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Report on recommendations for collaboration structures and processes development between universities and healthcare institutions

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Summary

Several activities were carried out to establish sustainable structures and systematic processes for collaborative nursing research between medical universities and health care institutions to develop evidence-based nursing in Kazakhstan. At first, a literary review on international best practices that foster evidence-based nursing was carried out to analyze the current international knowledge on practices of collaboration between practical health care and medical universities. Four categories were created to describe the best international practices that foster Evidence-based Nursing (EBN) through collaboration between academic and healthcare.

Then the best European practices were examined through examples from the universities of the project partners: JAMK University of Applied Sciences (JAMK), Åbo Akademi University (ÅAU), University Medical Center Utrecht (UMCU), and Lithuanian University of Health sciences (LSMU) as well as the current situation of collaboration in nursing in Kazakhstan from the project partners: Karaganda Medical University (KMU), Astana Medical University (AMU), Nazarbayev University School of Medicine (NUSOM), South Kazakhstan Medical Academy (SKMA), Kazakh National Medical University (KNMU). Based on the presentations of each university and the interviews in Zoom some of the best practices were acknowledged from each university to be presented for all. In addition, five draft recommendations for development of collaboration structures and processes development between universities and healthcare institutions were established.

The adaptability and applicability of these recommendations in the Kazakhstani context were discussed at the online-seminar "Best practices of cooperation between medical organizations and universities in nursing", which was held on May 4, 2021. Each university had opportunity to read and comment this report during its preparation to ensure that the text gives credit to each university collaboration with the health care institutions in nursing development. Also, the recommendations were validated and approved by all universities.

For the further development of the collaboration in nursing between Medical Universities and Health Care Institutions, it is recommended 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.

1 Introduction

The aim of the WP2.3 is to create sustainable structures and systematic processes for cooperation on nursing research between medical universities and healthcare institutions in order to foster evidence-based nursing. The activity reported here (2.3.1) concentrates on creating collaborative structures, processes and capacities to define areas for research and development of nursing. Through this activity the goal is to accelerate the development of nursing clinical guidelines and overall implementation of evidence-based nursing in Kazakhstan through effective and sustainable collaboration.

Collaboration has been defined in many contexts and by several disciplines. It is sometimes used as synonym to partnership and teamwork. It has been identified as an essential component for the development of services. (Bivin & Reddema 2014, Rycroft-Malone et al 2015.) Collaboration can be seen as an outcome as well as a process. “Collaboration is a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to a definition of mutual relationships and goals, a jointly developed structure and shared responsibility, mutual authority, and accountability for success, and sharing of resources and rewards.” (Bivin & Reddema 2014.)

Rycroft-Malone et al (2015) describe in their literature review the outcomes or impacts of collaboration as follows, “the dissemination and implementation of guidelines; improving aspects of services and affecting health outcomes or public health; promoting successful change; and closing the gap between potential and actual performance as well as better engagement with intervention programs; having an impact on macro-level outcomes related to enhancing innovation; and expediting the translation of science for patient-focused benefits.”

Academia and practice collaboration refers to the higher education institutions and their administrator’s, educator’s and researcher’s collaboration with health care institutions and their administrative and clinical practice staff. Collaboration between academic and health care institutions is essential for reaching the aim set for nursing education. The education with a degree is officially awarded by universities, yet half of the study time is practical education in authentic caring environment in hospitals, primary healthcare, and community. The experiences gained during the clinical practice are irreplaceable in the growth for a professional nurse. In addition to that theses and development projects during the studies need practical problems to be solved. Therefore, universities and health care institutions need to collaborate to provide the highest quality of education for future nurses. Systematic academic-practice collaboration increases evidence-based patient care delivery and patient outcomes. (Bvumbwe 2016, Yi et al 2020.)

In addition to collaboration in implementing nursing education, collaboration between academia and practice is an essential component in knowledge triangle to creation of new knowledge and innovation as well as translating scientific evidence to practice. (Olander Roese & Batingan Paredes 2015.) Collaborative partnerships between educational institutions and service agencies have been viewed as one way to provide research which ensures an evolving health-care system with comprehensive and

coordinated services that are evidence-based, cost-effective and improve health-care outcomes. Academic and professional collaborations are discussed in terms of increasing research productivity and quality, improving learning and enhancing the development of new skills across partnerships (Rycroft-Malone et al 2015).

2 Methods

The purpose of this activity was to record the best practices between the universities and health care organizations concerning the collaboration models, practices, and processes in fostering nursing research in Europe and to collect data of the current collaboration practices in Kazakhstan. At first, a literary review on international best practices that foster evidence-based nursing was carried out to analyze the current international knowledge on practices of collaboration between practical health care and medical universities (Figure 1). The literature review was carried out by Hanna Hopia JAMK University of Applied Sciences and Inesh Meyermanova Karaganda Medical University.

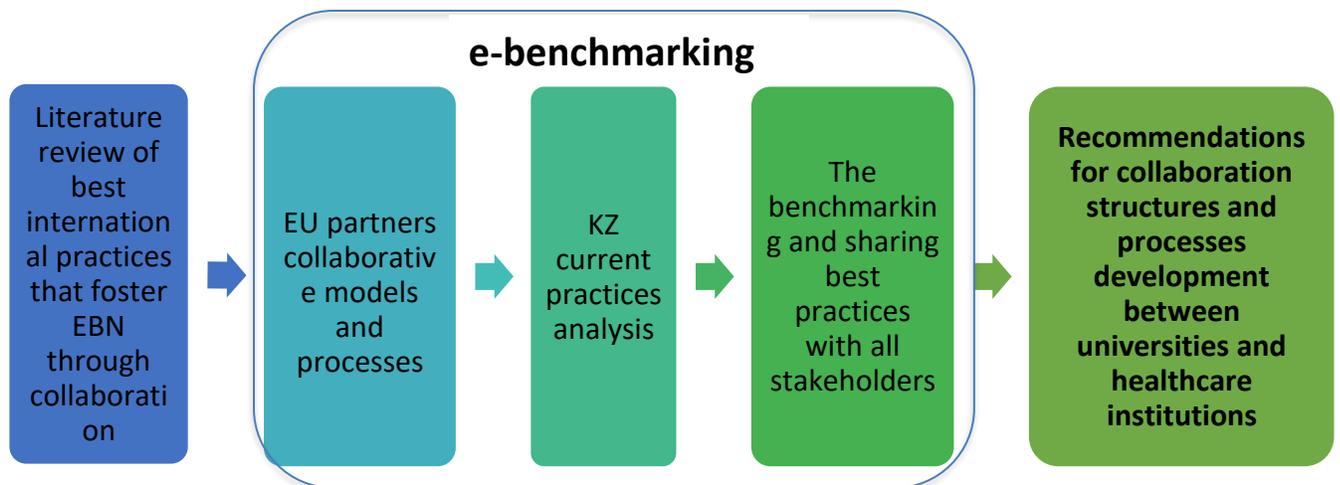


Figure 1. Structure of Activity 2.3.1

In e-benchmarking phase, based on the results of the literature review, seven themes and open questions around them were created. These were translated to both English and Russian to ensure full understanding of both university and health care representatives. (Annex 1.) On-line Zoom sessions were arranged individually with each of the partner universities. They gave a short presentation with examples of collaboration in nursing relating to the seven themes. These were followed by discussion where the open questions were presented and answered to gain deep understanding of the best practices at each university. The sessions were recorded with the permission of the participants and the recordings were analyzed. The discussion analysis began with transcribing the video recordings of each discussion. Based on the transcriptions the best practices of each university were chosen, discussed, and decided by the working group. The choice of the universities' best practices was justified by the specific features and examples given in the presentations and the following discussions. The best practices of collaboration were collected to a table format (See *Table 1. Best practices that were identified in the course of e-benchmarking*). Based on the literature review and identified best

practices, preliminary recommendations were prepared in view of the further development of the collaborative practices in Kazakhstani universities and their clinical partners. The formulation of preliminary recommendations took place in on-line meetings where the project working group discussed and made suggestions on the significance and relevance, as well as the wording of the recommendations. The responsible researchers/teachers for the electronic benchmarking were Annina Kangas-Niemi from JAMK, and Auez Aitmagambetov and Feruza Saduyeva from KMU.

The third phase included an online seminar on May 4, 2021, where all partners and the representatives from the clinical practice institutions were invited. During the seminar, the possibilities of applying these recommendations of collaboration practices and processes were discussed and based on the ways and possibilities presented by the seminar participants, the recommendations were updated and finalized. The last step was to create recommendations for collaborative structures and process development between the universities and healthcare institutions.

3 Best international practices fostering Evidence-based Nursing through collaboration between academic and healthcare

PROCESS OF LITERATURE REVIEW

A literature review was conducted with the aim to identify the best international practices that foster evidence-based nursing between universities and healthcare organizations on master and doctoral level. The purpose was to apply review findings as a framework for the e-benchmarking themes/areas to be used in the interview with healthcare practitioners and university staff.

The literature review was conducted with the search for the following databases: CINAHL (Cumulative Index to Nursing and Allied Health Literature), Web of Science, PubMed, JBI and EMERALD. Furthermore, a hand search was included with Google Scholar and Google. The search terms were (collabor* or cooperat* or "partnership" or co-operat*) AND (struct* or process* or model*) AND ("health care" or healthcare or "healthcare organisation" or "healthcare organization" or "healthcare institution") AND (univers* or "academic institution*" or "higher education" or "post-graduate education") AND (evidence based practice or ebp or evidence based or best practice). The literature search was limited for the years 2011-2021 and only English language publications.

A PRISMA flow chart 2009 (The Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was created to illustrate the literature selection process (Figure 2). PRISMA flow chart is an international standard that provides guidance for the reporting of Systematic Reviews.

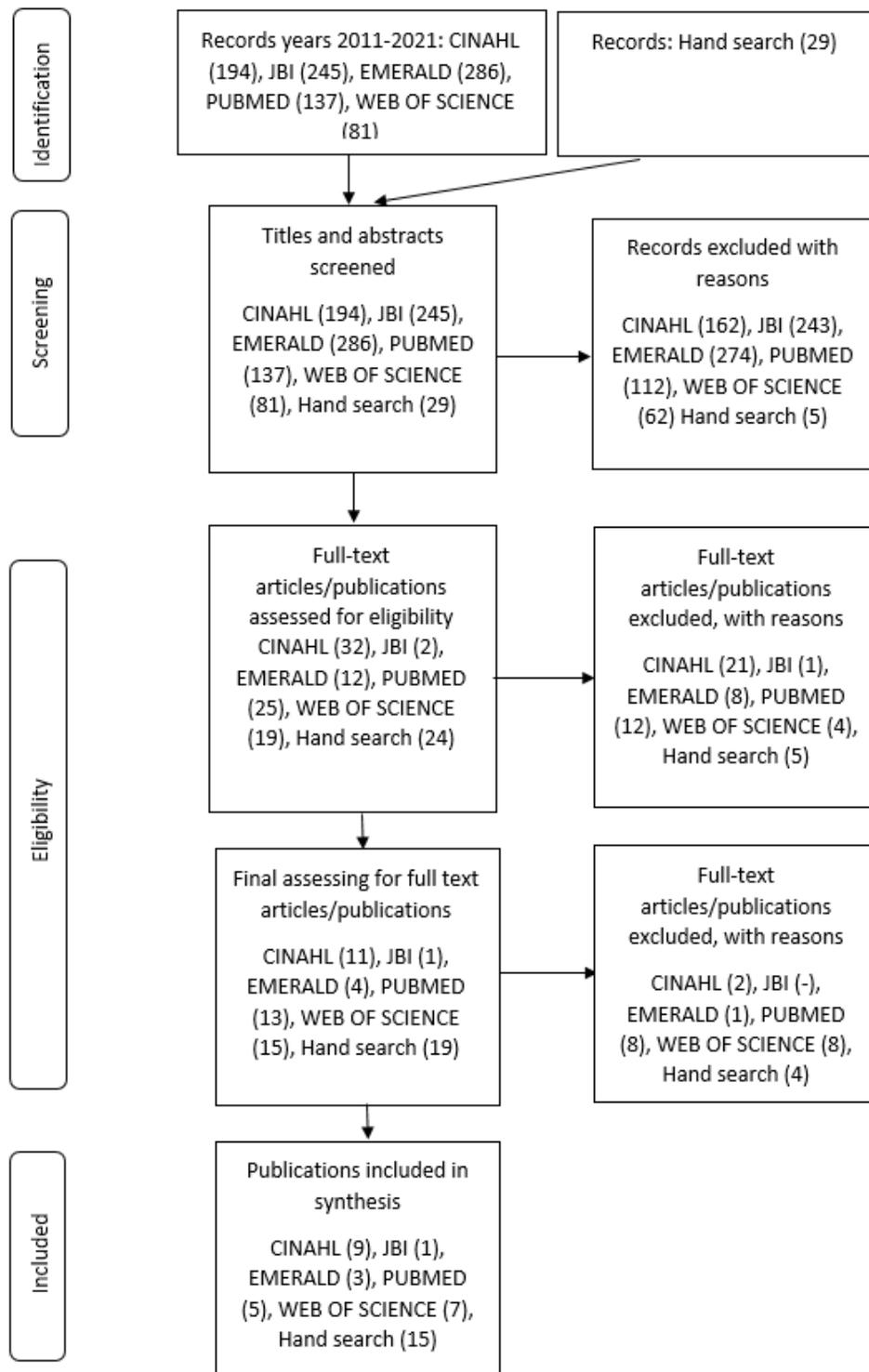


Figure 2. PRISMA flow chart

A total of 972 articles were identified from different databases:

- CINAHL database 194 publications
- JBI database 245 publications
- EMERALD database 286 publications
- PubMed database 137 publication
- Web of Science database 81 publications
- Hand search 29 publications.

After the literature search, titles and abstracts of each selected publication were screened for suitability for the review. After that, 114 records were left for further selection. The records were checked on the eligibility twice, and after that, 40 articles were included in synthesis. See Figure 2. The articles and abstracts were independently screened by two reviewers.

Next phase was to read the full text of included 40 publications and look for practices of collaboration between academic and healthcare organizations. (Annex 3. List of included articles) After analyzing the publications thoroughly, four main categories were identified. The publications included in the review were from the following countries: USA (13), Canada (3), Australia (8), United Kingdom (6), Finland (1), Sweden (4), Netherland (1), Italy (1), Uganda (1), Malawi (1) and Iran (1).

FINDINGS

Four categories were created to describe the best international practices that foster Evidence-based Nursing (EBN) through collaboration between academic and healthcare. These categories were based on the findings in the above-described literature review.

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. First principle was that leaders from academic and healthcare practice held a shared vision and are truly committed to acting in a way that benefits both sides. Therefore, unity of purpose was imperative to create a fruitful partnership. Sharing resources and expertise among both parties were also important. This meant that co-creation and co-production of knowledge between researchers and practitioners was crucial. Co-operation should be voluntarily based to individuals. It was also critical that all parties and individual participants have an equal responsibility when cooperating.

Second category, **ways to build a successful partnership/managing partnership**, required strong leadership and supportive management from both sides: academic and healthcare practice. It was vital that genuine democratic partnership will be developed where both sides are accountable for carrying out commonly planned actions and ensuring quality. In addition to these, both sides needed to be committed to ensuring that everyone benefits from participation. According to the findings from the literature, academic-practice partnership should be evaluated regularly with a focus on both methods

and outcomes. In order to build successful partnership, long-term relationships are preferred more over short-term projects. Different kind of resources such as open facilities, library services and common research positions should be shared among university staff and healthcare personnel. Also, concrete processes and outcomes ought to be created together with universities and healthcare practices such as planning joint curriculum, giving expert lectures, and organizing educational sessions. All in all, both organizations should recognize and take advantage of what each other has to offer to build a successful academic-practice partnership.

Third category, **created structures and models**, contained description of different kinds of models and structures targeted on collaboration between academic and healthcare. For example, the Dedicated Education Units (DEU) model has been applied in various ways. With the DEU model clinical and teaching responsibilities can be organized through one administration or joint appointment model where a faculty member divides his or her working time between a clinical and university appointment or the DEU model is a teaching/learning environment in which nurses, clinicians, management, and teaching staff are collaborating efficiently. The DEU model can also contain clinical rotations in advanced practice nursing for master and doctoral nursing practice students or research opportunities for PhD students.

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. Educational sessions, curricular collaboration, different kinds of networks and professional events, annual research reports, newsletters, hospital site teaching events, clinical leader forums, mentors and role models, research champions are examples of methods and techniques that can be used when developing and strengthening evidence-based nursing through collaboration of academic and healthcare practice. Moreover, pairing up of academic and clinical partners in the robust process of submitting applications for small scale projects and all kinds of formalized interactions such as meetings, workshops, research networks, group activities are recommended to use for academic-practice collaboration.

4 Best practices of collaboration in nursing at European universities

4.1 Characteristics of a fruitful partnership

Lithuanian university of health sciences (LSMU) consists of two academies: Medical Academy (faculty and department, also University Hospital Kaunas Clinics which is integrated into University) and Veterinary Academy. Nurses are involved in all activities and have direct contacts. In LSMU, university hospitals are used for training and practice of students. Before cooperating with the clinic, they are assessed by the university for compliance with the requirements for the practice of university students. The goal defined for the current period was the implementation of EBN in the clinical practice. The building of cooperation for students' clinical practice was described as follows: lecture from the nursing and care department – head nurse in the university hospital – nurse – mentor in the particularly

clinics – student. Research topics for undergraduate and graduate students may be suggested by a curator, nursing and care department, Ministry of Health, hospital, or municipality health department.

The characteristics of a fruitful collaboration at the **University Medical Center Utrecht (UMCU)** were presented. The Nursing Science Department (NSD) currently runs with the Heart and Lung Division (HLD) where medical and nursing care is provided. One of the professors of nursing within the NSD and a senior researcher at the HLD collaborate on a joint research programme in which nurses with a master's degree, working in clinical practice, are involved. Among the characteristics of the fruitful collaboration is that nurses collaborate with other professional groups in multidisciplinary research. Thereby it is important to identify research topics (research questions) from clinical practice. Multidisciplinary collaboration is important because nurses never work in isolation; they always work with other professionals, like physical therapists, physicians, and many others.

Building of fruitful partnerships at **JAMK University of Applied Sciences** is based on the mission and basic task of the university, which include education and research, development, and innovation (RDI) activities that support regional development, and acting as an internationally orientated training and development community of higher education. One example displaying the characteristics of a fruitful partnership is the Central Finland Health & Wellbeing Ecosystem, KEHO (<https://kehofinland.fi/en/>), which has been established by 16 partners with the joint vision and ambition to complement the already strong social and health care perspective with a genuinely human-centered, interdisciplinary wellbeing approach.

Åbo Akademi University's (ÅAU) development projects and issues for master thesis are often ordered or suggested by partners from clinical health care and other partners in the society. Regarding actual issues for Master thesis in nursing, the district hospital has a web site for master students in which they present identified actual issues. The link is <https://www.vaasankeskussairaala.fi/sv/for-vardgivare/for-studerande/studerande-inom-vardbranchen/teman-for-examensarbeten/>. Theses of the majority of Master's and PhD students are written in collaboration with clinical settings, and the actual R&D projects in supervision of academic lecturers.

4.2 Ways to build a successful partnership

Personal contacts and cooperation are the basis for successful cooperation between the university and practical healthcare in **LSMU**. Cooperation is practiced between the university and the clinics in participation in conferences, joint practice. In addition, the university has cooperated with the New York University on scholarships, and they have conducted lectures, and consultations for LSMU students. The opening of advanced nursing practice was the goal of the LSMU six (6) years ago. Jobs must be found by students at the end of the study program. More advanced nurses of different levels and different departments are required in clinics.

Sustainable networks (groups) for collaboration were the goal of the **UMCU** several years ago. The various research programmes established within the UMCU focus on specific groups of patients such as stroke patients. Nursing research is generally linked to these research programmes. The NSD has also established collaboration with a wide range of professors/researchers in the country. This enables

master's students to conduct research in the area they are interested in. It is found highly important to build strong collaborative groups with professors/researchers where master's students can do research. This has been found to be very successful and effective due to the fact that nurses who receive education do research in clinical practice. If they work in psychiatry for example, they like to conduct their master thesis research in this area. Supervision from a nursing professor in psychiatry enhances the quality of the research as well as the role modelling. Also nurses with PhD background have positions at clinical departments as well as teachers in the master's programme (1 day per week). In this way there is exchange of expertise and experiences between the clinical practice and the University Medical Center/Utrecht University.

At **JAMK**, strong multidisciplinary experience and collaboration between participants in the areas of prevention, health promotion, exercise, rehabilitation, education, and therapy were the best ways of building successful partnership. Therefore, JAMK has created an entrepreneurial learning and innovation model, JAMK Future Factory®, where interdisciplinary students solve genuine problems and challenges from the working life, industry or from the RDI activities.

Example of a successful partnership in **ÅAU** presented by Vaasa Welfare Technology Hub was the global connector for digital health and welfare solutions and a digital ecosystem between regional academic partners, occupational education and health care sector.

4.3 Managing the partnership

In **LSMU** the nurses from the hospital are employed in the Nursing and care department for teaching process. For example, in university department 10 nurses work full-time as teachers and researchers. Nurses from the hospital are involved in the different project activities. Hospitals serve as pilot platforms for research projects. Bachelor and master theses are supervised by nurses from the hospital and nurses participate in the defenses committee. Teachers from the Nursing and care department are involved in the new guidelines and protocols development in the hospital.

UMCU managed several different ways of collaboration with practice. One best practice example is the Julius Leidse Rijn Academic Practice. In this primary care network, Nursing Science established partnerships with family medicine and home care. In this collaboration, goals were defined and agreed upon for the coming five years. For example, in one project the partners invested financially in linking pints (nurses 50% working on hospital 50% working in a university). A Steering group committee was created in order to achieve the goals that were defined within the academic practice. Departments dealing with collaborative agreement are existing in UMCU. Collaboration with other organizations is based on agreements.

ÅAU maintain the partnership by regular workshops with all partners, and recurrent discussions about actual, possible R&D projects. Arranging seminars and conferences are also ways of maintaining collaboration. An open atmosphere for dialogues and reflections as well as respect for the unique needs and context is crucial. For example, one of several profiling areas in caring science at ÅAU cooperation between partners is the Vaasa Welfare Technology Ecosystem (VWTE) project which promoted the development of the education in welfare technology. Managing the three different areas

of collaboration - research, practice, and education were negotiated by the special structure in Åbo Academi University. The responsible teachers of the courses develop the content, learning methods, examinations and all needed documents and present the material to the responsible professor for the first approval. After that the courses, including new courses, that are offered next study year have to be approved by the Board of Faculty. Study Advisor and the coordinator of the entire education at the faculty are preparing the documents for the Board of the Faculty.

JAMK representatives shared insights into partnership management by using an example of involvement and cooperation with the issues relating to the newly built Nova Hospital in Central Finland. Monthly collaborative meetings with the leading nursing educators from the university are held at the hospital. If needed, urgent issues can be worked on and solved together. Nursing faculty is in constant communication with the clinical care providers on issues concerning research, nursing education, organization of the student practice and work in the simulation center. Joint responsibility for the regional needs in health care and nursing education are agreed on at the higher management level with defined responsibilities contracted and signed by the rector and hospital management.

4.4 Created structures and models

In order to help to find the partners, a development department is organized in **LSMU**. Collaboration in the university consists of different steps beginning from having some ideas as a researcher, then collaboration with practical healthcare organizations, following connection to chief nurse of clinics to have the meeting and discuss. Meetings are organized based on the need. And if the topic is interesting for both, next meetings and preparatory work are agreed to continue the idea. Model for the collaboration of LSMU is clearly demonstrated in Figure 3. Supervisors are appointed to the PhD students. High level of informal collaboration is practiced in Lithuania. Organization of defense committees are separate for bachelor students and for master's students in addition to study committees.

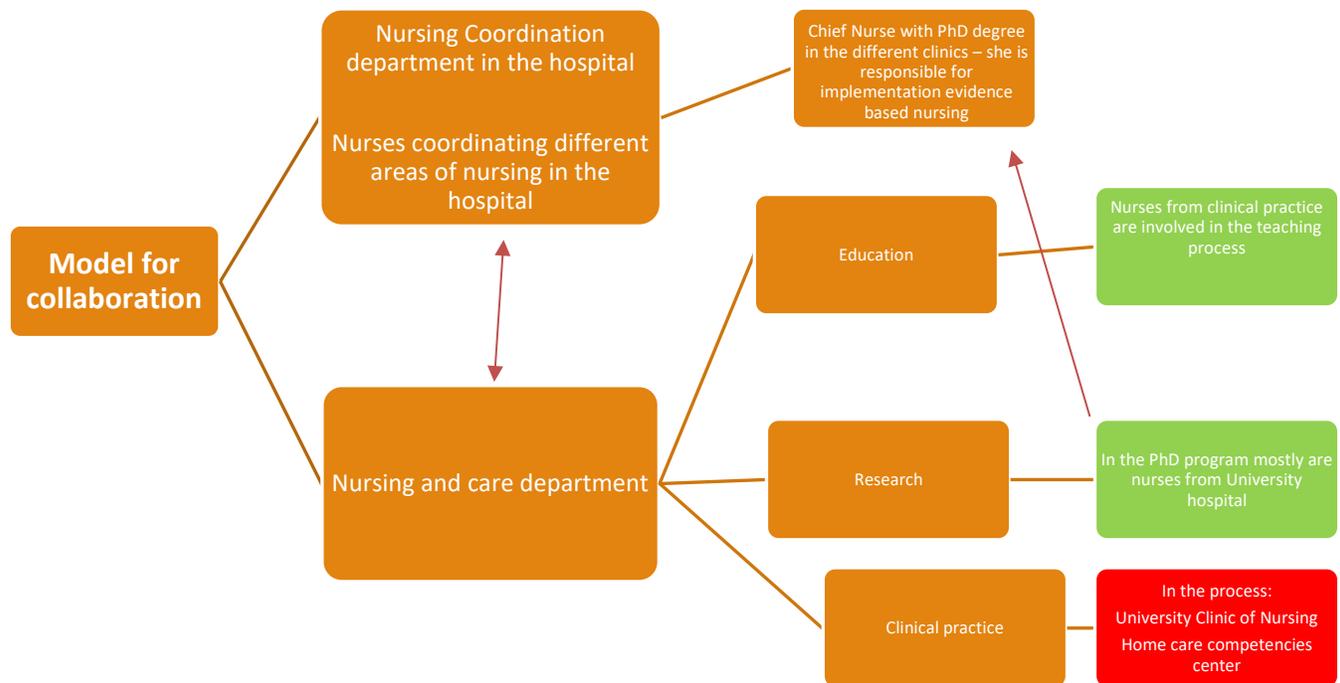


Figure 3. Model for the collaboration of LSMU.

In the Julius Leidsche Rijn Academic Practice, the steering group / committee organized at **UMCU** meets once a year to discuss the work done for the current year and plan the work for the next year. And at the lower, managerial level, meetings are held four times. And the last level is the meetings with nurses. The steering group includes their steering advice from the institution and the organization.

At **JAMK**, a clear protocol has been drawn for the research and development initiatives starting from the idea phase all the way to reporting of the results, outlining the tasks, responsibilities, and needed approvals in each of the phases. Students' thesis and development assignments can be connected to ongoing research, development, or innovation activities as for example to the previously mentioned Future Factory® or into one's own work or work organization. The studies can be carried out in multi-professional teams, where the students can network with other professionals in the field and develop their own work community.

At **ÅAU**, the development of education at the master's and doctoral levels was presented in the form of cooperation with health care and the social sector, presented in figure 4. Vaasa Welfare Technology Ecosystem (VWTE) was created in line with the European Forum, whose member the VWTE is. Within the VWTE, ÅAU has together with regional universities, universities of applied sciences, and the city of Vasa as well as the regional healthcare system (HYKE), an interdisciplinary researcher group with focus on health care technology and improving access to care by digital

solutions in health care. This ecosystem brings together the community of stakeholders to develop a joint health research, aiming to address and find common solutions to regional health challenges.

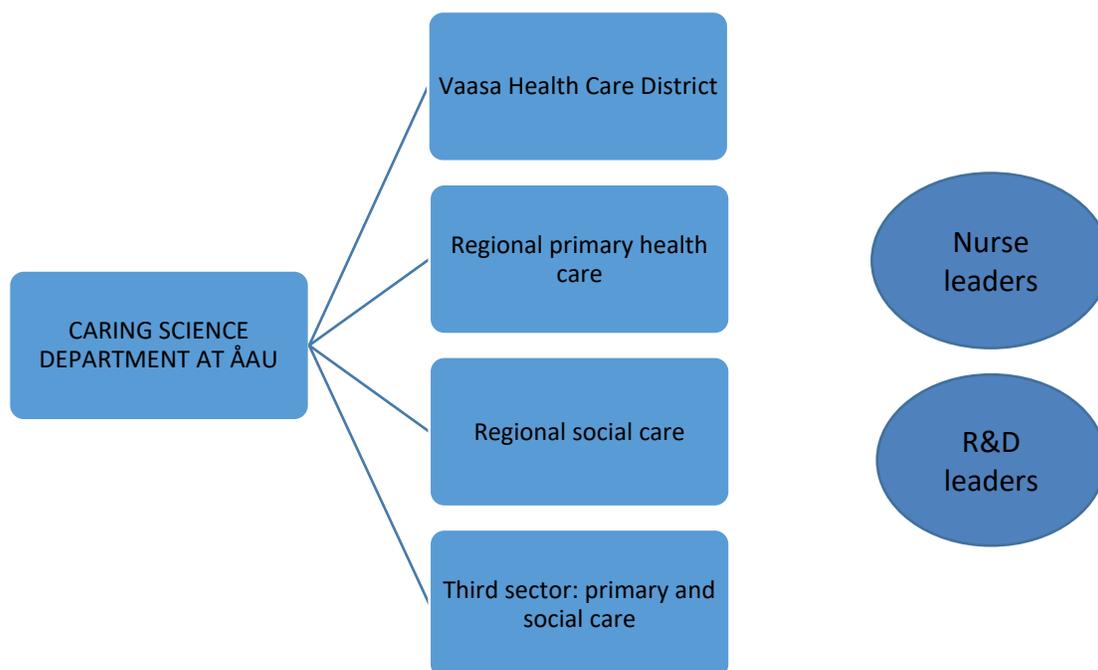


Figure 4. Cooperation with health care and social sector in ÅAU

4.5 Applied methods and techniques

LSMU's examples were about methods and tools in the collaboration and ways to collaborate to develop EBN by organizing national conferences with main nursing topics. The techniques that they shared were about organizing formal and non-formal meetings constantly. The meetings were organized twice a year with providing feedback and organizing discussion with mentors who are responsible for nursing students in clinical practice in university hospitals and outside hospitals. For successful collaboration, three main guidelines were used and recommended by them to follow, which were 1) tolerance for differences, 2) respect to another people's opinion, and 3) to be the leader of your profession or field.

UMCU showed different cases with various methods used to secure collaboration between clinical practice and universities to support the application of EBN. Building a range of collaborations with researchers and clinical institutes (outside the UMC) as well with clinical divisions and departments (within the UMC) was found highly important. Thereby all felt the true collaborative feeling leading to success. Also emphasizing interdisciplinary collaboration with other disciplines was found important. The importance of informal collaboration and networks were emphasized, especially in a small country such as the Netherlands. To stay in contact and use personal and informal interaction were recommended by Netherlands colleagues.

At **JAMK**, joint monthly meetings with health care providers are held and meetings with the networks are held frequently, taking place at the different levels of organizations. Quality manuals including defined process descriptions exist for education as well as for the RDI activities.

Scientific methods and designs which are used at **ÅAU** have wide spectrum. For example, user-centered design, participating action research, human centered co-design, and Living Lab methodology, i.e., models and methods were developed, tested and recommended internationally. There is access to scientific nursing journals and nursing databases both at the academy and clinical settings. Also, there is access to clinical guidelines and nursing databases through health care organizations and labor unions. The results are disseminated through arranging seminars and conferences, and the interventions and models developed during the R&D projects are often tested at clinical settings.

4.6 Strategy level collaboration and development

At **LSMU**, all levels from teachers to the dean's office until the Ministry of Health were involved in the development of plans for the development of nursing. At the university level, monthly joint meetings (HEIs and HCF) do not exist, as they are always in touch when necessary. Nurses from hospitals participate in the educational process, some of them are on the training commission (there are requirements for participation in the development of the curriculum). The university's strategy of human health and the environment means that all hospital staff are involved in the development of strategic plans. The EBN is developed through the implementation of the prevention program in primary care hospital. There are two strategic plans at **LSMU**: hospital plan and university, but with an intersection with human health and the environment, and new technologies, the introduction of EB. The research priority is based on the National Nursing Research Institute, which provides a central nursing research theme across Europe that adapts to the socio-cultural context of the country.

At **UMCU** the hospital and university are one University Medical Center and therefore integration is on all levels. The board of directors, the management, and the lower management are all involved in plans for the development of Nursing Science within the organization especially in the new plan of "Future Proof Nursing". Within **UMCU**, nurse scientists with Master's and PhD educational background play a critical role in implementing EBN and improving clinical practice by creating innovative healthcare projects, designing and evaluating interventions. Postdoctoral nurses working in Clinical divisions implementing EBN and improving clinical practice by creating innovative healthcare projects, designing and evaluating interventions and supervise and teach Master's and PhD students in research which is conducted within the divisions and clinical departments.

At the university level of strategy, **JAMK** has defined the following focus areas; Bioeconomy, Multidisciplinary rehabilitation, Applied cyber security, Automation and robotics, Innovative learning, and Tourism. Important areas for the future development of Evidence based nursing (EBN) include primary health care, palliative care, and health promotion. Principal lecturers are responsible for strategy development of the nursing education programmes. Teachers are actively participating in national and regional networks gaining insights from the clinical practice of their area. In addition to that, **JAMK** strives to be a forerunner in the area of digitalization.

The responsible person to develop nursing in **ÅAU** is the professor for caring science, and the responsible teacher i.e., assistant professor is usually responsible for each profiling area. For example, for welfare technology and health literacy responsible are active researchers (docents). But there wasn't any work specifically on the development of EBN at the strategic level. Gerontology care was identified as important areas for future development of EBN. Digital solutions to prevent loneliness among elderly and examining the usefulness and significance of humanoid robots among older (in several settings) are examples.

4.7 Capacity building

LSMU graduates prefer more to become a nurse, head nurse, and chief nurse instead of working hard in the teaching educational process and receiving a small salary. One way for capacity building for nurses with master's degree is entering university again after working for 5 to 10 years in a hospital to complete a PhD program. If nurses working in hospitals express a wish to teach, they can teach e.g. Nursing techniques or Basic nursing for all students in all programs. The actively working of nurses are chosen by the teaching staff to act as mentors. After mentorship courses the nurses can work as mentors.

At **UMCU**, there is limited budget for education/training of nurses. But in their new program "Future Proof Nursing", a number of nurses working in the clinical departments have been offered to follow the Master's Programme in Nursing Science and some have been offered to follow a PhD programme. Through this new project, UMCU wants to build and further develop the capacity of nurse researchers that will work in joint clinical and academy positions, i.e., where they work in research but at the same time work at clinical departments on EBP implementation to support the development of nursing science and to improve the care of patients in the future.

For the capacity building of nursing staff in the region, **JAMK** provides specialization studies according to the needs of the healthcare partners. The specialization trainings (30 ECTS) are targeted for nurses and other health care professionals with bachelor's degree and can be completed while working.

At **ÅAU**, the current collaborative capacity building activities were represented in the training of Swedish speaking teachers for healthcare sector, and the capacity building of nurse leaders is provided through training in leadership and management in healthcare. Master program in advanced practice nursing has 10 ECTS for clinical practice. The content of the program is in line with International Council of Nurses' recommendations for APN education. Two years ago, there was a university teacher that was affiliated 20 % as a researcher at the Vaasa Central hospital.

5 Current practices of collaboration in nursing at Kazakhstani Medical Universities

5.1 Characteristics of a fruitful partnership

The characteristics of successful cooperation between universities and practical healthcare organizations in Kazakhstan were constant cooperation activities in the framework of education, practice and, of course, science.

At **KNMU** the cooperation of the Department of Nursing with clinics is reflected in a joint plan of clinical work. This plan includes the following activities: organizing the practice of students, the work of mentors, as well as lectures that university professors read at clinical sites. Organization and implementation of students practice is depicted in the Figure 5.

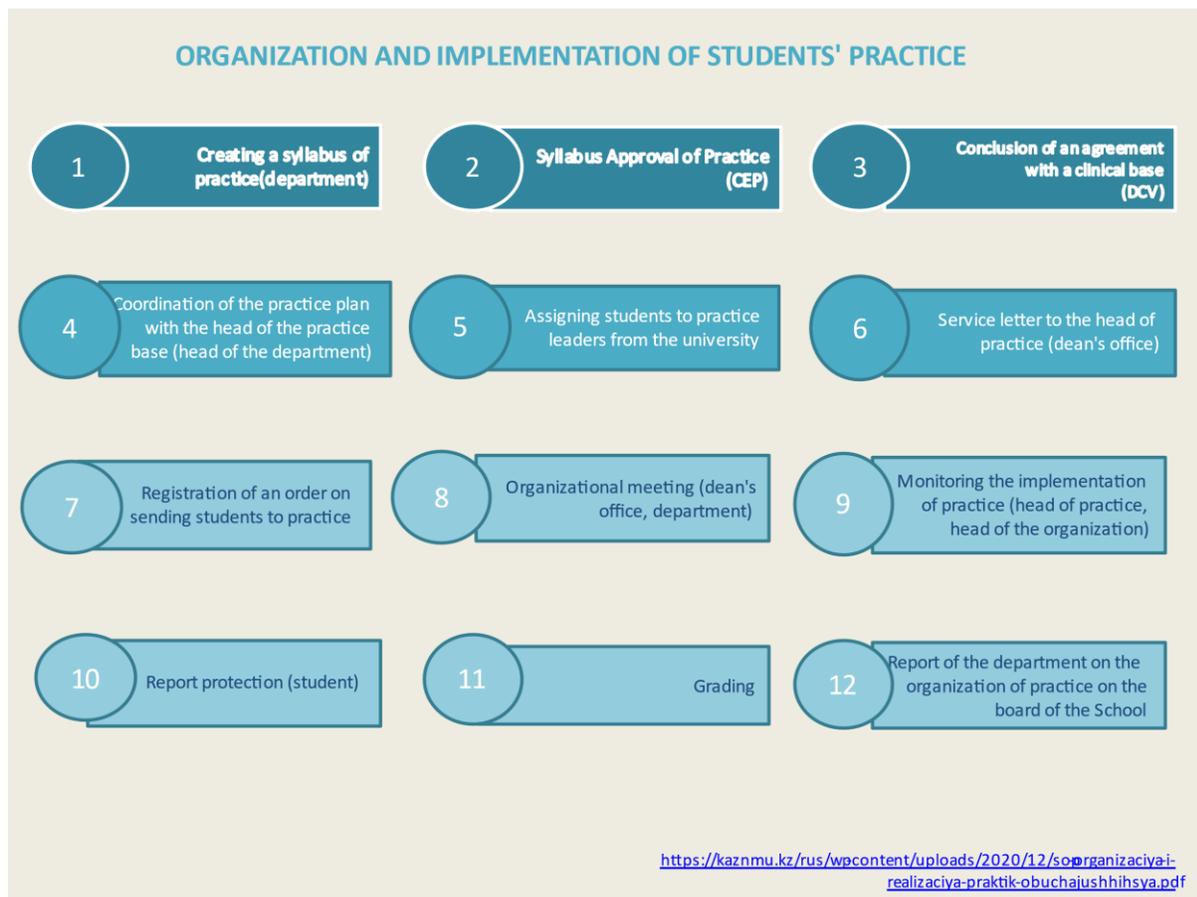


Figure 5. Process of collaboration in organization of clinical practice in nursing studies

Cooperation was also well developed in **AMU**, where mentors have been trained and 50% of them work at the university. Representatives of practical healthcare participate in the development of educational programs, work on the implementation of the roadmap for healthcare development, and are included as members of the state certification commission. This year, Aimoldina Kuroalay, a nurse with more than 20 years of practical experience, is completing her master's degree.

The main direction of **NUSOM**'s work is aimed at developing evidence-based nursing practice. NUSOM implements three educational programs of nursing and in all areas the main goal of the educational program is to focus on evidence-based nursing practice.

At **SKMA**, cooperation is developed both at the formal and informal levels. The university takes part in multidisciplinary research conducted in clinical organizations, had publications and speeches.

KMU, in turn, annually organizes meetings and round tables, and has an international partner in the person of Vilnius University. The partners of the university in matters of nursing at the national level are clinical bases with which cooperation agreements have been concluded. The partners of the university participated in meetings to discuss the educational program, the quality of knowledge and skills of the students of the educational program of nursing. All issues were discussed and resolved collectively.

5.2 Ways to build a successful partnership

Cooperation in Kazakhstani universities and clinics begin with a discussion between partners of topical issues, and after all the points have been discussed, the two organizations usually conclude an agreement. The duration of the contract itself is different in different universities. For example, **SKMA** conclude contracts on an unlimited basis. Agreements are concluded in three areas: training, practice and science. And as the results of the discussion showed, practice is the most developed type of cooperation in Kazakhstan today. Cooperation in the field of education and science is developing, mentors are successfully introduced into the educational process, their own university clinics appear, an example of which is NUSOM and KMU. The KMU has its own laboratory for collective use for research. All universities have had partners with whom they organize and conduct research on current topics of nursing.

5.3 Managing the partnership

All participants of the discussion were interested in the management and development of partnerships in Kazakhstan. Universities were interested in cooperation with clinics to develop the quality of education implemented in clinics. As it was said during the discussions by our participants, all universities participate in organizing the training of mentors, who subsequently successfully work at universities. Current partnership consists of the organization of training for nurses, professional development, training in educational programs for nursing with a training period of 2 years, 6 months,

and 10 months. The management of partnerships at universities is usually done by dedicated departments. For example, in KNMU there is a Department for Clinical Work, in AMU a Research Department, in SKMA a department for clinical work, and in KMU the responsibility is with the vice-rector for clinical work and deans of schools.

5.4 Created structures and models

The official structures of cooperation between universities and practical healthcare organizations in Kazakhstan are councils and senates.

We note that in **AMU**, representatives of practical health care (nurses) have been chosen as members in all official structures, namely University Senate, Faculty Council, Faculty Quality Assurance Committee, State Attestation Commission. The Council of the Faculty of Nursing of the AMU is organized in the composition of 16 members, 6% of which are representatives of nurses from practical health care. The State Attestation Commission for the final state attestation of 2020 graduates of the University in the specialty 6B10101 "Nursing" includes 25% of representatives from practical health care. The committee for quality assurance for the educational program of specialties "Nursing" includes 9% of nurses from 22 members.

In **KMU**, nurses are included in the board of the school of nursing education, participate in the final attestation commission, round tables, and a fair of vacancies for graduates. Below is a structure of School of the Nursing Education (SNE) of KMU (Figure 6).

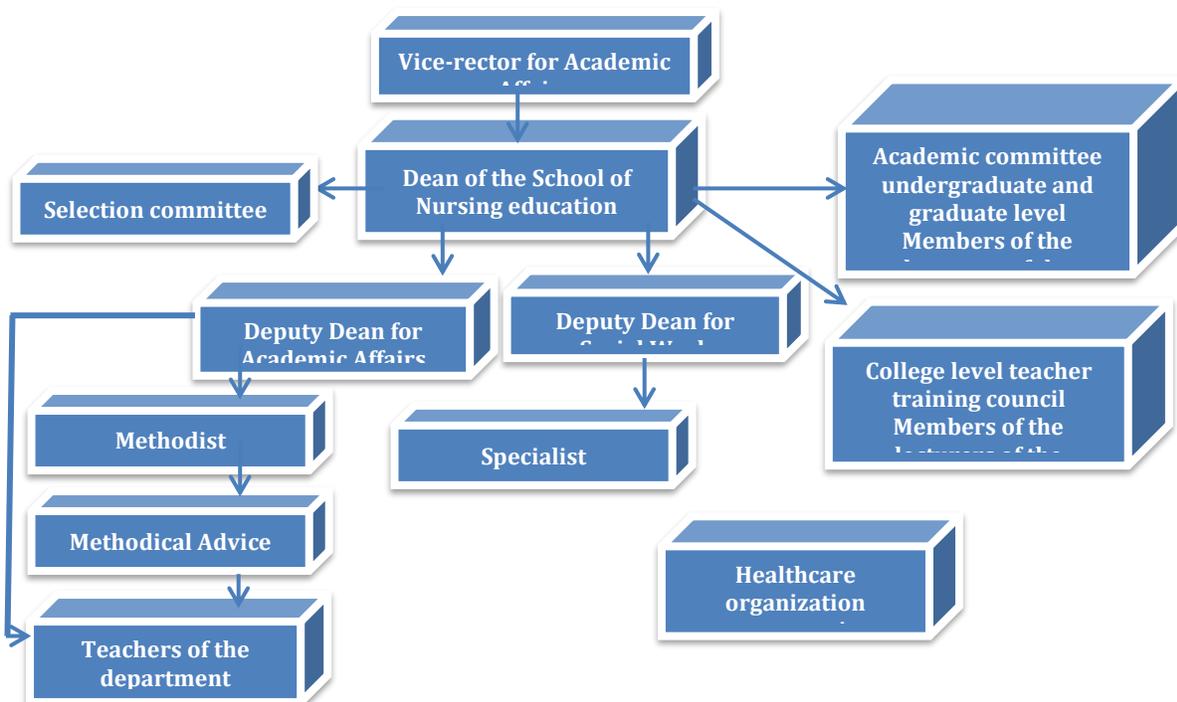


Figure 6. The structure of SNE of KMU

Also, at the **SKMA**, nurses actively participate in the events of the Department of Emergency Care and Nursing. Among the formal structures of the SKMA, meetings of the committee for the educational program of nursing, the methodological council of the department of emergency care and the council of the faculty are organized. All these meetings are held once a month. Below is a scheme of cooperation between the academy and organizations of practical health care (Figure 7).

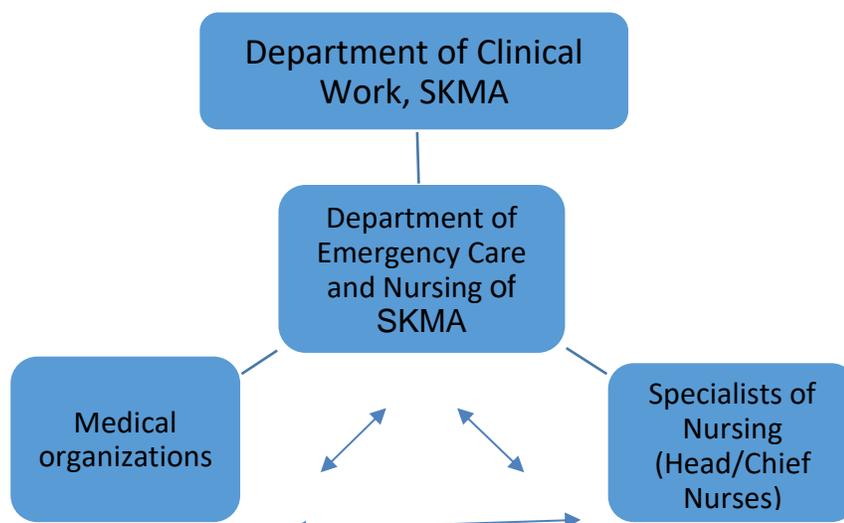


Figure 7. Scheme of cooperation between SKMA and organizations of practical health care

5.5 Applied methods and techniques

KNMU makes *an annual plan* according to which they organize the events (master classes, workshops) related on nursing topics.

AMU uses the technique when an enrollee prepares a research proposal with a supervisor before application to master programs. Collaboration to foster evidence-based nursing is provided by the relations within the projects such as ProInCa and AccelEd. AMU teachers, under the guidance of Finnish partners and together with them, participated in the implementation of the first pre-PHD course in Kazakhstan for future doctoral students and nursing researchers. The course included lecturing, conducting online classes, discussing homework, discussions on topics in nursing research.

At **NUSOM** they use administrator as a conductor of collaboration between Practical Health care (PHC) and teachers/supervisors from NUSOM. Topics for theses come from nurses according to the needs of clinical practice. And at each of units of UMC there are mentors who help with indicators.

SKMA uses a list of relevant nursing topics for thesis. The list of topics has been created by the teacher of department and based on Report on recommendations Medical Universities for creation of nursing research agenda (ProInCa) and corresponding the needs of society. In addition, their list of relevant nursing thesis topics is formed by the needs of the South Kazakhstan region.

The joint international projects as the ProInCa and AccelEd were identified by **KMU** as the methods which gave best results in collaborating to foster evidence-based nursing. Also, the mentorship practice and the opening of the PhD program in Nursing science were also mentioned.

5.6 Strategy level collaboration and development

At **KNMU**, there are strategic plans on the level of their School (Department) and on the level of the University. They have an annual plan which is approved in November. The plan is developed by Head of Department and University Clinic's representatives. Here is the link to familiarize with the university's strategic plan <https://kaznmu.kz/rus/programma-razvitiya-nao-kaznmu/>.

In **AMU's** strategic plan there were indicators from the Road Map, particularly the indicators of mentorship, indicators with requirements to assistants about their educational background. The certification of the teaching staff included, among other things, KPIs of increasing pedagogical competence and management of scientific research.

The important areas for future development of EBN in **NUSOM** were not identified as the department has only a few years' history. Topics for capstone projects come from the nurses' actual environment, workplace as the nurses are studying while working. The ProInCa report on the current research topics in nursing in Kazakhstan has been shared with nurses to show them the prioritized topics.

At **KMU**, infectious safety was identified as the important area for future development of evidence-based nursing, and the thesis topics were formulated concerning that area.

5.7 Capacity building

Each Kazakhstani university determines the personnel potential and directions of its development independently.

The personnel policy of **KNMU** is aimed at motivating and developing personnel. Certification / re-certification of their employees is organized periodically, availability of language skills among teachers is the interest of KNMU. The university invests in the scientific activities of its employees and their publications. Also, the department of nursing of KNMU implements the clinical plan (conducting master classes, lectures, workshops) during the academic year (usually once a month) on current topics related to nursing care in practical healthcare organizations.

SKMA organizes conferences (offline, online), which are held in medical organizations in Shymkent. One of the latest was called "Modern paradigms of nursing development". Additionally, SKMA organizes the training for mentors, and 108 nurses from 12 medical organizations have already been trained.

At **KMU**, in accordance with the national and sectoral qualifications frameworks, as well as in accordance with the professional standard for nursing, the selection and conclusion of employment contracts with university teachers and medical workers of clinics are carried out. The personnel policy of the KMU includes annual monitoring of individual development plans for teaching and administrative personnel. In the university, each department has indicators confirming the quality of the department's work. Achievement of these goals is rewarded not only with diplomas, letters of thanks of the rector, akims, director of the health department, but also in the form of admission payments.

6 Formulation of the recommendations

Preparation phase of the seminar

In order to present preliminary recommendations, as well as further discuss and determine ways of their adaptation and application in Kazakhstan, on May 4, 2021, an online seminar "Best practices of cooperation between medical organizations and universities in nursing" was organized by the Karaganda Medical University and the JAMK University of Applied Sciences (program in annex 3). Also, the purpose of the seminar was an online seminar to exchange and familiarize the partners of the project universities with the best practices identified during the electronic benchmarking conducted in March and April within the framework of the project. The online seminar was attended by eight (8) specialists from practical health care and 31 from medical universities in Kazakhstan and Europe.

The results of international best practices in the field of Evidence-based Nursing (EBN) through collaboration between academic and healthcare based on the literature review were presented. In addition, the representatives of each universities presented the best practices that were identified in the course of e-benchmarking (See Table 1). Preliminary recommendations for the development of collaboration structures and processes in nursing between universities and healthcare were discussed in breakout rooms in Kazakhstani university specific groups. Participants were asked two questions regarding each of five recommendations: Is this preliminary recommendation functional for the development of evidence-based nursing? How could this preliminary recommendation be implemented in order to foster evidence-based nursing? Based on the discussion in the session rooms, presentations were prepared and the group leaders presented them to all participants.

Table 1. Best practices that were identified in the course of e-benchmarking

Uni	Best practice	Selected	Justification
ÅAU	Many collaborations Ecosystem Regional hospital website for the thesis	Ecosystem (Theme 1, 6)	Vaasa Welfare Technology Ecosystem = Bring together the community of stakeholders to develop a joint health agenda, aiming to address and find common solutions to regional health challenges
LMSU	Strategy development Deeply merged in their collaboration in nursing Strong informal communication	Strategy development (Theme 2)	As it was mentioned on the discussion LSMU has 2 strategical plans: 1 plan of Hospital and 1 of university, which are overlapping. The staff is involved in the development process.
UMCU	Collaboration projects Joint positions Multidisciplinary research Prioritized research areas	Multidisciplinary research (Theme 3)	As it was discussed in the project “Future proof nursing” the nursing is essential in multidisciplinary complex care. University medical center is very multidisciplinary and one of the foundations of nursing is research and innovation.
JAMK	Collaboration with the wider society Future factory Strong quality assurance of the research projects	Society-oriented policy in collaboration	Wide settings of stakeholders on national (Central Finland Health Care District, City of Jyväskylä and surrounding municipalities, Higher Education network, HOTUS Nursing Research Foundation) and international level (Universities, European higher education network, North American higher education network, Health Promoting Hospitals & Health Services (HPH))
KMU	School of Nursing education	Collaboration with practical	Multistage educational programs Excellence in science, education and

	Collaboration with practical health care in nursing research in all stages of education	health care in nursing research (Theme 1, 3, 4)	practice is realized by continuous education (in all stages of education)
AMU	Practical health care represented in all of their senates, cathedral, councils Joint positions	Requirements for the members of official structures and processes (Theme 6)	In all of the official structures and processes (Faculty Council, Faculty Quality Assurance Committee, State Attestation Commission, University Senate) are the representatives of the Nursing.
NUSOM	In educational program (EP) academic and clinical support focused on EBP	Academic and clinical support focused on EBP (Theme 7)	In all of the EP (PDP, BN, BSN) there are academic and clinical support focused on EBP. By that introducing innovative approaches in the prevention, diagnostics and treatment of various diseases are improving.
SKMA	The selection of topics for the thesis. Capacity building. Informal collaboration.	The selection of topics for the thesis (Theme 7)	The list of relevant topics for the thesis based on Report on recommendations to Medical Universities for creation of nursing research agenda (ProInCa) and correspond the needs of the society.
KNMU	Department of Nursing Organizing capacity building master classes, seminars, workshops and lectures for the practical health care personnel	Organizing capacity building	Capacity is provided by the implementation of an annual clinical plan (conducting master classes, lectures, workshops) during the academic year (usually once a month) on current topics related to nursing care.

Summary of the seminar feedback on the recommendations

1. *It is recommended for the MU's and Health care (HC) institutions to identify the key structures and core processes for identifying regionally new topics and implementing the existing Nursing clinical guidelines*

Regarding the first recommendation, all HEIs considered it functional for the development of evidence-based nursing.

The team of the Astana Medical University proposed structures that could implement it: together with the department of science and specialized departments, the center of the magistracy and doctoral studies of the university, and dean's office of nursing. Nazarbayev University identified the structures

- the hospital nursing council, which includes (head nurses) and nursing department (nurse director + general manager).

To implement this recommendation, the following paths have been identified: Medical Universities (MU) will participate in creation of guidelines. Through the Republican Center for Healthcare Development (RCHD), guidelines are implemented and disseminated to other stakeholders. To intensify cooperation with the RCHD, to increase the interest of nurses in conducting research and to improve their competencies, organizing a schedule (reducing workload, creating conditions) allowing for research. The RCHD website has a resource on clinical guidelines for doctors <http://www.rcrz.kz/index.php/ru/2017-03-12-10-51-13/klinicheskie-protokoly>

Doctors of Kazakhstan through the well-known website of the RCHD have access to updated clinical guidelines. Clinical guidelines on this site are structured by medical specialty. It is possible to suggest that RCHD should place nursing clinical guidelines on this resource, which is already known to many medical professionals. Training of nursing staff and the teaching staff of specialized departments of MU for the introduction of nursing guidelines from the university, introduction of nursing guidelines into educational programs for students of "Nursing" (discipline topics), Coordination of new topics with students and regional priorities, training nurses in the use of guidelines.

- 2. It is recommended for the MU's and HC institutions further agree on ways to employ the Center of Nursing Excellence of Kazakhstan (CNE) resources in the collaborative development of nursing (<https://nursekz.com>).*

The second recommendation, according to representatives of medical universities, is realizable and functional.

To implement this recommendation, it was proposed to create an ecosystem of stakeholders, add a block on the CNE website for regional medical organizations with a request from practical health care relevant research topics. Regional CNEs were suggested to have correspondence with the employers' on their requests for future personnel's capacity through educational program (EP) (including elective disciplines), and strengthen organization of events. In addition, it was suggested that for the CNE platform to work effectively, a constant update of the site's content should be done and a section with a focus on practical healthcare should be added.

It was also proposed to integrate the Center for Nursing Excellence with the departments of the Medical University. Currently the regional centers are already starting to work in universities.

- 3. It is recommended for the MU's and HC institutions to create a structure and / or process for identifying and sharing research and development needs / topics in nursing.*

Recommendation number three was also agreed as necessary to be done depending on the region and its needs. The recommendation is functional, and it was noted that its implementation would facilitate the dissemination and exchange of research work and interests of representatives of both practical health care and academia.

The implementation of the recommendation is possible through the organization of round tables, congresses, forums, conferences, and magazine clubs both on the basis of universities and on the basis of the Center of Nursing Excellence for the exchange of views, experience, research topics. SKMA and

KNMU proposed to integrate the implementation of this recommendation into the work of existing departments: The Scientific and Clinical Division (SKMA) and the Department of Clinical Work (KNMU). In AMU, the approval of the topics of master's and doctoral theses takes place at the level of an interdepartmental meeting of specialized departments

- 4. It is recommended for the MU's and HC institutions to jointly prioritize and document the regional development areas for nursing relating to the current regional health problems of the citizens.*

The recommendation on joint prioritization and documentation the regional development areas for nursing was considered functional since each region has its own characteristics and problematic aspects. Annual international practical conferences with the participation of the RPO "Paryz" association, nurses from practical health care, and the teaching staff of the university to discuss regional health problems in the field of nursing can serve as one way of implementation of this prioritization. It was also suggested to actively involve regional nursing associations as well as other Associations and Non-Governmental Organizations, the public, volunteer students, undergraduates, nurses and faculty and local Department of Health.

- 5. It is recommended for the MU's and HC institutions to set in collaboration regional long-term goals for developing EBN that will enable positive health-related outcomes for the citizens.*

This recommendation was identified as functional. For the effective implementation of the recommendation, it is necessary to include it in the strategic plans of the universities and schools / faculty of Nursing Education, as well as to specify the points concerning the development of EBN in accordance with the roadmap. SKMA suggests making an overall strategic plan for EBN Based Nursing Development (MU + HC).

The report draft was prepared and sent to all partners. All partners had time to comment, and the recommendations were discussed in the WP2.3 meeting. All corrections and suggestions were added before this repost was finalized.

7 Conclusions and Recommendations

Activity 2.3.1 was aimed to create collaborative structures, processes, and capabilities to identify areas of nursing for research and development. To achieve this goal, the following events were held: a literary review of international best practices in the field of collaboration in nursing, an e-benchmarking discussion with European partner universities on best practices and an e-benchmarking discussion with Kazakhstan partner universities about current practices, as well as an online seminar with discussion of the developed recommendations and suggestions for adaptation.

As a conclusion on the e-benchmarking activity, it can be stated that the newly established small size Kazakhstani nursing schools and departments should not be compared to European universities and

their nursing faculties and schools with large, educated (several persons with PhD in Nursing) staff involved in teaching hundreds of nursing students from different levels of education and dozens of national and international research projects. Each of the Universities that participated to this e-benchmarking represent the national educational system and the collaboration processes, structures, and areas of the countries. Several collaboration approaches presented by the European Universities could be applied to Kazakhstan yet the personal and close connections between stakeholders in Kazakhstan are very valuable and fitting in to their small numbers of staff, students, and research currently in nursing.

In Kazakhstan the clinical practice collaboration and mentoring system have been well developed during last few years as well as in some of the universities the collaboration with clinical practice in finding thesis topics. The number of ongoing studies and joint projects between medical universities and practical healthcare for the study period is not high, but they tend to grow. There is potential for the development of cooperation between MU and PHC, which requires enhanced and systematic support of the first management of universities and practical health care institutions in collaboration and the introduction of cooperation processes and structures in the field of nursing. In future especially the academic nature of nursing science in form of research, creation of nursing clinical guidelines and fostering evidence-based practice needs more collaboration in systematic goal-oriented way in Kazakhstan. The revealed existing practices of Kazakhstani universities are important components in the process of reforming cooperation in order to develop EBN.

The result of this activity within the framework of the project was five recommendations for Kazakhstani universities on the development of structures and processes of cooperation in nursing between medical universities and practical healthcare.

For the further development of the collaboration in nursing between Medical Universities and Health Care Institutions, it is recommended 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.

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Yi, Y.J., Lee, K. & Park, K. 2020. The role of academic-practice partnerships from perspectives of nursing students: A cross-sectional study. *Nurse Education Today* 89, 104419. <https://doi.org/10.1016/j.nedt.2020.104419>

Annexes

Annex 1. List of e-benchmarking themes and questions

Themes	Questions
Theme 1. Characteristics of a fruitful partnership between the academe and clinical healthcare	T1 Q1. Description of current partnership and collaboration academe and clinical healthcare/ What would be the example to describe your current collaboration? T1 Q2. Please describe the collaboration process and the persons involved in/responsible persons? T1 Q3. Description of possible common goals, plans Please tell us about your possible common goals and plans to develop EBN / Nursing
Theme 2. Strategy Development in collaboration	T2 Q2. Who are involved when plans to develop nursing are done in your organization? T2 Q1. How do you (HEI & HCF) collaborate when you create / plan your development plans / strategy on enhancing EBN / Nursing education / nursing practice? T2 Q3. Can you give examples that what have been identified as important areas in your organization for future development of ENB?
Theme 3. Ways to build a partnership	T3 Q1. The formulation of the collaboration / Please tell us how you started to collaborate? T3 Q3. Please describe the learnings in building the collaboration and partnerships
Theme 4. Created structures and models	T4 Q1. Please describe the possible permanent/formal collaborative structures (i.e. Committees, Boards, Annual meetings) existing in your organization T4 Q2. Please explain the phases how this works in practice. T4 Q3 How about informal collaboration, please give an example of collaboration.
Theme 5. Capacity building	T5 Q1. Description of the current collaborative capacity building activities Can you describe how do the current capacity building activities look like in your organizations? Can you describe how you collaborate in planning the capacity building activities/ professional development courses for teaching staff/nurses? Can you describe how you collaborate in implementing PD courses for nurses? T5 Q2. What kind of student related mentoring opportunities are provided? What kind of staff training opportunities are provided for nurses?
Theme 6. Managing partnership	T6 Q1. Current partnerships Please share example on how the partnerships are managed. T6 Q2. How have you agreed about this collaboration? T6 Q3. Current areas of collaboration and who are responsible of the management?

	Please describe how you manage the three different areas of collaboration - research, practice, and education in your collaboration?
Theme 7. Applied methods and techniques	T7 Q1. Description of methods and tools in the collaboration => Please give some examples of how/what ways you collaborate to develop EBN? T7 Q2. What are, to your opinion, the methods and/or techniques you are using that have yielded best results?

Annex 2. European and Kazakhstan medical universities presentations

European and Kazakhstan medical universities presentations for e-benchmarking discussions

- [JAMK University of Applied Sciences](#) 29.3.2021
- [Åbo Akademi Univeristy](#) 18.3.2021
- [University Medical Center Utrecht](#) 18.3.2021
- [Lithuanian university of health sciences](#) 17.3.2021
- [Karaganda Medical University](#) 7.4.2021
- [Astana Medical University](#) 6.4.2021
- [Nazarbayev University School of Medicine](#) 7.4.2021
- [South Kazakhstan Medical Academy](#) 9.4.2021
- [Kazakh National Medical University.](#) 7.4.2021

European and Kazakhstan medical universities presentations for the seminar

- [JAMK University of Applied Sciences](#)
- [Åbo Akademi Univeristy](#)
- [University Medical Center Utrecht](#)
- [Lithuanian university of health sciences](#)
- [Karaganda Medical University](#)
- [Astana Medical University](#)
- [Nazarbayev University School of Medicine](#)
- [South Kazakhstan Medical Academy](#)
- [Kazakh National Medical University.](#)

Annex 3. List of included articles

No	Title of publication	Name of authors	Year	Database
1	How are evidence generation partnerships between researchers and policy-makers enacted in practice? A qualitative interview study	Anna Williamson, Hannah Tait, Fadi El Jardali, Luke Wolfenden, Sarah Thackway, Jessica Stewart, Lyndal O’Leary and Julie Dixon	2019	PubMed
2	Learning from the emergence of NIHR Collaborations for Leadership in Applied Health Research and Care (CLAHRCs): a systematic review of evaluations	Roman Kislov, Paul M. Wilson , Sarah Knowles and Ruth Boaden	2018	
3	Practitioner experiences from the structured implementation of evidence-based practice in primary care physiotherapy: A qualitative study	Siw Carlfjord, Emma Nilsing-Strid, Kajsa Johansson, Theresa Holmgren and Birgitta Öberg	2018	
4	Science of Health Care Delivery: An Innovation in Undergraduate Medical Education to Meet Society’s Needs	Stephanie R. Starr, Neera Agrwal, Michael J. Bryan, Yuna Buhrman, MJack Gilbert, Jill M. Huber, Andrea N. Leep Hunderfund, Mark Liebow, Emily C. Mergen; Neena Natt, Ashokakumar M. Patel, Bhavesh M. Patel, Kenneth G. Poole, Jr, Matthew A. Rank, Irma Sandercock, Amit A. Shah, Natalia Wilson, and C. Daniel Johnson	2017	
5	A thematic analysis of the role of the organisation in building allied health research capacity: a senior managers’ perspective	Xanthe Golenko, Susan Pager and Libby Holden	2012	
6	Experience of Health Leadership in Partnering With University-Based Researchers in Canada – A Call to “Reimagine” Research	Sarah Bowen, Ingrid Botting, Ian D. Graham, Martha MacLeod, Danielle de Moissac, Karen HarlosD , Bernard Leduc, Catherine Ulrich, Janet Knox	2019	Web of Science
7	Creating academic structures to promote nursing’s role in global health policy	S. Gimbel, P. Kohler, P. Mitchell, A. Emami	2017	
8	Global health leadership training in resource-limited settings: a collaborative approach by academic institutions and local health care programs in Uganda	Damalie Nakanjako , Elizabeth Namagala, Aggrey Semeere, Joanitor Kigozi, Joseph Sempa, John Bosco Ddamulira, Achilles Katamba, Sam Biraro, Sarah Naikoba, Yohana Mashalla, Carey Farquhar and Nelson Sewankambo	2015	

9	Towards improved organisational support for nurses working in research roles in the clinical setting: A mixed method investigation	Rickard, Claire M., Williams, Ged, Ray-Barruel, Gillian, Armit, Lyn, Perry, Chris John, Luke, Haida, Duffy, Paula, Wallis, Marianne	2011	
10	A knowledge translation project on community-centred approaches in public health	Stansfield, J and South, J	2018	
11	Beyond the Research–Practice Gap: The Development of an Academic Collaborative Centre for Child and Family Social Work	Roos Steens, Tine Van Regenmortel and Koen Hermans	2018	
12	Creating a culture of caring: A collaborative academic-practice approach to clinical education	Gierach M, Knuppe M, Winterboer V, Randall R. Creating a culture of caring: A collaborative academic-practice approach to clinical education.	2019	
13	Challenges and insights in inter-organizational collaborative healthcare networks	Mervyn et al.	2018	EMERALD
14	Engaged scholarship. Encouraging interactionism in entrepreneurship and small-to-medium enterprise (SME) research	Simba et al	2017	
15	Factors influencing early stage healthcare-academia partnerships	Uvhagen et al.	2017	
16	Characteristics of the collaborative learning unit practice education model for undergraduate nursing students: a scoping review protocol	Lenora Marcellus, Darlaine Jantzen, Diane Sawchuck, Carol Gordon, Robin Humble	2019	JBI
17	Enhancing research capacity across healthcare and higher education sectors: development and evaluation of an integrated model	Whitworth et al.	2012	CINAHL
18	“These are Good Problems to Have...”: Establishing a Collaborative Research Partnership in East Africa	Tierney et al.	2013	
19	Frameworks for embedding a research culture in allied health practice: a rapid review	Susan C. Slade, Kathleen Philip and Meg E. Morris	2018	
20	Center of Excellence to Build Nursing Scholarship and Improve Health Care in Italy	Rocco et al.	2013	
21	Better Together: A Win-Win Pediatric Academic Partnership	Victoria Niederhauser, Laura Barnes, Deb Chyka, Nan Gaylord, Linda Mefford, Lynn Miller, and Sandra J. Mixer	2016	
22	Towards a new paradigm in health research and practice? Collaborations for Leadership in Applied Health Research and Care	Graham P. Martin, Sarah McNicol and Sarah Chew	2013	
23	Collaborations for Leadership in Applied Health Research and Care: lessons from the theory of communities of practice	Roman Kislov, Gill Harvey, Kieran Walshe	2011	

24	Interventions to support and develop clinician-researcher leadership in one health district	Fry et al	2017	Hand search
25	Removal of Nursing Faculty Practice Barriers in Academia: An Evidence-Based Model	Lynn C.Aquadro Birdie, Irene Bailey	2014	
26	Promoting Evidence-Based Practice Through a Research Training Program for Point-of-Care Clinicians	Black et al	2015	
27	Enhancing nursing education via Academic clinical partnership: An integrative review	Thokozani Bvumbwe	2016	
28	Building successful and sustainable academic health science partnerships: exploring perspectives of hospital leaders	Sarah DeBoer, Jamie Dockx, Chris Lam, Shabdit Shah, ¹ Gillian Young, Martine Quesnel, Stella Ng, Brenda Mori	2019	
29	Academic–Practice Partnership: Benefits and Sustainability of the Northeast Region VA Nursing Alliance	Glynn et al.	2018	
30	Outcomes of partnership between higher education and health care	Häggman-Laitila & Rekola	2016	
31	The STTI Practice-Academe Innovative Collaboration award: Honoring Innovation, Partnership, and Excellence	Kirschling et al	2010	
32	Assessing the Status of Partnerships Between Academic Institutions and Public Health Agencies	Livingood et al.	2007	
33	Higher Education Collaboratives for Community Engagement and Improvement	Pasque et al	2005	
34	An Academic and Clinical Practice Partnership Model: Collaboration Toward Baccalaureate Preparation of RNs	Petges et al	2020	
35	Evidence-Based Nursing Education: A Scoping Review	Khalili et al	2015	
36	Collective action for implementation: a realist evaluation of organizational collaboration in healthcare	Rycroft-Malone et al.	2016	
37	Building an Academic–Practice Partnership to Support Doctor of Nursing Practice Projects	Spoelstra et al.	2019	
38	Enhancing Evidence-Based Practice Through Collaboration	Springer et al	2006	
39	Perceptions of Partnership. A study on nonprofit and higher education collaboration	Trebil-Smith et al.	2018	
40	What happened and why? A programme theory-based qualitative evaluation of a healthcare-academia partnership reform in primary care	Håkan Uvhagen , Henna Hasson, Johan Hansson and Mia von Knorring	2019	

Annex 4. Program of the Online seminar "Best practices of cooperation between medical organizations and universities in nursing"

4 Tuesday MAY 2021		
Time	Topics	Speakers
14:00-14:10	Welcome: gathering and greetings	Johanna Heikkila, Senior Advisor, JAMK University of Applied Sciences, Finland Bauyrzhan Omarkulov, Professor, Karaganda Medical University, Kazakhstan
14:10-14:20	Best international practices fostering Evidence-based Nursing (EBN) through collaboration between academic and healthcare – literature review	Inesh Meyermanova, Karaganda Medical University, Kazakhstan Hanna Hopia, JAMK University of Applied Sciences, Finland
14:20-15:25	Presentation of the best practices of partner universities.	
	Karaganda Medical University	Auez Aitmagambetov
	Astana Medical University	Aigerim Mukhamediyarova
	Kazakh National Medical University	Nurilya Akhmetkalieva
	Nazarbayev University School of Medicine	Nancy Stitt
	South Kazakhstan Medical Academy	Aizat Seidakhmetova
	JAMK University of Applied Sciences	Tytti Solankallio-Vahteri
	Utrecht University	Lisette Schoonhoven
	Lithuanian University of Health Sciences	Aurelija Blaževičienė
	Åbo Akademi University	Lisbeth Fagerström
15:30-16:00	Preliminary recommendations for collaboration structures and processes development between universities and healthcare	Annina Kangas-Niemi JAMK University of Applied Sciences, Finland Feruza Saduyeva, Karaganda Medical University, Kazakhstan
16:00-16:15	Technical break	
16:15-17:15	Breakout room discussions about the applicability of the preliminary recommendations of collaborative practices in the KZ context	KMU and Annina Kangas-Niemi
17:15-17:55	Summarizing and presenting ways to apply collaborative practices	One representative from each room
17:55-18:00	Closing the Online Seminar	Johanna Heikkila and Zhuldyz Kuanysh