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Short Communication

Northern Nursing Education Network – Continuing Nursing Education during the COVID-19 Pandemic

Don M Leidl[*1], Kathie Pender[2], Bente Norbye[3], Nikolai Diachkovskii[4] and Nina Gao[5]

[1]*Assistant Professor, College of Nursing, University of Saskatchewan, Saskatoon, Canada*

[2]*Instructor, School of Health and Human Services, Aurora College, Yellowknife, Canada*

[3]*Professor in Health Care Education, Department of Health and Care Sciences, UiT The Arctic University of Norway, Tromso, Norway*

[4]*Nikolai Diachkovskii, Director of Nursing Education, North-Eastern Federal University, Yakutia, Yakutsk*

[5]*PhD Candidate, Department of Sociology, University of Saskatchewan, Saskatoon, Canada*

Introduction

The impact of the COVID-19 pandemic on healthcare and nursing education has been significant. It has created an urgent need for additional front-line nurses and has forced nursing education programs to drastically change to meet this need [1]. With traditional curriculum delivery stalled due to social distancing guidelines and restricted access to clinical placements, nursing education must explore alternative approaches for curriculum delivery and evaluation. More than ever, nursing programs need to continue operating and prevent further delays of student progression through their program. Professional nursing associations have established priorities for nursing education programs to address the challenges presented by the pandemic, the first being to continue to ensure registered nurses receive high quality education [1]. The demand for nursing education programs to continue graduating nurses is even more paramount in rural areas across the Northern regions internationally where nurses are crux of healthcare systems, essential for the provision of services.

Many nursing education programs are looking to technology for curriculum delivery solutions, an area that the Northern Nursing Education Network (NNEN) has been involved with since its inception. Blended learning, decentralized learning, distributed learning, remote presence technologies, and online learning in nursing education are areas that the NNEN have helped to develop or piloted in nursing education programs across the circumpolar north [2]. These technologically enabled learning and curriculum delivery approaches are now being looked to as they not only allow for nursing education to be delivered to rural or isolated geographical locations, but also ensure safe social distancing during a time when the use of face-to-face classroom teaching is not possible [3,4]. This article will look at nursing educations response to program delivery during the COVID-19 pandemic and highlight how technologies utilized within the NNEN are being brought into the mainstream of nursing program delivery. From these examples, recommendations will be presented to augment existing measures or guide nursing education programs as they transition to online program delivery during the pandemic.

Background

The pandemic hit the world very suddenly, providing little time for nursing education programs to develop contingency plans to address the challenges that it now faced with. Few nursing programs offer the entirety of the undergraduate theory courses via technology, with most offering a mix of face-to-face, online, and blended theory course delivery options. However, due to the pandemic, many courses that have not traditionally been offered via technology are now being forced to do so, challenging nursing educators to restructure how course content is delivered and evaluated. In addition, the issue of restricted student access to simulation lab and clinical learning courses needs to be addressed. Though significant, the challenges for nursing education created by the Covid-19 pandemic can be addressed. With more technological options than ever before and a long history of integrating technology into curriculum delivery [5,6], nursing education is well positioned to meet the challenges created by the pandemic.

NNEN member institutions already heavily utilize online, decentralized, or distributed curricula delivery and have specialized technology infrastructure, knowledge, and expertise related to course design, content delivery and evaluation, and technology support [7]. With this background in technology mediated curriculum delivery and evaluation, NNEN member institutions are well positioned to provide knowledge, expertise, and support to other nursing education programs who are now struggling to adapt their program delivery in response to the pandemic. The following are examples from how four NNEN member institutions are leveraging technology to adapt their program delivery during this unprecedented time. Our hope is that these examples from the NNEN can be used to help other nursing programs across the circumpolar north address the challenges created by the pandemic.

Member Response: UiT The Artic University of Norway – Faculty of Health Sciences – The rural nursing education program – Norwegian High North

The Arctic University of Norway (UiT) shut down the access to our university for all students, including all campuses and study centres on March 12th, 2020. None of us had seen this coming, and home office was now the only entrance to work. There were two student cohorts at the regions decentralised nursing program, geographically spread across the county of Troms [8], that had their timetable shifted to accommodate for restricted physical access to study centres and libraries. There was not an alternative to delay students in their programs, so a quick response was necessary. Priorities included alterations to exams, teaching theory classes online and postponing skills training were dealt with, as well as negotiations with healthcare services of how to keep students safely in placement.

All immediate face-to-face teaching was cancelled, being replaced with online lectures and video podcasts. Our Learning Management System (LMS) was recently changed from Frontier to Canvas and not all faculty were familiar with the new system. The faculty started each morning with one-hour peer training, sharing experiences and discussing possibilities. Teaching and learning using Microsoft Teams and Zoom where piloted, evaluated, and improved in an on-going process. This effective peer training kept the spirit and the collegial support going initially in finding solutions for the students.

In the rural areas, the nursing students municipal care placements were moved to their home community. This was important as some neighboring communities decided to quarantine if a person left the community. All face-to-face contacts between health service, the student, and faculty are now attended via Microsoft Teams meetings. Some students will be allowed to have paid placements if they are prevented from combining two places of work and can stay in their home community. Lab based skills training will resume when the university reopens and adhere with cohort size restrictions in accordance with National regulations.

Six weeks on from these changes and from a Faculty perspective, the shift in curriculum delivery went relatively smooth as we were already familiar with blended learning approaches and had additional daily training to support the transition. The infrastructure concerning information technology (IT) and stable 4G broadband has been the most important area of concern. The teachers' willingness and collegial support towards new digital tools in teaching has been vital for success along. Reliable IT support from the university and weekly online instructional sessions on the new tools have also been made available to support faculty. This shift towards the use of digital teaching and learning tools is an important step for the program, one that and may result in these curricula delivery changes becoming permanent. The next step is to conduct as student satisfaction evaluation and assessment of impact of these curricula changes on student learning.

Member Response: University of Saskatchewan – College of Nursing – Undergraduate Nursing Program – Western Canada

In early March 2020, the College of Nursing at the University of Saskatchewan suspended all lecture, lab, and clinical courses and issued a work from home order to all faculty in response to the COVID-19 pandemic. In consultation with University senior leadership, professional nursing associations, and the Saskatchewan Health Authority, access to all clinical learning experiences ended in mid March 2020. These changes left little time for the College to Nursing to develop contingency planning that would ensure the continuation of curriculum delivery and support senior students in the completion of their program. After extensive consultation with the institution, faculty, and healthcare system leadership, a plan forward was created, and three priorities were identified.

Priority one was to ensure that students in clinical practice were provided with the opportunity to display competence so that decisions related to program advancement or completion could be determined. Nurse preceptors, clinical coordinators, and clinical instructors for each clinical course in the program held meetings to discuss the current clinical performance and competence for each student. During these meetings, students ready to advance and those requiring additional clinical time were identified. All meetings utilized video conferencing tools common to the College of Nursing such as CISCO WebEx and Microsoft Teams.

Priority two was to transition all current classroom activities to online delivery. In this regard, the College of Nursing was in a unique position within the University, having a well-developed blended learning infrastructure and many faculty and staff with considerable expertise in online teaching already in place These faculty worked collaboratively with their peers to redesign and transition the entire undergraduate curriculum to an online delivery format in approximately two weeks. Final examinations were moved to online testing services resulting in minimal disruption to academic calendar timeframes. The biggest challenge in the transition was finding alternatives for lab-based student learning experiences. Virtual simulations are being explored as an option until students can be allowed back into the simulation labs. Saskatchewan has a well-developed 5G broadband infrastructure, providing the opportunity to transition the nursing curriculum into synchronous blended learning and asynchronous online courses. The University of Saskatchewan and the College of Nursing also employ IT professionals to support and maintain the software and hardware that are essential to online program delivery. Nursing students have early exposure to the LMS and the multiple software solutions that are used for program delivery and evaluation, easing the transition to online program delivery.

Priority three focused on developing a sustainable plan for the delivery of the undergraduate nursing program. Regular communication with the Ministry of Health, the Saskatchewan Health Authority, provincial professional Nursing associations, and other Saskatchewan Nursing Programs has helped to create a plan forward that builds on the colleges existing expertise in blended learning, distributed, and online course development, and includes strategies to help ease students back into simulation labs and clinical learning environments. The undergraduate nursing program at the University of Saskatchewan would have ground to an immediate halt in response to COVID-19 without steadfast access to LMS, video conferencing, student evaluation software, IT support, 5G internet infrastructure, and nursing faculty that respond positively and calmly to crisis,. Instead, the College of Nursing has found a way forward by leveraging technology and building on the existing capacities of the faculty and institution.

Member Response: NEFU-6 - North Eastern University – Department of Higher Nursing Education – Yakutia – Russian High North

Yakutia is one of the largest regions of Russia with a total area of more than 3,103 km². The proportion of urban population is 65.5%, with 34.5% living in rural and often isolated areas. The Department of Higher Nursing Education at the North Eastern Federal University (NEFU) in Yakutsk is the primary source of Nursing graduates for the entire region. During the COVID-19 pandemic, the program transitioned from traditional classroom and lab teaching to online course delivery utilizing the open source Moodle LMS and practical skills training using remote presence technologies such as the InTouch Health RP-7 robot. Online tools such as WhatsApp, Zoom, and Discord are accessed via mobile device and web-based internet applications. Offline media on CD, DVD, MPS, MP4, and applications such as K-Lite Codec Pack Full (Windows) and YouTube are also being integrated into program delivery. This transition was especially beneficial for students in rural and remote areas of the region.

The wide range of online and offline course delivery approaches is necessary for one simple reason. With many students leaving the city of Yakutsk to more distant places of residence at the start of the pandemics, low internet speeds outside the city prevents our students from accessing online resources. Therefore, nursing theory courses are delivered to students living in nearby areas in real-time online through Zoom, Discord, Moodle applications, and to students located in remote rural areas we submit the material offline through the applications CD, DVD, MP3, MP4, K-Lite Codec Pack Full (Windows), YouTube or WhatsApp. Though this plan is far from ideal, the Department of Higher Nursing Education will continue to search out and utilize all options to keep its nursing students connected and engaged in their learning during this crisis. At present, theoretical courses will continue to be offered via technology, with clinical learning opportunities being deferred until fall 2020 or it has been determined safe for student to return to clinical practice. Full-time student clinical practice residencies are also being explored as an option for students in remote places of residence. Planning will continue to evolve in response the challenges presented by COVID-19,

Despite the objective and subjective difficulties of distance learning during COVID-19 pandemic, the education of nurses continues to be a priority for the Department of Higher Nursing Education at NEFU. The Nursing program has managed to adapt during the harsh conditions of the COVID-19 pandemic thanks to member support from the UArctic Thematic Network on Northern Nursing Education and the lasting relationships that membership in this network has provided.

Member Response: Aurora College - School of Health & Human Services – Nursing Education Program – Canadian High North

The Aurora College Bachelor of Science in Nursing (BSN) program is in Yellowknife, Northwest Territories, Canada. Aurora College has three campuses and 21 community learning centers throughout the territory encouraging community access to programs. The BSN program has never been delivered virtually as the strength of the program is through an in-person model encouraging community, interaction and engagement between instructors and peers. The limited bandwidth across the territory had been a deterrent to explore online delivery options.

The week of March 16-22, 2020 was spring break for BSN students at Aurora College, approximately three weeks from the end of the academic term in mid-April. During this time, the College made the decision to suspend on-campus learning activities due to the pandemic and extended spring break until the end of March, allowing instructors time to prepare for students to finish the semester online.

The priority for clinical placements remained with imminent graduates. Fortunately, Year four students were able to stay in their practice locations and finish the semester. Year three students were in a community nursing practice. Many of the organizations were restricted to non-essential personnel resulting in suspension of in person presence. Fortunately, most of these students finished the semester without disruption. The first- and second-year students finished their courses online. The open source Moodle LMS is the main digital platform to deliver BSN classes. The transition of all courses, then final exams to a digital platform was completed without incident.

Due to national and territorial pandemic restrictions, continuing clinical placements required ingenuity for the last semester of the year. The focus of the spring semester is usually consolidated practice or bringing together learnings from the year in a clinical practice environment. However, the uncertain clinical environment forced a restriction that limited year one and two students from engaging in the clinical practice setting. To address this problem, instructors in year one and two created a new distributed learning model.

The instructors had varied online teaching experiences, resulting in the creation of a diversified online teaching platform. A video conferencing tool was required for up to 30 people to facilitate synchronous discussion. A client simulation platform was required to deliver clinical skills training at a year one and two level; engaging students to critically think through skills, health promotion and documentation. A video platform was required enabling students to record skills, comment on their performance, and allow for instructor feedback and comments. The open source Moodle LMS was the main online platform for program delivery.

After two months of online course adaptation, adjustment to this new norm continues. The encouragement and motivation of the instructors and leadership is a benefit to quickly recreate program delivery. The guiding philosophy during this transition was to find high quality teaching approaches that caused the least amount of program and student disruption. The past limitation of internet connectivity was not a deterrent to test the boundaries of online curriculum delivery. Although COVID-19 has and continues to evoke uncertainty, the ability for the BSN program at Aurora College to adapt and deliver quality education is commendable.

Summary and Program recommendations

From the NNEN member responses to the COVID-19 pandemic, technology was pivotal as the primary mechanism to ensure that nursing education continued with limited disruption. The NNEN consists of nursing education programs that have established track records in leveraging technology to find solutions related to program delivery, making them

uniquely situated to respond to the challenges presented by the pandemic quickly and effectively. From the individual program accounts presented, several recommendations can be highlighted to augment or guide nursing education programs as they transition to online program delivery during the pandemic.

Recommendation 1 – Work towards ensuring reliable internet access and high bandwidth – To ensure that connectivity and program delivery via technology is reliable and consistent, with equitable access across a program, a stable high-speed internet infrastructure with suitable bandwidth for video conferencing needs to be in place.

Recommendation 2 – Software Choices and Availability – Many different commercial and open-source options for learning management systems (LMS) are currently available, making it easy for programs with varying operating budgets to find suitable software options necessary to transition their program to online delivery during the pandemic. Leigh et al. [4] provided some examples of digital technologies that could be adopted to deliver the theoretical component of a quality nursing program.

Recommendation 3 – Support for Faculty and Students – Though many programs have experience with online program delivery, it is presumptive to assume that all faculty and students are comfortable with the use of the technology to deliver nursing education online. Adapting overnight to a completely virtual approach, educators have to familiarize themselves with the process of online deliver, the available digital tool, and perhaps more importantly, their identity as a lecturer [4]. This process can be equally challenging to students. As technology solutions are implemented, supports for faculty and students to use this technology must also be promoted.

Recommendation 4 – Contingency Planning – For many programs, planning was not in place to address the challenges presented by the COVID-19 pandemic. A global disruption is hard to predict, but disaster plans of any kind can still serve as a starting point for strategic planning during a mass disruption of program function and delivery. Bettencourt et al. [9] argued that academic nurses could be leveraged to inform crisis-related research and planning agendas. Emergency contingency planning can help to establish the communications and decision-making processes necessary to guide program and institution leadership during times of local, national, or international crisis. If your program does not currently have an emergency contingency plan, now is the right time to create one.

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***Corresponding author:** Don M Leidl, RN, BScN, MN, EdD, Assistant Professor, College of Nursing, University of Saskatchewan, Saskatoon, Canada; E-mail: don.leidl@usask.ca

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