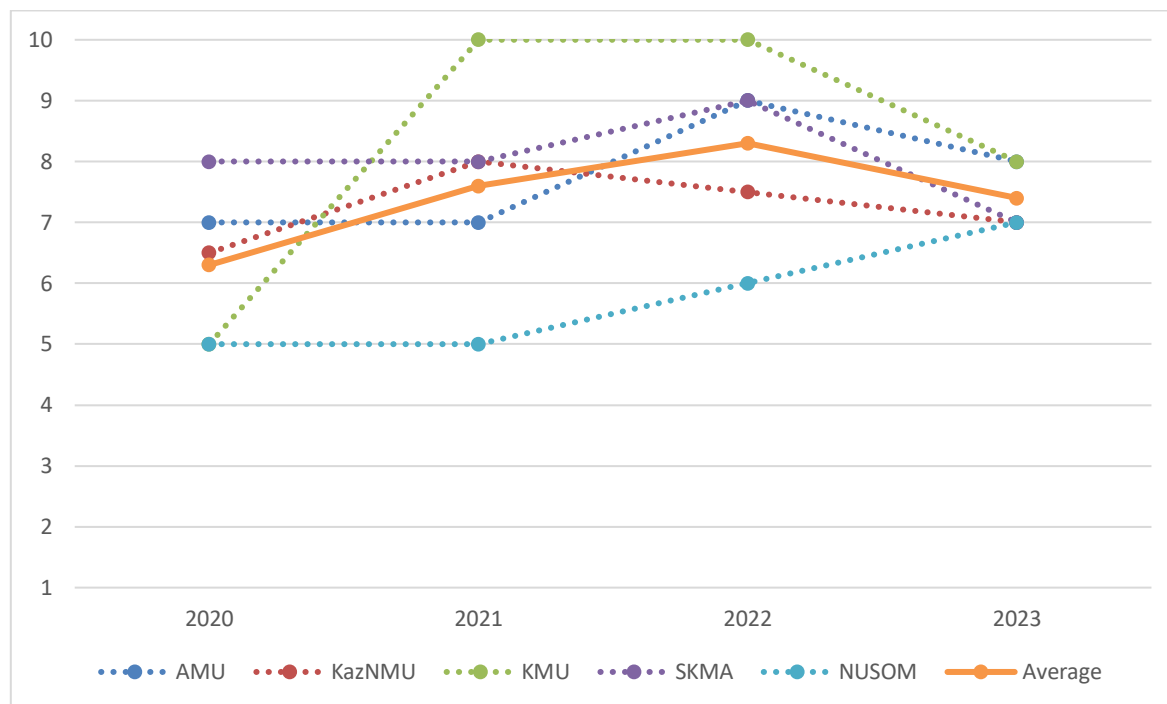

Figure 5. Kazakhstani MUs' skills to implement nursing research and development projects on a scale from 1 (the worst) to 10 (outstanding) according to the Kazakhstani medical universities' deans/heads of nursing education in 2020-2023.

3.4 Outcomes of collaborative practices in nursing research

During the AccelEd project, the number of **nursing-specific scientific publications by the Kazakhstani medical universities staff members in international journals** has increased. In 2020, the Kazakhstani universities had published one article, whereas in 2022, the number was five. In October 2023 there is three (3) publications in international peer reviewed journals (see figure 6). From the participating universities, especially AMU (2), KMU (3) and NUSOM (3) have been active in international nursing publications (see annex 1 for the list of publications). In addition to these publications concerning nursing in Kazakhstan, NUSOM staff has published several publications on nursing issues (n=?) in high impact journals. It can be noted that to reach the high impact journals international collaboration has been also one of the facilitating factors. The international journals chosen for publication have different CiteScore rates, however one of the journals, *Macedonian Journal of Medical Sciences*, does not have CiteScore or any indexes in Scopus. From the international journal articles two are reviews and one on service design, so it can be concluded that the project outcome is that Kazakhstani MU faculty staff have gained knowledge and skills to reach international level in nursing research.

The number of nursing-specific scientific publications in Kazakhstani journals has increased (0 in 2020, 16 in 2022), KMU having the highest number (11) in 2022. The most articles were published in *Medicine and Ecology* (a KMU journal). All data is presented below in the Figure 6 and in Annex 1. The published research has been mostly covering topics on the palliative care, cardiac rehabilitation, primary health care and management of quality of life, education, and self-management. The methodological approaches have concentrated on quantitative research, and qualitative research methods have been used little. There are also a couple of reviews, however no systematic reviews.
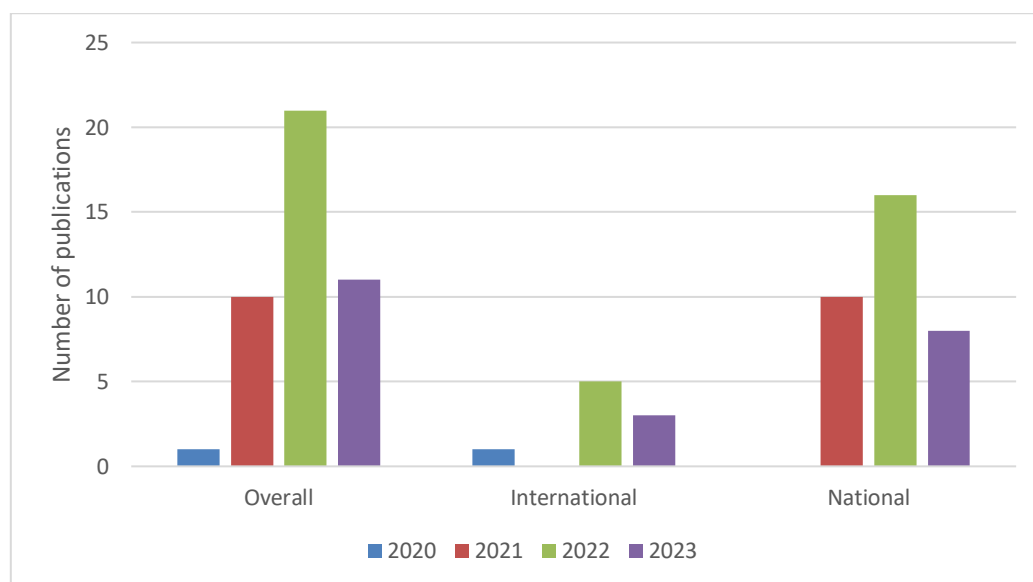
Figure 6. Nursing specific publication numbers in national and international journals in 2020- until October 2023 by five medical universities' staff in Kazakhstan.

Progress can also be seen in the amount of **research projects in nursing** by the Kazakhstani medical universities, although there has been a decrease in the number of **international research projects** from two reported projects, namely ERASMUS+ CBHE project ProInCa and AccelEd in 2020 to one project in 2023. The number of conducted collaborative **national research projects** has, however, increased due to the service design projects (7) conducted in

the frame of the AccelEd project. There were 17 projects in 2023, NUSOM conducting the majority of the research and development projects in nursing (11 in 2023). See annex 2 for the list of the projects.

3.5 Prospects of sustaining new collaborative structures and permanent practices

The new collaborative structures established in the frame of the AccelEd project are a JBI Affiliated Group and a National Repository for Nursing.

When an organization becomes a member of the **Joanna Briggs Institution Collaboration (JBIC)** (see https://jbi.global/), a global collaborative evidence network in healthcare, it is designated as an Affiliated Group. These groups are dedicated to advancing and endorsing the utilization of evidence synthesis, dissemination, and implementation. They consist of proficient clinicians, academics, and scientists with a specific focus, who put JBI's methods and methodology into practice within their respective areas. While JBI Affiliated Groups do not qualify for financial support from JBI, they do have access to JBI's resources and are encouraged to participate in the annual general meeting of the JBIC.

Furthermore, all JBI Affiliated Groups can achieve the status of a Centre of Excellence if they meet the competencies and performance criteria established by JBI, typically after a 12-month period. These Centers have solidified their reputation as esteemed hubs of expertise, where they successfully execute top-tier programs for evidence synthesis, dissemination, and implementation. They are officially acknowledged by JBI as entities that offer leadership, assistance, direction, and mentorship to emerging groups, all while meeting the necessary competencies and performance benchmarks. Notably, JBI Centers of Excellence are entitled to receive financial support from JBI, specifically to facilitate the travel of their Center Director to attend the annual in-person JBIC meeting.

The JBIC Activity Matrix empowers Affiliated Groups and Centers of Excellence to accumulate points through a range of essential and optional activities throughout their contractual commitment with JBI, aligning with the specific Key Performance Requirements for each entity. To attain and uphold JBI Centre of Excellence status, a minimum of 60,000 points must be accrued by the conclusion of the three-year entity agreement. For JBI Affiliated Group membership, a minimum of 30,000 points is required by the end of the five-year entity agreement to obtain and maintain this designation.

The JBI Affiliated Group center, namely the Kazakhstan Centre for Evidence-based Nursing, was established in June 2023 and it will focus on conducting systematic reviews and evidence implementation in the field of nursing on the relevant topic areas of Kazakhstan's healthcare. In addition, the Center works to ensure sustainable collaboration between MUs and healthcare organizations to implement evidence-based nursing. The JBI Affiliated Group includes nursing experts from MUs throughout Kazakhstan: Nazarbayev University, Astana Medical University, South Kazakhstan Medical Academy, Kazakh National Medical University named after S. D. Asfendiyarov, and Karaganda Medical University. In addition, the Kazakhstan Centre for Evidence-based Nursing closely cooperates with stakeholders from healthcare organization, such as the National Research Oncology Center and University Medical Centre in Astana. Karaganda Medical University is the host-coordinating institution, however, there are deputy directors for evidence implementation and systematic reviews from Nazarbayev university and the National Research Oncology Centre.

In the first year, the opening year, the Kazakhstan Centre for Evidence-based Nursing carries out an implementation project on pain management by postoperative nurses. Recruitment of patients and development of the next steps to

evidence implementation are ongoing in October 2023. In addition, the Affiliated Group is also in the process of developing a systematic review protocol on the effectiveness of telemedicine and nursing roles in type 2 diabetes care. Further registration of the protocol and writing of the systematic review will be implemented in November 2023. Besides, the center plans to organize events to disseminate the mission of the JBIC, and conduct trainings and seminars in the future. All these activities are needed to earn the required points to open the JBI Center of Excellence.

The creation of the Affiliated Group will in the future have a major impact on the development of evidence-based nursing and increased collaboration between healthcare practice and universities. However, here arises also the question of ensuring the sustainability of the Affiliated Group. The aim is to further develop the Affiliated Group to become a JBI Center of Excellence in Kazakhstan, which requires active work and willingness to improve. In this regard, it is important that the MUs ensure and maintain the functioning of the center through financial and human resources.

In addition, a **National Repository for Nursing** is being established in the frame of the AccelEd project to build common platform for continuing cooperation. In the repository, staff from clinical practice can search research on challenges and issues of interest that they encounter regularly in nursing practice, and staff from MUs will gain valuable information about current research topics. The repository is placed on the KMU server, and it will include publications and theses of bachelor, master and PhD students from all universities in Kazakhstan, where the educational program "Nursing"/ "Nursing Science" is being implemented. Besides, publications and articles by researchers and staff in the field of nursing science will also be included. The repository content will be classified into publications and abstracts according to the level of the educational program and will be freely available. KMU supports the ethical principles and principles of open science, and researchers, students, and staff will be asked to review and provide informed consent to publish the papers in the public domain. The introduction of a repository will expand the doors of open science and help resolve issues of plagiarism, conducting similar research, etc. As part of a AccelEd project meeting in Kaunas, Lithuania in September 2023, it was determined that MUs in Kazakhstan will include in their academic policy of medical universities the mandatory publication of diplomas and theses of students at various levels of study. It is worth to note that publishing a PhD dissertation in the public domain is already an ongoing practice in Kazakhstan, and all PhD graduates publish their dissertations on the website of the National Scientific Portal of the Republic of Kazakhstan (https://nauka.kz/page.php?page_id=6&lang=1#:~:text=Национальный%20научный%20портал%20Республики%20Казахстан).

Unfortunately, **the Center of Nursing Excellence of Kazakhstan (CNE)** created within the framework of the ERASMUS+ CBHE ProInCa project is very poorly integrated into medical universities in Kazakhstan today. As part of the survey, some universities responded that they use the center as part of nursing courses among students, and one university also uses it to identify regional problems. The center is mainly used passively within meetings to communicate its existence. Some universities, like SKMA, have been using it actively, and the outcomes in better academic-practice collaboration are evident. The main reason for the poor integration of the Center in educational and healthcare organizations in Kazakhstan is poor coordination and commitment to ensuring the functioning of the center by the leading MU.

4 SHORT- AND LONG-TERM IMPACT
4.1 Short-term impact

The short-term impact expectation concerning systematic reviews, *Faculty academic staff and PhD students from KZ universities are fluent in and conduct a Systematic Review of Nursing,* was quite well met. The systematic review training was successfully organized with several participants from each project partner university, and the participated MUs reported that the gained systematic review knowledge had been applied in their research activities which has been evidenced by the publications. However, in KazNMU for example, the persons that took part in the training were no longer working there in the end of the project, which has probably hindered the expected increased knowledge of their academic staff in systematic review.

Based on the results of this report, the short-term impact expectation concerning service design, *Improving and expanding knowledge, and instilling skills in the field of service design in healthcare (nursing services),* set for this project was well met. The participated MUs' staff members reported being satisfied with the service design training and they had, in many cases, added the theme to their nursing education or had applied service design in other ways. In addition, AMU has been able to report the results of service design project in international journal. Therefore, it can be assumed that there is now increased capacity of these MUs' nursing departments' teaching staff on service design.

4.2 Long-term impact

The long-term impact expectations of the project include *Improving collaboration structures and processes between universities and healthcare institutions in Kazakhstan.* Based on the results of this report, the current collaborative practices in nursing between Kazakhstani MUs and practical healthcare concern students' practices, theses, and education development. These are all important forms of collaboration, however, there is still room for improvements especially in research collaboration.

Another long-term impact expectation was *JBI collaboration centre will be established.* The JBI Affiliated Group was successfully established in June 2023 with focus on methods for systematic review and evidence implementation in the field of nursing. This provides access to scientific resources for the participating Kazakhstani MUs, and the purpose is to enhance evidence-based nursing and increase collaboration between healthcare practice and universities in the future. The next challenge is to make the Affiliated Group a sustainable structure so that its impact can be seen in practice in the long term.

5 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this report was to describe and analyze the existing state of permanent practices in nursing research collaboration of Kazakhstani universities and practical healthcare institution.

Strategy level collaboration of MUs in nursing at organizational level with Ministries, National Research Center for Health Development named after Salidat Kairbekova (NRCHD), and professional associations, as well as between the educational institutions could be more intensive. The results showed that collaboration between Kazakhstani MUs and national professional associations for nurses as well as NRCHD is limited and underused. Collaboration with the Ministry of Health is primarily focused on preparing structural changes and executing strategy and orders. Overall,

there is room for further strengthening and formalizing these partnerships to enhance nursing education, practice, and research in Kazakhstan.

Collaborative practices in nursing between Kazakhstani MUs' nursing faculties and local healthcare stakeholders exist, but the extent and formalization of these practices vary among institutions. The most common forms of collaboration include mentoring nursing students in clinical practice, launching nursing research, finding dissertation topics, and designing courses and curricula. These are evaluated to be at good level. Collaboration is often individual-level and not formalized. Shared aims, vision, and goals for nursing development and collaboration with clinical practice are lacking. Moreover, regular communication channels should be established between MUs and healthcare institutions, involving nurses, managers, and other stakeholders.

Collaboration in nursing research to foster evidence-based practice is still very limited, with challenges in staffing and workload. Academic-clinical partnerships and their shared resource utilization can enhance workforce development and clinical research application, further advancing evidence-based nursing practice (Albert et al. 2019). The capacity of the nursing departments' staff to conduct nursing research has been improved through systematic review training organized during the AccleEd project. The Master Classes on service design organized in the AccelEd project have also been influential, and most universities have incorporated service design themes into their nursing education. Access to the CINAHL database, which is used for finding nursing research, has been provided to partner universities for the project, however decisions from the universities to invest in international databases are missing. Only NUSOM has access to CINAHL to conduct international level research. According to the perceptions of university deans and nurses, there has been an increase in skills in nursing research and project development. Research partnerships between academic and clinical institutions could benefit both the clinical and academic partners; the academic partner can provide access to recourses in academic settings, such as library services or staff with research expertise, and the clinical institution can provide unique recourses beneficial for research, such as medical records data and equipment (Albert et al. 2019). Therefore, formalized and permanent research collaboration practices should be encouraged in Kazakhstan, and the existing collaborative practices and connections provide pathways to start developing these.

The results on the **outcomes of collaborative practices in nursing research** show that there has been a slight increase in the number of nursing-specific scientific publications by Kazakhstani medical universities in international journals. It can be noted that international collaboration in research has been also one of the facilitating factors in high impact journal publications. The number of collaborative national research projects has also increased, partially driven by service design projects within the AccelEd project. NUSOM had the majority of national research projects in 2023. These outcomes indicate that collaborative practices in nursing research have led to increased research productivity and engagement among Kazakhstani medical universities. The focus on nursing-specific topics and the involvement of international and national collaborations have contributed to the advancement of evidence-based practice and the development of nursing research capacity in Kazakhstan.

The prospects of sustaining new collaborative structures and permanent practices include a JBI Affiliated Group and a National Repository for Nursing, which hold great potential for enhancing evidence-based nursing and increasing collaboration between healthcare practice and universities in Kazakhstan. The Affiliated Group is closely cooperating with stakeholders from healthcare organizations, including the National Research Oncology Center. This collaboration aims to enhance the integration of evidence-based nursing practices into healthcare settings. The National Repository for Nursing has been established to provide a common platform for continuing cooperation between clinical practice and universities. The repository, hosted on the KMU server, will include publications and theses from bachelor, master, and PhD students in nursing programs across all universities in Kazakhstan and it will

be freely accessible. It is crucial to ensure the sustainability of these structures through financial and human resource support.

The Center of Nursing Excellence of Kazakhstan (CNE) created within the ERASMUS+ CBHE ProInCa project is currently poorly integrated into MUs in Kazakhstan. The lack of coordination and commitment to ensuring the proper functioning of the center is identified as the main reason for its poor integration into educational and healthcare organizations in Kazakhstan.

Based on the findings of this report, it is evident that Kazakhstani MUs academic-clinical collaboration in nursing can be regarded as moderately structured partnerships developed mainly ad hoc to meet specific or situational needs in nursing education and research.

Recommendations for:

The Ministry of Health and Ministry of Science and Higher Education:

1. As staffing is dependable on the grants and funds for nursing education and there is a high risk of lost capacity of the staff and interruptions in research and development processes due to staff turnover, it is recommended that; the Ministry of Health and Ministry of Science and Higher Education should provide sustained support and stability for development of nursing by a long-term plan of higher education nursing workforce. Increasing the number of grants for bachelor's and master's degrees in nursing would lead to higher quality of nursing leadership, management, teaching and research.
2. It is recommended to create structures that support the collaboration between medical universities and healthcare institutions to develop evidence-based nursing. This can be achieved by developing policies and competitive grants that promote research collaboration in nursing by national and international consortiums.

Medical Universities:

3. It is recommended that nursing departments and faculties within medical universities ensure and sustain the development of advanced level of nursing research and collaboration competency among their staff for post-graduate programs. This can be achieved through systematic networking with national and international nursing community in nursing science, research, training programs development, and workshops focused on research methodologies and evidence-based practice.
4. It is recommended to establish formal collaboration agreements with local healthcare institutions, especially with primary health care that contain mutual goal setting for research and development of evidence-based nursing practice. This could enhance the effectiveness of collaboration.
5. Additionally, it is vital to maintain funding and resources for international collaborations and nursing-specific databases, such as CINAHL, and the JBI Affiliated Group and the National Repository for Nursing should be supported to ensure their long-term sustainability.

Healthcare institutions:

6. It is recommended for healthcare institutions to work towards mutual goal setting for the development of nursing in Kazakhstan in tandem with medical universities. In addition, nurse leaders and managers should actively engage in research collaboration with universities and seek opportunities to strengthen academic-clinical partnerships. Through clear goal setting, shared development projects and research could be

launched. Regular communication with MUs and involving chief nurses, nurse managers, and nurses would support this.

7. It is recommended to formalize research collaboration practices between medical universities and healthcare institutions that would ensure continuity and direction to the collaboration. Partnerships could provide access to resources (i.e., databases) and expertise that can enhance research capacity and evidence-based nursing practice. This can be achieved by organizing service design projects and establishing research committees and scientific boards.

In conclusion, the findings of this report highlight the importance of research collaboration in nursing and the potential for enhancing evidence-based practice in Kazakhstan. By implementing the recommended actions, the nursing profession in Kazakhstan can further develop its research capacity and contribute to improved healthcare outcomes. In order, to meet the national needs for nursing healthcare workforce with up-to-date competency to secure universal health coverage and safe evidence-based practice it is crucial to enhance the academic-practice collaboration.

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ANNEXES

Annex 1. List of scientific nursing publications published in 2020-2023 from the Kazakhstani medical universities participating in the AccelEd project.

	MU	Publication title	Author	Journal	Year
1.	**NUSOM**	**Evidence-based inpatient postnatal care among women in a national hospital in Kazakhstan: a best practice implementation project. * doi: 10.1097/XEB.000000000000023**	**Colet, P., Aimagambetova, G., & Kossybayeva, K.**	**JBI Evidence Implementation 18(3):318-326**	**2020**
2.	AMU	Assessment of the quality of life of patients with arterial hypertension during the spread of coronavirus infection (literature review)	Nagashybek G.S., Zhunusova D.K., Derbisalina G.A.	Electronic scientific journal BIOLOGY AND INTEGRATIVE MEDICINE No. 6 November - December (53) 2021 p. 222-226	2021
3.	AMU	Assessment of the quality of life of patients with bronchial asthma during the spread of coronavirus infection (literature review)	Amangeldieva D.E., Zhunusova D.K., Derbisalina G.A.	Electronic scientific journal BIOLOGY AND INTEGRATIVE MEDICINE No. 6 November - December (53) 2021 p. 25-29	2021
4.	AMU	Development of the Institute of Palliative Care as a separate branch in medicine	S.R. Akshulakova	Journal "GLOBAL SCIENCE AND INNOVATION 2021: CENTRAL ASIA"	2021
5.	AMU	Knowledge and skills of nurses in providing palliative care to patients at the primary care stage in foreign countries (literature review)	Masharipova AV, Nurgalieva NK, Derbisalina GA	Electronic scientific journal BIOLOGY AND INTEGRATIVE MEDICINE No. 6 – November-December (53) 2021, p.176-183	2021
6.	AMU	Implementation of an international project "improving nursing At the master's and phd doctoral level In the higher education system of Kazakhstan – Acceled"	Bukeeva Zh, Utenova G, Doskeldinova A, Masharipova AV, Derbissalina GA, Zhunussova DK, Batarbekova Sh	Electronic scientific journal BIOLOGY AND INTEGRATIVE MEDICINE No. 6 – November-December (53) 2021, p.44-53	2021
7.	SKMA	Analysis of emergency medical calls for patients with chronic diseases	Seidakhmetova A.A., Rafikova G.G., Tleubergenova A.D., Kalmenov N.D., Khodzhakulova U.A.	Peer-reviewed medical scientific and practical journal "Science and health care" No. 4 (21), p. 105-107, 2021	2021
8.	SKMA	Status and analysis of the work of the emergency medical service	Seidakhmetova A.A., Rafikova G.G., Sultanova	Peer-reviewed medical scientific and practical	2021

			Zh.S., Tleubergenova A.D., Kalmenov N.D., Khodzhakulova U.A.	journal "Science and health care" No. 4 (21), p. 107-108, 2021	
9.	SKMA	Concomitant diseases of the cardiovascular system in patients with chronic obstructive pulmonary disease	Kauyzbay Zh.A., Seydakhmetova A.A., Ospanbek A.K., Khodzhakulova U.A., Musaeva A.G.	Herald of "South Kazakhstan Academy of Medicine" №4 (94), p. 125-129, 2021	2021
10.	SKMA	Post-Covid syndrome in comorbid patients*	Seydakhmetova A.A., Kauyzbay Zh.Ә., Khodzhakulova U.A., Yusupova Sh.D., Ospanbek A.K.	Central Asian Journal of Medical and Natural Sciences ISSN: 2660-4159, p. 5-13	2021
11.	SKMA	The effect of atropine on the bispectral index of response to endotracheal intubation during anesthesia with propofol and fentanyl	Auezkhanovyna D., Yunusmetov E.Sh., Aldesev A.A.	Herald of "South Kazakhstan Academy of Medicine" №4 (94), volume VII, с. 30-31, 2021	2021
12.	KMU	HIV- infected patients medical and social support	Khamidullina L.M., Seytbaeva M.A., Amirbekova M.S., Kispaeva T.T.	Medicine and ecology No. 2. - P. 42-46.	2022
13.	KMU	The role of nursing staff in the prevention of obesity in children and adolescents	Zhakupova A.S., Kalbekov Z.A., Amirbekova M.S., Kispaeva T.T.	Medicine and ecology No. 2. - P. 32-36.	2022
14.	KMU	The role of nursing staff in rheumatology patients	Gazizova E.R., Seytbaeva M.A., Amirbekova M.S., Kispaeva T.T.	Medicine and ecology No. 1. – P.45-48.	2022
15.	KMU	The impact of mentoring on improving the professional skills of nursing staff	Zhanseitova D.Zh., Seitbaeva M.A., Yablonskaya V.Yu., Kispaeva T.T.	Medicine and ecology No. 2. – P.64-68.	2022
16.	KMU	Cognitive impairment in patients who have had COVID-19	Seitbaeva M.A., Kispaeva T.T., Zhunusova S.U., Kalbekov J.A., Bolshakova I.A.	Medicine and ecology No. 3. – P.12-16.	2022
17.	KMU	Organization of the nursing process in post-covid syndrome: diagnosis and prevention of depression	Fazlaeva N.T., Kispaeva T.T.	Medicine and ecology No. 4 - P.39-42	2022
18.	KMU	The role of nursing staff in the support and rehabilitation of patients with diseases of the cardiovascular system in the context of reforming the nursing service	Mikheeva O.V., Kalbekov Zh.A, Yablonskaya V.Yu, Kispaeva T.T.	Medicine and ecology No. 1 – P.57-61	2022
19.	KMU	Modern aspects of training nurses at the Institute of Forensic Expertise	Lim A.S., Kalbekov Zh.A, Yablonskaya V.Yu, Kispaeva T.T.	Medicine and ecology No. 1 – P.61-66.	2022
20.	KMU	Advanced nursing care of patients with complex, cardiologic conditions	Shozda K. E. , Heli Vaartio-Rajalin	Medicine and ecology No. 3 P.16-18	2022
21.	KMU	Studying the issues of changes in the population's adherence to vaccine prevention of infectious diseases	Bolshakova I.A. Kalbekov Zh.A. Sedach N.N.	Medicine and ecology No. 2 P.36-38	2022

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			Seitbaeva M.A. Shozda K.E.		
22.	KMU	Determination of the characteristics of professional stress among operating nurses	Bolshakova I.A. Shozda K.E., Vasyutina V	Medicine and ecology No. 4 P.19-22	2022
23.	KazNMU	Application of scientific competence of nurses in the field of qualitative research methodology in the provision of primary pre-hospital medical care	Isenova B.K., Aimbetova G.E., Zainisheva S.	Kazakhstan Medical Journal of Medicine and Pharmacy Volume 1, p. 105, 2022	2022
24.	SKMA	«Application of Kolcaba 's theory of comfort in nursing practice» DOI 10.54500/2790-1203.112.2.2022.27-34	Auyezkhankyzy D., J. Gulbiniene, O.Riklikiene	AMU "Astana Medical Journal" №2 , volume (112) , 2022	2022
25.	AMU	Possibilities of Jean Watson's theory for the development of nursing in Kazakhstan	A.Baituganova, K.Gubskaya, H.Vaartio-Rajalin	Astana medical journals Volume 4, 2022, p.4-8	2022
26.	AMU	Emotional burnout in the work of palliative care nurses DOI: 10.24412/2707-6180-2022-64-182- 189	S.R. Akshulakova	WEST KAZAKHSTAN MEDICAL JOURNAL 2022;63(4):182-189.	2022
27.	AMU	Stimulation of professional development of nurses as a way of promotion quality medical activities	D.J. Sagyndykova HELL. Kazangapova W.Sh. Saltabaeva	Article in the Journal " Science and education in the modern world of the XXI century," 2022 , od. 51-57 pp.	2022
28.	AMU	**Experience in using the service design in the development of nursing services in the Republic of Kazakhstan* DOI: 10.56936/18290825-2022.16.3-43**	**Masharipova AV, Derbissalina GA, Zhunussova DK, Nagashybek G, Amangeldiyeva D**	**The New Armenian Medical Journal Vol.16 (2022), Issue 3, p.**	**2022**
29.	AMU	**The problem of preparedness of nursing staff to provide palliative nursing care (a literature Review) * PMID: 35920576**	**Masharipova AV, Nurgalieva NK, Derbisalina GA**	**Georgian Medical News Apr:(325):27-32.**	**2022**
30.	KMU	**Patient Adherence to Therapy After Myocardial Infarction: A Scoping Review* https://doi.org/10.2147/PPA.S356653**	**Zorina 0, Fatkulina N, Saduyeva F, Omarkulov B & Serikova S**	**Patient Preference and Adherence 2022:16 Pages 1613—1622**	**2022**
31.	KMU	**The Role of Medical Staff (Nursing) in the Organization of Psychosocial Care for Persons Suffered by Sexual Violence* https://doi.org/10.3889/oamjms.2022.9541**	**Kispaeva T.T., Goncharova T.V., Dossybaeva G.N., Estemesova K.A., Kalbekov Zh.A., Sedach N.N., Bolshakova I.A., Zhunusova S.U., Aitmagambetov A.R.**	**Open Access Macedonian Journal of Medical Sciences Category: G - Nursing Section: Nursing Informatics, 751-755**	**2022**
32.	KMU	**Improvements in the infrastructure for nursing research in universities in Kazakhstan. DOI: 10.1111/inr.12791**	**Järvinen, S, Heikkilä, J, Meyermanova, I, Kuanysh, Z & Molotov-Luchanskiy, V**	**International Nursing Review 70(1):10-17.**	**2022**
33.	AMU	Use of a set of adapted boxing exercises in neurorehabilitation of patients with Parkinson's disease who have undergone Deep Brain Stimulation	Uakkazy G.B., Shashkin C.S., Akhmadeeva G.N., Aliya Muratbaykyzy , Myrzaev J.T., Kozykenov A.A., Saltabaeva U.Sh., Kutybaeva B.S.	Journal "Science and Health", number 2	2023

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34.	AMU	The effectiveness of external therapy in the rehabilitation of patients with atopic dermatitis" DOI: 10.24412/2707-6180-2022-64-190-194	Askarova A.S.	West Kazakhstan MEDICAL JOURNAL 2022;63(4):190-194.	2023
35.	AMU	Current problems and prospects for training nursing personnel for the palliative care system	Masharipova AV, Nurgalieva NK, Derbisalina GA	Preventive medicine Issue 26, №2, p 24-30	2023
36.	AMU	**Participation of Primary Care Nurses in the Prevention of Chronic Non-Communicable Diseases in the Republic of Kazakhstan: A Cross-Sectional Study *** **DOI: 10.4103/ijnmr.ijnmr_77_21**	**Masharipova AV, Nurgalieva NK, Derbisalina GA**	**Iranian Journal of Nursing and Midwifery Research 2023 Jun 21;28(3):280-285**	**2023**
37.	NUSOM	**Assessing the Validity and Reliability of the Russian Version of the Leading a Culture of Quality in Infection Prevention Scale among Nurses in Kazakhstan *** **https://doi.org/10.1155/2023/5309218**	**Jonas Cruz Jonas.cruz@nu.edu.kz**	**Journal of Nursing Management Volume 2023 | Article ID 5309218 |**	**2023**
38.	NUSOM	**Health education competence: An investigation of the health education knowledge, skills and attitudes of nurses in Kazakhstan https://doi.org/10.1016/j.nepr.2023.103586**	**Akmaral Khazhymurat a.khazhymurat@gmail.com**	**Nurse Education in Practice** **Volume 68, March 2023, 103586**	**2023**
39.	KMU	The main causes of burnout syndrome among nurses in the department of anesthesiology, resuscitation and intensive care in Shakhtinsk	Shumatova I.V. , Saduyeva F.Kh., Aitmagambetov A.R.	Social science and social psychology Issue 2 (46) 2023 г.	2023
40.	KMU	The role of the Nurse in the implementation of the 1st stage of the Nursing process for Diseases of the respiratory system	Galieva N.A., Saduyeva F.Kh.	Medicine and ecology 2022, №4 (105) p35-39	2023
41.	KMU	The problem of screening and monitoring of the population for early detection of breast cancer on the basis of KGP "Polyclinic" to Shakhtinsk»	Baskakova O.V., Sadueva F.H., Meermanova I.B.	Social science and social psychology Issue 2-2 (46) 2023 г.	2023
42.	KazNMU	The role of the nurse in providing medical care to elderly patients	Isenova B.K., Aimbetova G.E., Kanushina M.A., Makhanbetkulova D.N., Ramazanova M.A.	" Pharmacy " Р 187, №3	2023
43.	SKMA	Assessment of the development of nursing science capacity in the city of Shymkent	Seydakhmetova A.A., Yunusmetov E.Sh., Khodzhakulova U.A., Auezkhankyzy D., Akhmetova A.A.	Proceedings of the VII Central Asian International Forum 6-7, October, 2023 Astana on "Sustainable future for Education – Quality and Competitiveness: Realities and Priorities." Independent Agency for Accreditation and Rating, IAAR. p. 92-98.	2023

Annex 2.

List of Kazakhstani universities nursing development projects 2020-2023

	Title	Lead University and partners	Duration
1.	Assessment of the hospitals' infection prevention and control climate and nurses' compliance with standard precaution and face mask use: A two-phased study	NUSOM University Medical Center	2021-2022
2.	Development and Psychometric Evaluation of Scales to Assess a Healthcare Organization's Culture of Nursing Research and Nurses' Attitudes toward Scholarly Publishing	NUSOM University Medical Center	2022-2024
3.	The Qaz Green Health Project: Developing the Environmental Sustainability in Healthcare Competence of the Present and Future Healthcare Workforce in Kazakhstan	NUSOM University Medical Center, Shymkent Regional Clinical Hospital, and University Hospital of Karaganda Medical University	2023-2025
4.	Investigating the Kazakhstani Pediatric Nurses' Intravenous Catheter Management Knowledge and Confidence: A Cross-sectional Study	NUSOM University Medical Center	2022-2023
5.	Enhancing the Pediatric nurses' knowledge and competence in peripheral intravenous insertion and care in pediatric patients through a training program	NUSOM University Medical Center	2022-2023
6.	Implementing best practice in the management of peripheral intravenous catheters among Kazakhstani nurses in a National Hospital: An action research	NUSOM UMC (cardiac surgery center)	2022-2023
7.	Implementing Best Practice in Infant Safe Sleep in one Maternity Department in Kazakhstan: An Action Research	NUSOM UMC (mother and child center)	2022-2024
8.	Kazakhstani nurses and midwives' perspectives and experiences on the sustainability of evidence-based inpatient postnatal care: An interpretive description	NUSOM UMC (mother and child center)	2022-2023
9.	Tailoring Newborn Immunization Program with Kazakhstani Mothers in one Inpatient Maternity Unit using Human-Centered Design	NUSOM UMC (mother and child center)	2023-2024
10.	Pediatric Fall Risk Assessment and Prevention: A Best Practice Implementation Project in one Hospital in Kazakhstan	NUSOM UMC (mother and child center)	2023-2024
11.	Evaluation of the knowledge and attitude of nurses to the prevention of pressure ulcers in the CF "UMC" Clinical base	NUSOM UMC (mother and child center)	2022-2023
12.	ERASMUS+ CBHE project ProInCa*	JAMK; NUSOM, AMU, KMU, WKMU, SMU	2017-2020
13.	ERASMUS+ CBHE project AccelEd* https://project-acceled.com/	LSMU; NUSOM, AMU, KMU, SKMA, KazNMU	2020-2023

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14.	Training in school for hypertension, women with arterial hypertension in postmenopause, with the aim of improving the quality of life at Nursing Hospital	SKMA	2023
15.	Review of the 2020 AHA guidelines for CPR and emergency cardiovascular care at Medical center "Ай-Нұры"	SKMA	2023
16.	Review of the 2020 AHA guidelines for CPR and emergency cardiovascular care at Nursing Hospital	SKMA	2023
17.	Activities of a nurse in organizing palliative care in an outpatient setting at the SKMA Department of Emergency Medical Care and Nursing.	SKMA	2023
18.	Conducting nursing education to provide quality infant care at the SKMA Department of Emergency Medical Care and Nursing.	SKMA	2023
19.	Introduction of guidelines for nursing care for diabetic foot at the SKMA Department of Emergency Medical Care and Nursing.	SKMA	2023

*International

Annex 3.

The short-term and long-term impact and indicators set in the Consolidated AccelEd project plan for WP2.3

Table 2.3.14. Short term impact

Short term impact	Target groups/potential beneficiaries	Quantitative indicators	Qualitative indicators
2.3.1 Faculty academic staff and PhD students from KZ universities are fluent in and conduct a Systematic Review of Nursing.	Academic staff and PhD students	The 5-day "Systematic review on nursing" training is organized by Joanna Briggs. The participants are at least 19 academic staff members (incl. persons from research departments of associated healthcare institutions) and 6 PhD students from KZ universities.	Increased knowledge of academic staff and PhD students in a systematic review. Satisfaction of participants with the project events – feedback forms collected and analyzed
2.3.2 Improving and expanding knowledge, and instilling skills in the field of service design in healthcare (nursing services)	Academic staff, PhD students and Practical Healthcare representatives	Two trainings and one seminar on "Service design" organized. Report on the experiences and recommendations on service design and facilitation methods. At least 18 academic staff and affiliated healthcare organization members and at least 16 Master and PhD students take part in each of Masterclasses	Increased capacity of medical universities' nursing departments teaching staff on service design. Satisfaction of participants with the project events – feedback forms collected and analyzed

Table 2.3.15. Long term impact

Long term impact	Target groups/potential beneficiaries	Quantitative indicators	Qualitative indicators
2.3.1 Improving collaboration structures and processes between universities and healthcare institutions in Kazakhstan.	Academic staff and students, nurses, ministerial bodies, general society, practical healthcare and HEI	Report will be compiled and supplemented with recommendations for collaboration structures' and processes' improvement between universities and healthcare institutions of KZ. Number of conducted collaborative research projects between medical universities and healthcare institutions.	Established permanent practices on nursing research collaboration in order to support implementation on evidence-based nursing.
2..3.3 JBI collaboration centre will be established	Academic staff and students, nurses, ministerial bodies, general society, practical healthcare and HEI	Successfully established the JBI collaborative centre in Kazakhstan.	providing access to scientific resources, training, experience, ideas and opportunities for individual nursing researchers and institutional capacity.