Strengthening the Local Nursing Workforce for Rural and Tribal Communities

An assessment of needs and possibilities for a distance-learning program to train talent – and address nursing shortages and distinctive healthcare needs – in rural and tribal communities

December 2018
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Thank you to the rural and tribal community members and professionals who contributed to this report. The AHECWW recognizes the limitations of such a document to represent a comprehensive voice of all rural or tribal communities within the State of Washington. The center hopes this document will encourage more conversation and research to explore how to better serve Washington communities most impacted by health professional shortages and identify innovative solutions with local input at the core of the design.

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<tr>
<td>ADN</td>
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<td>Area Health Education Center</td>
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Executive summary

Problem

Healthcare disparity and distribution problems of the nursing workforce in rural and tribal areas depend on many factors, only some of which are related to education. Regarding nurses’ decisions to work in rural settings, however, studies have found that a rural upbringing and training in rural areas are significant factors. Distance-learning allows students to train in or near their home communities, drawing on the influence of factors like these. Educational institutions in different parts of the country are offering distance-learning options for nursing candidates. Here in Washington State, the Rural Outreach Nurse Education (RONE) program offered distance-learning nursing program between 2009 and 2015. However, in considering a future attempt to create a similar program, there was a need to reassess the needs and possibilities for such a program, and consider how to make it more viable.

Through working group meetings facilitated by the Area Health Education Center for Western Washington (AHECWW) in 2017-18 and a focused information-gathering process in the summer of 2018, a set of educational needs were identified:

a. Providing affordable access to nursing education in rural and tribal communities.

b. Educating and hiring a nursing workforce in rural communities that reflects the diversity of the community (in alignment with the Institute of Medicine report, “The Future of Nursing: Leading Change, Advancing Health.”

b).

c. Opening up the nursing pathway in rural and tribal areas through the associate degree nurse level.

d. Providing opportunities for registered nurses (RNs) to obtain certification in needed specialized areas.

e. Encouraging and supporting new students and healthcare staff from rural, tribal, and other under-represented populations in healthcare professions to take advantage of educational opportunities in nursing.

Information was also collected on the changing role of nurses and the need for addressing population and area-specific healthcare needs through education. The provision of clinical faculty, clinical placement spots, ongoing funding and adequate administrative capacity were identified as the main challenges to creating new nurse training opportunities.

Addressing these needs and challenges will require collaboration between educational institutions, medical and healthcare facilities, and a range of supporting agencies and institutions, all of whom can contribute in different ways. One of the notable observations made in the process of information gathering was how possibilities seemed to open up once stakeholders were brought together in conversation.
Approach

It is recommended that instead of trying to address all these issues through a single program, several integrated lines of action be initiated by project teams who are supported by a coordinating team and/or form a consortium of workforce, education, labor and industry to support place-based learning and professional development. This would allow the efforts to be shared by partners who can each lift where they are strongest, and give them an opportunity to tie those efforts into broader needs and audiences in nursing education and other health professions.

Though the lines of action would need to be determined by a coordinated effort, the following lines of action are suggested as a starting point for next steps.

1. Opening up the nursing pathway at the following nursing levels through supported distance delivery of content and accessible clinical training: nursing assistant-certified (NAC), nursing prerequisites, licensed practical nurse (LPN), and associate degree nurse (ADN). Clusters of facilities could collaborate to arrange the clinical training, some of which could be provided through simulations. The program could use a “step-in-step-out model”, could be arranged as a nurse technician or apprenticeship program, would need to offer student supports, and could include contextualized content.

2. Training and supporting nurse instructors and preceptors at hospitals and other facilities: This would build instructional capacity for facilities taking part in the distance-learning nursing pathway, but could also be open to other facilities, and may improve fidelity of clinical practice experiences and training found to be a challenge especially in lower census facilities.

3. Developing the use of simulations to replace a portion of on-site clinical training: This would involve curriculum development, faculty training, and a plan for equipment maintenance. It would support the distance-learning nursing pathway, but could also be used to encourage other programs to use simulations, thus helping to address the system-wide shortage of clinical placement spots. Additionally, this may open up opportunities for industry partnership in training and education.

4. Offering or supporting certification in specialized areas for RNs employed in rural and tribal facilities: An exchange program with urban hospitals or other means would need to be devised for rural nurses to get the clinical experience needed for specialization. Distance courses could be offered, if needed, though many are already available.

5. Providing outreach, support, and mentorship to nursing candidates and nurses in rural, tribal, and other under-represented populations to enter or progress along the nursing pathway.

6. Coordinating, strategizing, and maintaining coherence for these lines of action so that they, over time, come together in a system that supports candidates and the nursing workforce in rural, tribal, and other underserved areas.

These lines of action are interdependent and need to be integrated in a long-term, overarching strategy for creating a subsystem within the broader system of nursing education that fosters locally trained nurses in rural and tribal communities.
Implementation

1. Form a consortium of education, industry, regulation, and labor representatives, which would create a coordinating team to initiate next steps. The coordinating team would develop an overarching strategy and facilitate the formation of project teams for each line of action. The consortium work can initially be funded by startup grants, but will need to formulate a self-sustaining funding structure for the long-term support of projects developed.

2. Project teams, supported by the coordinating team, can then formulate plans for each line of action, including a business plan, grant proposals and a research plan, and define roles and responsibilities. The coordinating team would ensure the projects and business model are integrated into the overarching strategy.

3. As the project teams implement the development and pilot phases of their lines of action, the coordinating team can track progress, ensure integration between the lines of action, and support planning for long-term sustainability.

4. Once projects are piloted, refined, and have demonstrated their effectiveness, they enter a phase where they seek sustainability, and can expand through replication or upscaling. An annual review process of program evaluations, student assessments, and impact of projects on recruitment and retention will provide the basis for program improvement and expansion.
Introduction

Background

This assessment of needs and possibilities for a distance-learning nurse education program in Washington State is a response to ongoing concerns about geographic and racial/ethnic disparities in healthcare and healthcare education. While this report focuses primarily on rural and tribal communities, it also has in mind other ethnic and racial populations that make up a growing proportion of rural populations. Healthcare in rural areas across the country faces workforce shortages. Recruitment and retention in rural areas is difficult. For under-represented populations, the lack of diversity in the healthcare workforce contributes to disparities in healthcare. Nurses are an important link in healthcare delivery, and shortages in the nursing workforce in rural, tribal, and other underserved areas depend on many factors, only some of which are related to education. Regarding nurses’ decisions to work in rural settings, however, studies have found that a rural upbringing and training in rural areas are significant factors. Distance-learning options can draw on factors like these by allowing students to train in or near their home communities. Educational institutions in different parts of the country are offering distance-learning options for nursing candidates.

In Washington State, there has been interest in distance-learning options for training nurses since the 1990s, leading to the creation of the Rural Outreach Nursing Education (RONE) project, which operated from 2009 to 2015. Beginning in the spring 2017, the Area Health Education Center for Western Washington (AHECWW) at Whatcom Community College, with support from the Washington Department of Health (WADOH), Health Resources and Services Association (HRSA), and the University of Washington, has spearheaded another look into current needs and possibilities for making

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1 See, for example, “Minority populations driving county growth in the rural west” (2017) at https://headwaterseconomics.org/economic-development/trends-performance/minority-populations-driving-county-growth/.


5 For example, the Nightingale College of nursing offers ADN, BSN and RN to BSN programs through dedicated distance cohorts and hybrid-distance programs in various locations in Utah, Idaho and Wyoming.

nursing education accessible to rural, tribal, and other underserved communities. This report compiles the input collected, partly through a recent information-gathering effort, and provides recommendations for moving forward.

This assessment of needs and possibilities has found a persistent but geographically dispersed demand for nursing staff at different levels of licensure, and a continued need for and interest in educational and training opportunities in rural and tribal areas. Challenges that would have to be addressed to create distance-learning options include finding a viable funding model and overcoming a shortage of clinical placement spots and faculty. This report provides a closer look at the needs and opportunities, and recommends an approach for moving forward.

The Institute of Medicine report, “The Future of Nursing: Leading Change, Advancing Health,” is a thorough examination of how nurses’ roles, responsibilities and education should change to meet the needs of an aging, increasingly diverse population and to respond to the evolving healthcare system. This report recommends approaches to nursing education that connect initiatives to practice transformation efforts. This report and related updates as a blueprint for collective action.

The RONE project

Although the RONE project was discontinued, it has been an important source of learning about distance-learning nursing education. The Area Health Education Centers (AHECs) and the Washington State Hospital Association were instrumental in starting the project, which was offered by Lower Columbia College (LCC) from 2009 to 2015. RONE offered incumbent hospital workers with patient care experience an associate degree nurse (ADN) program they could take while continuing to work in their home communities.

The project required close collaboration between the college and rural healthcare facilities. The facilities recruited students, who were often their employees, and to whom they gave release time for clinical training. The facilities also generally provided tuition support. Students could enter the program as new candidates or, if they were already qualified licensed practical nurses (LPNs), as second-year students. The students completed coursework online and were instructed by clinical instructors provided by the facilities from among their own staff. The project provided orientation and mentoring to instructors and preceptors and procured and used simulation equipment for training. A 2014 study compared RONE graduates with alumni from LCC’s traditional program and surveyed RONE faculty and collaborating employers. It found the program had good results in terms of preparing nurses.

7 The federal government uses two definitions of “rural”. One is based on identifying urban areas (populations of 50,000 or more) and urban clusters (populations between 2,500 and 50,000). The second classifies counties in relation to metropolitan statistical areas. The federal Office of Rural Health Policy recognizes non-metro counties as rural and identifies rural areas in urban counties using a designation called Rural-Urban Commuting Areas (RUCAs) based on census tract data. See appendix 1 (map of rural and urban counties), appendix 2 (map based on RUCAs), appendix 3 (map of population density), and appendix 4 (map of selected rural healthcare facilities).

8 There are 29 federally-recognized tribes in Washington served in part by federally-funded Indian Health Service (IHS) agencies and tribe-supported healthcare services. See appendix 5 (map of tribal lands) and appendix 6 (map of Indian Health Service, tribe operated, and urban Indian healthcare facilities).


Some of the factors that lead to the closure of the program include low enrollment, uncertainty about financial support from participating facilities, the administrative burden of coordinating clinical training, a shortage of faculty and difficulties with providing adequate support for them. Thus, while the RONE project can be built upon in terms of its academic success, going forward the central questions are whether there is a level of demand that could support such a program, and whether there are ways to make it financially and administratively viable.

**Needs and capacity assessment**

Since the spring of 2017, AHECWW has been investigating – and facilitating conversations about – distance-learning nurse education for rural and tribal communities. The center put together a working group with participation from educational institutions and related agencies; professional and industry organizations, including those looking at rural health; medical and healthcare facilities, including those serving tribal populations; government agencies, including those working with workforce issues; and others. The group reviewed the RONE project as described above, deliberated on challenges and possibilities, and, in an effort to find a more viable model, gathered information and input from stakeholders. In the summer of 2018 an information gathering process contributed to the assessment of needs and possibilities, and lead to the production of this report.

The question of a viable distance-learning program is complex, as the nursing shortage in rural and tribal areas is the result of many factors. A few key questions have emerged and are the focus of a recent information-gathering process (described below) and this report.

**Key questions**

*Is there a demand for nurses in rural and tribal areas that could motivate medical and care facilities to invest in a distance-learning program to grow their own nurses?*

*What is the nature of demand? That is, which part of the nursing pathway is needed and in what roles are nurses needed? Is there a need for a rural and/or tribal nursing specialization and, if so, what content should it include?*

*Is there interest and support for solely distance-learning nursing program among stakeholders and potential collaborators?*

*What design features could make distance-learning nurse education academically sound, relevant to the rural and tribal context, and administratively and financially viable?*

*What are the next steps for addressing nursing workforce needs in rural and tribal communities through distance-learning nursing pathway education?*
Methods

In an attempt to answer these questions, information and input were compiled from the proceedings of the working group; from relevant studies, reports, and other documents, including material about RONE and other related programs; from five regional focus groups held in the summer of 2018; through key informant interviews and conversations with various stakeholders; and through an online survey. To ensure a variety of perspectives, input was sought from different regions of the state, government, the healthcare industry, education, those familiar with the needs of underserved and under-represented populations, community organizations, and others.

Focus groups were arranged in Olympia, Bellingham, Spokane, Wenatchee, and Yakima. Fifty-four individuals participated in the focus groups and another 16 were consulted through short interviews.

The survey attempted to gauge the extent and nature of the demand for nurses and the level of interest in a distance-learning program as well as to invite input about the design and content of a prospective program. It was emailed through the working group and its network to email lists that included individuals at behavioral health agencies, county health and human service departments, hospitals and other medical and care facilities, community centers, educational institutions, insurance organizations, individual healthcare providers, and tribal leadership and program managers.

There were 82 responses to the survey. Approximately 50 of the respondents were employed in medical and care facilities of different kinds, and the other 30 represented, primarily, educational institutions, community organizations, and health departments. Nearly 90% of respondents served rural populations, 50% served tribal populations, and about 30% served migrant communities and immigrant populations. All counties in Washington were included among those served by respondents.
Workforce and educational needs

Nursing demand and supply

The sustainability of a distance-learning program would depend on a level of demand for nurses that is high enough to motivate the medical and care facilities to participate in and support it. Although such a program would use distance delivery for content, it would still be place-based with respect to clinical training and would not be viable without a critical mass of participating facilities. It would also need to take into account the job market for graduates. With all that in mind, an attempt is made in this section, using the sources described above to address the following questions:

Is there a demand for nurses in rural and tribal areas that could motivate medical and care facilities to invest in a distance-learning program to grow their own nurses?

What is the nature of demand? That is, which part of the nursing pathway is needed and in what roles are nurses needed? Is there a need for a rural and/or tribal nursing specialization, and, if so, what content should it include?

The information compiled for this report indicates a persistent need for nursing staff at all levels: nursing assistant-certified (NAC), licensed practical nurse (LPN), associate degree nurse (ADN), bachelor of science-level nurse (BSN), and nurse practitioner (NP). The need is unevenly distributed and varies by type of facility, and seems to change over short time periods. The greatest need identified in our survey was for ADNs from the perspective of industry partners, but the data are not representative. In 2016, online survey data results indicated demand for BSN or higher, as rural RNs see this as an opportunity for career. This indicates that the more immediate need by industry is for RNs at either level, where opportunity for education and career advancement may be necessary to retain staff to meet professional needs.

Predicted trends

A 2013 study of employers anticipated that the demand for NACs would be stable in inpatient care, decrease in outpatient care, and increase in long-term and home care facilities. It noted that in rural areas, hospitals had less difficulty in recruiting NACs than long-term and home care. The number of LPN licenses had been declining since 2008, and demand for LPNs was expected to decline or remain stable in all types of care. Despite the Institute of Medicine’s push to increase the proportion of BSNs to 80% by 2020 and the trend in outpatient care toward replacing nurses with medical assistants for direct patient care, the demand for ADNs was expected to remain stable and even increase for inpatient care, particularly in rural areas and among smaller providers. In rural areas, staffing problems were attributed to a limited applicant pool, lack of amenities, low wages, long commutes, lack of access to educational programs, and shortage of funding.

11 For a diagram of the nursing education/career pathway, see appendix 13.
In its 2017 annual report, the Health Workforce Council projects the following annual net increases in openings: 471 for NACs, 84 for LPNs, 1,423 for RNs of all educational levels including NPs, and 93 for NPs alone.\textsuperscript{14} However, the Council also indicated in this report that predicting future changes is challenging as demand estimates rely heavily on recent trends and national averages, which may underestimate demand specific to Washington.\textsuperscript{15} Additionally, rural and remote regions face significantly different challenges in recruitment and retention issues that urban metropolitan regions.

New data collected by Washington Center for Nursing (WCN) and the Washington Nursing Care Quality Assurance Commission (NCQAC), will be available in early 2019 regarding the demand for nurses and demographics of the nursing workforce, which will give a more comprehensive picture of nursing supply and demand in Washington. The NCQAC is preparing recommendations for the state government on nursing in long-term care, and is collecting data to support anecdotal evidence that “long-term care providers in Washington State are struggling to fill vacancies; that retention is difficult; that career progression within LTC settings is problematic; and that training requirements and regulatory oversight needs to be reset.”\textsuperscript{16}

Registered Nurses make up the largest component of the healthcare workforce. Best estimates project that Washington State may face a shortage of 21,000 RNs by 2031 despite current efforts to keep pace with population growth, an increasing elderly and chronically ill population.\textsuperscript{16} Even with modest education output increases, innovative strategies will be needed to avoid the impact on capacity and quality of healthcare services.

**Exceptionally long vacancies**

Meanwhile, data can be pieced together to support a general picture of ongoing demand in rural areas. The Health Workforce Sentinel network\textsuperscript{18} tracked “exceptionally long vacancies” for NACs, LPNs, RNs, and NPs, among other health professions in 2016-17. The data are grouped by the Accountable Communities of Health (ACH) regions. The most consistent need was for RNs. At least 40% of reporting facilities in six of the seven ACH regions that include rural counties reported these long vacancies. Reports of exceptionally long vacancies were fewer for NACs, LPNs and NPs. However, with only two exceptions, exceptionally long vacancies were reported for all four occupations generally in all ACH regions. The number of reports of long vacancies varied over the course of the year in which the data were collected, confirming anecdotal reports of seasonal fluctuations in demand, attributed partly, in rural areas, to population fluctuations (see appendix 7, an overview of the Sentinel network data).

\textsuperscript{14} Also see the annual report of the Health Workforce Council at http://www.wrb.wa.gov/Documents/2017HWCReport-FINAL.pdf.

\textsuperscript{15} Also see the annual report of the Health Workforce Council at http://www.wrb.wa.gov/Documents/2017HWCReport-FINAL.pdf.


\textsuperscript{18} Created by the Workforce Training and Education Coordinating Board to track changes in workforce demand (see http://depts.washington.edu/uwrhrc/uploads/CHWS_FR145_Palazzo.pdf).
Online recruiting as a reflection of demand

According to the Employment Security Department (ESD) of Washington State, in the last two years (i.e., in June 2017 and 2018) registered nurses were among the top 25 occupations advertised online in all but two counties in Washington (see appendix 8, a heat map of demand in June 2018). The number of positions advertised in rural counties varied from 1 to about 150.

There was a general decrease in the number of positions advertised from 2017 to 2018 (see appendix 9). In 2018, the top 25 occupations with online postings included LPNs in 8 rural counties and NACs in 11 rural counties. Curiously, among these two groups of rural counties, only two of them overlap, Yakima and Stevens Counties. Only in Jefferson County are nurse practitioner (NP) postings in the top 25, with four positions advertised. 19

Survey and conversations

The survey conducted for this report asked for numerical and descriptive data regarding the demand for nurses and solicited opinions on the need for a distance-learning nursing program as well as input on its design and content. While the number of responses (82) did not provide a basis for a definitive picture, information from a variety of respondents supported the view emerging from published sources and conversations.

One of the survey questions asked respondents how strongly they agreed or disagreed with the statement that “the supply of nurses needs to be increased.” Out of a total of 49 responses from medical and care facilities, all but 3 responded “strongly agree” (30) or “agree” (16). There were at least six responses from each rural ACH region, except Southwest Washington, but not enough to provide any clear pattern of regional differences.

The survey also asked for a numerical estimate of current and projected (in the next two years) staffing shortfalls for NACs, LPNs, ADNs, BSNs and NPs. Twenty-seven facilities responded and all of them were experiencing current and anticipated shortfalls of some kind. The most common response for all occupations for current and projected shortfalls was 1 to 5; with one exception (current shortfall of LPNs, and even that was close). The survey data support the anecdotal observation that the need for LPNs in hospitals tends to be in rural areas, whereas in or near urban centers the need is in outpatient or long-term care. Again, no clear pattern of regional differentiation arose.

The current and projected shortfall in our survey was greatest for RNs, supporting the data collected through the Sentinel network. Our survey differentiated between ADNs and BSNs and respondents reported a greater need for ADNs. However, anecdotal information has suggested that even though rural facilities would like to hire BSNs, their expectation of being able to do so is so low that they recruit ADNs instead. The current and predicted shortfalls for NPs was lower than for the other occupations. The general expectation was that nursing workforce shortfalls will be stable over the next two years (see appendix 10, tables 1 and 2)

19 For more information, see the ESD website (https://fortress.wa.gov/esd/employmentdata/reports-publications/occupational-reports/employer-demand-report).
The published resources drawn on for this project are known or assumed to include facilities that serve the tribal communities and populations in the state, but they do not differentiate between them and others when reporting the demand for nursing staff. Our survey, however, included information from 25 facilities serving tribal populations (including hospitals, clinics and health centers, behavioral or mental health facilities and others). There were more responses from the western half of the state, where a greater number of tribes have lands. All these respondents strongly agreed (18) or agreed (7) that there is a need to increase the supply of nurses, and 4 out of 5 saw a need for greater diversity in the nursing workforce.

About half of these respondents provided numerical estimates of current and projected shortfalls in nursing staff. As with the survey as a whole, for most categories about half or more facilities reported shortfalls, and these were predominantly small in number (1 to 5); the greatest need expressed was for ADNs, but there were needs in all categories, including LPNs (see appendix 10, table 3). Comments from the survey and conversations indicate that providing access to nurse education to tribal students would only address one part of a more complex problem with recruiting tribal staff. For example, a position might not be open at the time that a graduate is looking for work.

**Nursing supply**

In Washington State, the supply of nurses, with the exceptions of LPNs, has been increasing over the last two decades. (See WCN Nursing Snapshots updated annually.\(^20\)) The NCQAC collects information from nursing programs statewide and reports that between 2001 and 2016-17, the number of ADN program graduates nearly doubled to 1,741, and the number of BSN program graduates more than tripled to 937. The number of LPN program graduates decreased from about 800 in 2006 to 264 in 2016-17.\(^21\) Nursing programs are clustered in the western and southern parts of the state, with only a few available in rural counties (see appendix 11).

In addition to in-state programs, approved out-of-state programs make use of clinical placements in Washington, 1,417 spots in 2016-17 (at all levels, though, in particular, the number of RN to BSN students is increasing). This number does not reflect graduation rates, nor is it clear how many of these students remain and work in Washington.\(^15\) It does raise some concerns for competition for clinical placement sites.

Whatever the broader picture of supply and demand for nursing occupations, the distribution of the supply presents its own set of questions.\(^16\) The location of traditional nursing programs needs to be considered in identifying a location or locations for a pilot distance-learning program. Demand for distance learning may be lower where a traditional program is available and the pressure on clinical placement spots needs to be taken into account.


HRSA’s 2017 projection of nursing supply and demand anticipates in 2030 in Washington the supply of RNs will exceed demand, but that for LPNs demand will be greater than supply. Additionally, recent national study predicted zero growth in the number of RNs per capita in the Pacific region between 2015 and 2030. The NCQAC sites a shortage of faculty and clinical placement spots as barriers to further increasing the nursing supply, confirming strong anecdotal evidence collected for this report. These figures are not consistent with state research findings, which indicate “a gap between RN practicing supply and demand will be more than 12,000 RNs in 2031, even under our most optimistic scenario.”

Nursing levels needed

The picture that emerges from the information compiled here is that the greatest need in rural areas, both in terms of distribution and numbers, is for RNs, and among RNs, for ADNs, despite ongoing increases in the supply of RN program graduates. However, less commonly than for RNs, there is also a demand for NACs and LPNs in rural counties.

There seems to be a pattern of a greater need for LPNs in long-term care, except that rural inpatient care facilities will employ LPNs. Rural hospitals are also interested in ADNs, despite the nationwide push toward increasing the proportion BSNs. In any given area, the demand for nurses depends on the types and sizes of the facilities in the area, their staffing strategies, their proximity to urban centers and nursing programs, and seasonal fluctuations.

Nursing roles needed

Another aspect of understanding the demand for nurses relates to the roles they are asked to play, and how these roles are shifting. This ties in with one of the key questions of the information gathering process:

Is there a need for a rural and/or tribal specialization, and if so, what content should it include?

A variety of areas of nursing care needs for rural and tribal communities were identified in our survey, including the following: behavioral and mental health; substance abuse; public health, community-based care, and preventive care; attention to culturally specific needs; care transitions; diabetes care; women’s health and prenatal care; geriatrics; care for specific groups like adolescents, and LGBTQ and non-compliant male patients; palliative and hospice care; foot care; wound care; and correctional nursing.

One common observation is that, in primary care, “nursing extenders” (including medical assistants and NACs) are doing more of the direct patient care, and nurses are overseeing their work. This arrangement requires nurses who are skilled in critical thinking, triage, care coordination, patient navigation and case management.

There is also an expectation of an increasing need for RNs in long-term care, in part due to recent legislation requiring 24-hour RN duty in skilled nursing facilities, though currently there is a waiver in effect due to shortages.


The need for nurse practitioners was also highlighted in the survey and conversations, as was the need for nursing faculty and for specialized nurses. Rural hospitals find it difficult to attract nurses with needed specializations such as emergency care, pediatrics, obstetrics, medical surgery, and so on. These staff are required both to provide those services and to fulfill insurance billing requirements. Hospitals ideally would have specialized nurses who were cross-trained and were able (and willing) to work as generalists, as the demand for a specialized skill fluctuates and staff need be flexible enough to perform what is needed.

A further observation is an increase in acuity. Combined with staffing shortages, this means that nurses can be faced with situations for which they are not adequately trained or sufficiently supported, which can lead to burn out. There was some experience with effective educational activities and continuing support helping with these issues.

The need for greater understanding of diversity in healthcare was commonly expressed in the survey. Opinions about whether there is a need to offer a nursing program with a rural and/or tribal nursing specialization were mixed. Some felt it was needed, others felt that by training and working in rural and tribal areas, nurses would necessarily come to understand needs and gain required skills, and that the need was for other specializations.

### Will locally trained nurses stay in their communities?

One important premise of this project is that a locally trained nurse will be more likely to stay and serve in the local community. Most respondents, 59 out of 81 (73%), either agreed or strongly agreed that was the case. Among respondents from facilities serving tribal populations, 22 out of 25 agreed or strongly agreed (88%). Regarding the supply of nurses in rural areas, our anecdotal evidence suggests that a majority of students in nursing programs in rural counties come from the surrounding area and, at least initially, tend to find local employment once they are licensed.

A survey of studies on the reasons RNs and NPs choose to work in rural areas in the U.S. found that rural upbringing and rural-based educational experiences were factors. (Other factors were salary and financial incentives, the work environment and opportunities for professional growth, and conditions in the local community affecting family, such as schools and jobs for spouses.²⁴) Our anecdotal material adds to these the presence of family in the area and the desire that often motivates nursing students to be of service to others. Experiences seem to indicate that urban students are less likely than local students to stay and work in a rural area after completing their studies in a rural program. At least one program has described creative efforts to prioritize local and under-represented applicants, though this is not straightforward and can be controversial.

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**Interest in a program for locally trained nurses**

In addition to understanding the level and nature of the demand for nursing staff, the information-gathering project also sought to answer the following question about interest:

*Is there interest and support for a distance-learning nursing program among stakeholders and potential collaborators?*

Through the survey, focus groups, interviews and other conversations, interest in and support for distance-learning nursing pathway opportunities have become apparent, particularly among respondents affected by or aware of local shortages. Needs, interests and possibilities vary, and a prospective program will have to take into account the specific conditions in a given area when, for example, choosing a pilot site.

**General findings**

Survey respondents consistently agreed there is a need to increase the supply of nurses and the diversity of the nursing workforce and responded favorably to ideas presented in the survey. Below is a table of average responses to questions that gauged opinions on these topics (n=82).

Table 1. Average extent of agreement with statements about a prospective distance-learning nursing program (scale: 4 = strongly agree; 3 = agree; 2 = neither agree nor disagree; 1 = disagree and 0 = strongly disagree)

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Average response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The supply of nurses needs to be increased.</td>
<td>3.40</td>
</tr>
<tr>
<td>Diversity in the nursing workforce needs to be increased.</td>
<td>3.36</td>
</tr>
<tr>
<td>Continuing education for trained nurses is a priority.</td>
<td>3.35</td>
</tr>
<tr>
<td>A pathway for local high school students would be a great way to recruit nursing candidates into a distance-learning program.</td>
<td>3.12</td>
</tr>
<tr>
<td>A nurse apprenticeship would be a great way to increase the supply of nurses.</td>
<td>3.06</td>
</tr>
<tr>
<td>If a distance-learning nursing program were available, graduates would stay and work in their communities.</td>
<td>3.01</td>
</tr>
<tr>
<td>Healthcare in my region needs nurses with a rural nursing specialization.</td>
<td>2.96</td>
</tr>
<tr>
<td>Healthcare in my region needs nurses specialized in serving tribal communities.</td>
<td>2.95</td>
</tr>
<tr>
<td>A part-time distance-learning program for nurse assistants and medical/care facility staff would be a great way to increase the supply of nurses.</td>
<td>2.94</td>
</tr>
<tr>
<td>A rural residency program is a priority.</td>
<td>2.94</td>
</tr>
<tr>
<td>A distance-learning nursing program would need to start with nurse assistant training and prerequisite courses.</td>
<td>2.88</td>
</tr>
</tbody>
</table>
Areas of educational need in rural and tribal areas

The diversity of needs placed on the nursing profession indicates a diversity of educational needs. There is a need for nurses licensed at all levels of the nursing pathway: NACs, LPNs, ADNs, BSNs, specialized RNs, nursing faculty and NPs. Currently there are online and hybrid ADN-to-BSN and NP programs available. Although nurses in rural and tribal areas may need more encouragement and support to take advantage of these programs, there is no need to duplicate them. Rather, the need is to open up the front end of the pathway, as the RONE program did for a time, for rural and tribal communities.

There is also a clearly voiced need for working nurses to obtain certification in specialized areas such as emergency department, pediatrics, labor and delivery, and so on. Another need is to train and support nursing instructors and preceptors, as the lack of these resources are a limiting factor for nurse education. The other significant limiting factor is the availability of clinical placement spots, a concern repeatedly voiced. In some areas, this is due to pressure from nursing programs and in others to a low patient volume. Even though the Washington Administrative Code (WAC) allows LPN, RN and RN to BSN programs to provide up to 50% of clinical training through the use of simulation (WAC 246-840-534), according to the NCQAC, currently programs are, on average, using simulation for only 7% to 9% of their clinical training, indicating a significant opportunity to reduce pressure on clinical training.

Additionally, some regions in Washington have limited or poor internet connectivity, presenting some challenges with distance learning. Others indicated seasonal travel constraints due to weather, which could also affect regional cohort ability to meet in person if needed. Both these issues indicate some need for flexibility or asynchronous components to the education model to accommodate regional environmental issues.

Another concern that was broadly voiced was the need to address the lack of diversity in nursing. At least two aspects to this need were expressed: (1) to draw more under-represented students into nursing and into higher levels of nursing and (2) to introduce into nurse education elements that would increase understanding of the needs of a diverse patient population.

Opinions on the need for a rural nursing residency seemed mixed. Providence Health and Services nursing leadership indicated that the nursing residency program has helped with recruitment and retention issues, though they do not have statistics regarding this change. This nursing residency program is designed to support new nurses while onboarding into their roles in the health system and provide some additional specialized training.

One surprise result of the survey was a positive response to the idea of an apprenticeship program (see table 1 above). Historically, the profession had negative experiences with apprenticeships, as apprentices had low wages, worked long hours and were not provided adequate training. The NCQAC has recently raised the idea of using apprenticeships in deliberations about the long-term care workforce. Perhaps an apprenticeship program designed to avoid the mistakes of the past could be one of the options considered.
**Approach**

**Multiple coordinated lines of action**

Based on the demand for nurses, interest in the program and educational areas, it was necessary to address the following key question:

*What design features could make distance-learning nurse education academically sound, relevant to the rural and tribal context, and administratively and financially viable?*

Responding to the educational needs of the nursing workforce in rural and tribal areas, identified in the previous section, requires action on many fronts. The needs are complex, interrelated and reflect pressing issues in nursing education as a whole. There is not one institution or agency that can address them, and the solution will have to be the result of collaboration between educational institutions; medical and care facilities; various professional, workforce, community and healthcare organizations; and government agencies and others. The design and scope of the prospective endeavor depend greatly on which partners get involved and on the nature and level of investment they willing to make.

Instead of thinking of all these needs being addressed by a single, large program, it is recommended that the endeavor be conceived in terms of distinct, but interrelated, lines of action, each pursued by a project team of partner institutions and agencies, whose work is integrated by a coordinating team. Some of these lines of action, while supporting nurse education for rural and tribal communities, also address broader needs in nurse education and could serve a wider audience, if that would make them more sustainable.

Addressing the endeavor in separate lines of action will allow a greater number of partners to share the burden, each able to focus where their most effective contributions lie. The lines of action can be designed to reflect the interests, resources and possibilities of those partner teams. Each team will need the flexibility to go through a process of innovation and learning through experience. At the same time, the lines of action will need to be integrated within an overarching strategy through the coordinating team, so that the parts come together in a system as they take shape.

This system will need to be understood as a subsystem of the nursing education system as a whole. While the needs of specific populations need to be addressed, the effort will be more viable in the long run if others with similar needs can be benefitted and contributions made to improve the system as a whole. To take the question of simulation, for example, there is a need in healthcare education as a whole to develop the use of simulation to relieve pressure on clinical sites. If a line of action in this area develops simulation curricula for use by students in a distance-learning program, but then shares the curricula with other programs, it may encourage others in nursing education to use simulation. This would benefit everyone, including the rural and tribal students, as pressure is relieved on clinical spots. A willingness to pool resources with a long-term goal of mutual benefit seems a key element of any effort to address workforce needs. It also strengthens grant proposals.
While no clear solution has emerged to the problem of funding, respondents seem confident that grant funding can be found for the delivery and piloting of projects. It will be necessary for the pilot phase of each line of action to include efforts to figure out a sustainable way to offer the programs created once grant funding ends. This may be easier to do once the value of the programs can be demonstrated to potential supporters.

Possible lines of action

The elements of these lines of action can be put together in different ways, depending on the preferences of the partners and the long-term strategy. Six lines of actions are suggested below, but the final design will have to be made through a process of consultation among partners.

1. Opening up the nursing pathway for the NAC, nursing prerequisites, LPN and ADN levels through supported distance delivery of content and accessible clinical training to improve access to education. This could include the development of a nurse technician or registered apprenticeship program.

2. Training and supporting nurse instructors and preceptors at hospitals and other facilities. This program could be open to participants from facilities not part of the distance-learning effort if that would make it more viable.

3. Developing the use of simulations to replace a portion of on-site clinical training. This would involve curriculum development, faculty training and a plan for equipment maintenance. Elements of this line of action could be open to use by others.

4. Offering certification in specialized areas for RNs employed in rural and tribal facilities.

5. Providing outreach, support and mentorship to nurses and nursing candidates in rural and tribal communities to enter or progress along the nursing pathway.

6. Coordinating, strategizing and maintain coherence for these lines of action so that they, over time, come together in a system that supports candidates and the nursing workforce in rural and tribal areas.

Opening up the nursing pathway to increase access

Given the ongoing demand for NACs, LPNs and ADNs, and the lack of access to these programs in some regions of the state, there is a need to create a program to open up the nursing pathway to rural and tribal communities. The experience with RONE demonstrated a partially workable model; however, it is necessary to develop a more viable approach to administration and funding. The recommendation here is to design a program with some or all of the following features.

This line of action could be done in phases, grant-funded development and pilot phases, followed by a phase in which to establish a viable pattern of funding and administration as well as replication or upscaling. This line of action is dependent on the other lines of action for faculty development, simulation development, outreach and support for students, and the coordination of these different efforts.

Collaboration

As with the RONE project, the nursing pathway would have to be offered as a collaborative undertaking between one or more educational institutions and medical facilities. The educational
institution would provide the academic content at a distance, relying on instructors from the medical facilities and possibly local tutors to support students. Based on the difficulties the RONE project had with providing and coordinating clinical sites and instructions, it is recommended that interested medical facilities work in clusters and collaborate to cover clinical placements and instruction and that the program also make use of simulation training. Interested facilities may be provided with criteria for the clinical training and then collaborate with each other and other facilities to arrange to meet the needs.

It is anticipated that the early stages of this program could be grant funded. In the initial development phase, the educational institutions would develop contextualized, online and/or hybrid curricula, and the facilities would plan the clinical training arrangements. Meanwhile through the other lines of action (see below) provisions would be put into place so that faculty at participating facilities would be trained, and a simulation program set up. After the development phase, the program would enter a pilot phase in which it would be offered and refined through experience. It would also have the opportunity to demonstrate its effectiveness and recruit additional sites for replication or scaling up. It will be necessary during this process to figure out how to continue the program once grant funding ends. If hospitals see benefits in terms of their recruiting, they may be willing to allocate funds to help support the program in an ongoing way. Other sources of funding could be sought, including, possibly a legislative stream.

Accessible NAC training

It is not entirely clear whether the NAC course should be part of the distance-learning nursing program, or pursued as a separate line of action targeting areas of particular need. NAC programs are available in many rural counties. It is possible that in those areas, and, for example with tribal communities near the I-5 corridor that programs of outreach and support to encourage rural and under-represented students into existing NAC programs are what is needed (see section on outreach, encouragement and support below). The drawback of this is that it would not allow for offering a contextualized NAC course to those students.

There are areas, though, including reservations and some other rural areas, where creating an NAC program would be valuable, both in its own right and as an entry point to the nursing pathway. It may make sense build new NAC programs in these areas as a separate line of action with the intention of connecting them to the rest of the distance-learning nursing pathway as that becomes more established.

The program could use some online course delivery with the support of local instructors or tutors and draw on local medical and care facilities for clinical practice, with content contextualized to local healthcare needs, and possibly be offered as an apprenticeship program. The program could be set up as a collaboration between a community college or other accredited NAC program, tribal healthcare or IHS facilities, other community organizations, or possibly tribal or local high schools. West of the Cascades, the Northwest Indian College may be a potential partner with its satellite campuses.

A second phase of the program could add on accessible contextualized and supported nursing program prerequisites, or other relevant courses to prepare students to continue in the nursing pathway. On the other hand, it may make more sense for the prerequisites to be embedded in the distance-learning nursing program. This decision would need to be made in context by the parties involved, and it illustrates the need for coordination between these various elements.
Step-in-step-out nursing program

Whether or not it includes the NAC program, given the continued demand for LPNs, it seems useful to offer a “step-in-step-out” program that accommodates varying needs of facilities and aspirations and prospects of students. That allows students to stop and work after completing the NAC (if included), then LPN training, and/or continue in the program to complete the ADN. Candidates who already have some training could join at the appropriate level rather than starting at the beginning.

For some students, including rural and under-represented students who may not be well-prepared by their secondary schooling, or who may have been out of school for a while prerequisite courses can be a barrier. It may be beneficial to incorporate the prerequisites into the nursing program, in the way that is done in 4-year nursing programs that students enter without having to complete prerequisites. Thus the first two years might include NAC courses, prerequisites, and LPN courses in some configuration and the third year would be the ADN portion.

Depending on how the NAC, prerequisite and nursing courses are organized, it may be possible to use a scheme of faculty rotation. If the cohorts are staggered at different sites, and only open new cohorts once the previous cohort finishes, then faculty could be shared between sites for the different levels of the program.

Apprenticeship model

The advantages of offering a apprenticeship program is that it allows students to work and earn money while studying, once they qualify to do so. They start with a limited scope of work, and gradually as they progress through their studies increase their scope. Registered apprenticeships are currently offered in Washington for medical assistants and dental assistants and new programs in mental and behavioral health are being developed. Nursing apprenticeships are opening up in other states. One advantage of apprenticeship programs is that they open up access to federal support. If it is not possible for the whole program to be run as an apprenticeship, then possibly parts of it could be, such as the preceptorship and periods of clinical training. This is one of the options being considered in the NCQAC’s investigation into strengthening the long-term care workforce. Students enrolled the RONE program, advanced from LPN to Nurse Technician, as they progressed in their education, while completing clinical requirements on site at the hospital. This also included a pay raise, an important consideration in development of an apprenticeship model to incentivize education advancement.

Contextualization and the rural/tribal specialization

As mentioned, opinions were mixed about whether it would be helpful to create a distance-learning as a rural and/or tribal specialization program. Whether or not the program is billed that way, however, it is recommended that both prerequisite courses and nursing courses be contextualized to rural and underserved community healthcare needs. Increasing the relevance of courses to students’ lives and future careers facilitates motivation and understanding. Contextualization is also an opportunity to foster student investment in the community, with the hope this will motivate them to stay. For example, a statistics course could ask students to collect and analyze data on some health issue within the community. Even for students not interested in healthcare careers, putting faces to numbers and understanding their community more deeply will make their statistics more meaningful. Contextualization is also an opportunity

to include content on underserved populations and to foster awareness, knowledge, and supportive attitudes toward addressing their needs. This does not preclude coursework specifically addressing these issues.

Respondents to our surveys provided input on areas of need in rural and tribal communities, summarized briefly in the section entitled “In-demand nursing roles”. There was also a willingness by respondents to provide further input. These contacts and others could be consulted as part of the curriculum development process, and a list of them will be kept at the AHECWW.

Admissions and student supports

The aim of this endeavor is to draw students with a lack of access and other barriers into nursing occupations, partly to increase diversity in the workforce. In order to get the volume of students needed for a viable program, it is recommended that a wide net be cast, recruiting incumbent healthcare workers, high school students, and other community members including tribal members on or off reservations and members of other minorities as well as the majority population. It may even be necessary to admit students from urban areas, as long as admissions procedures are designed to ensure that the targeted populations are well served. Fluid boundaries may also help ensure that the targeted program does not come to be perceived as less rigorous than traditional programs.

Based on conversations and other sources26, it can be anticipated that under-represented students, rural students, first-generation students, students with lower socioeconomic status, non-traditional students with families and jobs, and so on may face barriers to entry and progression in higher education. This can be due to many factors: geographic and racial disparities in primary and secondary education, the impact of racism, classism and other forms of discrimination in our society, and other cultural and psychological barriers. The “Washington State Nursing Student Diversity Survey” 26, indicated that students from diverse backgrounds prefer face-to-face education programs. It will be necessary to consider this and investigate underlying reasons for this preference. Perhaps student navigation (i.e., assistance with administrative and other program requirements, with accessing resources, planning, coaching and more) as well as tutoring or other academic support will be integral parts of the program to support these students. It is possible that members of the local community may be willing to contribute some of this support, for example, through mentorship, provision of computer and online access, or scholarships for books or child care. The project could try to find champions in the local community willing to rally support.

While it is hoped that participating facilities will provide tuition support for their workers who are in the program, students who do not have that support will need to access other resources. It is crucial to ensure that prospective students are aware of the options available to them, whether it be through scholarships, loan reimbursement schemes, government programs like Basic Food Employment and Training, or others.

Use of simulations

As mentioned in the section on educational needs, the use of simulations can reduce the demand for onsite clinical hours and it can potentially bring the clinical experience to convenient locations for students. This may best be addressed as a distinct, though related, line of action as it creates demands of its own (see below); however, the recommendation is to use simulations to the extent possible, drawing on best practices to ensure effectiveness.

Faculty/preceptor/mentor preparation

A clear need, repeatedly mentioned, was to increase the number of available faculty, clinical instructors, and preceptors. The shortage of these is a barrier to increasing the supply of nurses and a problem not only for creating a distance-learning nursing program, but also for nursing education as a whole. With the RONE project, this was a heavy burden for the college and it is recommended here that this part of the broader endeavor be addressed as a separate line of action. Grant funding could be sought by an interested educational institution, perhaps in collaboration with medical facilities and other partners, to develop a program for preparing facility staff as instructors, preceptors or mentors for apprentices. Much or all of it could be offered at a distance, perhaps a succession of stackable online courses, including one on the use of simulations, followed by a period of period of peer and mentor accompaniment as participants take up their new roles. It is possible that facilities not participating in the distance-learning program would be interested in this line of action, and that opening it up that way would make it more financially viable.

Clinical simulation development

One of the main barriers mentioned to increasing the nursing supply is an inadequate supply of clinical placement spots. On average LPN programs include about 370 hours and BSN programs about 600 hours of clinical experience. Nursing programs are using only a fraction of the 50% of clinical hours they are allowed to do through simulation. This gap in education services is an area of innovation opportunity for a prospective distance-learning program, and could benefit nursing education as a whole.

Again, because of the demands this effort would place on implementing partners as well as the potential for a wider audience, it is recommended that this be developed as a separate line of action, but be strategically coordinated with the other ones mentioned above. The focus would be on developing simulation curricula, training faculty to use them, and setting up simulation labs and systems for their use and maintenance. Making the simulation curricula and faculty training open source could potentially encourage a wider use of simulations, benefitting all nurse education as a whole.

Training faculty in the use of simulation could part of this line or action, in coordination with the faculty preparation line of action mentioned above. It may also be possible to set up an internship arrangement for medical simulation technician graduates, which could support the nursing pathway line of action with maintaining simulation equipment. This line of action might be of interest as a grant-funded project to a college with a medical simulation technician program, as it could be seen as an effort to help move the nursing education into greater use of simulations, benefiting everyone, including their graduates.
**Specialization certification**

Even facilities that did not have pressing nursing shortages expressed a need for having their nurses get certification in specializations such as emergency department, labor and delivery, medical-surgical, pediatric, and behavioral health nursing as well as patient navigation and care coordination, telehealth, public health and others. They needed those skills, and they needed to meet insurance companies’ requirements for billing for specialized services, improving reimbursement rates. Specialization training could be addressed as an independent line of action. The greatest limiting factor is the lack of opportunities for nurses to get the specialized experience required as a prerequisite for licensing. Even more than at the NAC, LPN, and ADN levels, it is difficult for rural facilities to provide these opportunities, partly because many do not have the patient volume needed. Specialized certification commonly requires 1,000 or more hours of experience within a 2-year period (equivalent to 6 months’ full-time work). To give nurses opportunities to get this experience, facilities that cannot offer it themselves would need to make arrangements with those that can — most likely those in urban centers, perhaps with specialized units. One possibility would be to create an exchange program. Rural nurses could work in an urban hospital to gain specialized experience, while a specialized nurse could serve in the rural hospital. Perhaps this could provide an opportunity for the urban hospital to build a rural network for telehealth services, providing needed support for rural hospitals. The need for each specialization in a given region might be sporadic so perhaps a rotating schedule over a large area would make the most sense, with different urban hospitals participating.

For some specializations, distance-learning options are already available or candidates can self-study to prepare for licensing exams. If it is necessary to provide academic courses, interest could be gauged among educational institutions in seeking grant funding to create distance-learning courses. Recruiting widely (beyond the facilities involved in distance-learning project) could be an approach to making the courses viable.

**Outreach, encouragement, support**

Another concern raised among respondents, with respect to any new program created and also with existing programs, was the need to make people aware of the existing opportunities open to them and to encourage them to take advantage of them. Students in rural high schools, young tribal members, and employed nurses unenthusiastic about continuing education have all been mentioned as potential targets for encouragement.

For example, a nursing student who is a tribal member described visiting the high school she had attended and finding that students did not feel they were being prepared for college. “One of my old teachers was in the room and he said, ‘She’s doing it! She went to the same school!’ I got the same education they got! It wasn’t easy. Still every semester I need more encouragement.” She attributes her decision to attend nursing school to summer camps she attended and other support. She notes that on her reservation, “We have all sorts of presentations: Navy Seals, electricians…but they don’t seem to have health professions…Even the school nurse could do some sort of education on health sciences”.

There is a need for not only prospective candidates, but also their families and communities to be more aware of opportunities. The AHECs already work with outreach, and could explore with potential collaborators (currently piloting an AmeriCorps program) additional means of reaching out to and encouraging potential candidates. The conversations need not center only on the
nursing pathway, but could cover other opportunities in healthcare. Ideas mentioned for this sort of effort include job shadowing, mentoring, and introduction to healthcare courses.

**Coordination and long-term strategy**

In order for separate lines of action to be created and be integrated a coordinating body will need to initiate the process, develop the over-arching, long-term strategy, track developments, integrate the lines of action, and keep things moving forward. A consortium of representatives from education, industry, regulation, and labor could be formed and put together a coordinating team to implement this endeavor.

The coordinating team, drawing on the input from the consortium as a whole, as well as from prospective members of project teams, which lines of action will be pursued, which program elements they will include, and who will spearhead them. It would help bring together partners to form project teams for each line of action, and support those project teams in formulating grant proposals that together form an integrated effort to build distance-learning nurse education. As the work gets underway, it would track progress and coordinate the different lines of action. There may be issues of timing, for example, such as determining when outreach to students should begin in relationship to when other elements, like curricula, faculty training and simulation labs are in place. The team would ensure that, as the lines of action play out, procedures and practices are documented and planning is done for sustainability and growth of those efforts once the initial grants end—and are in alignment with other nursing workforce development activities in Washington State to avoid duplication of effort.

**Next steps**

**Implementing the approach**

Based on the needs and possibilities identified, and the approach defined, this final key question needs to be addressed:

*What are the next steps for addressing nursing workforce needs in rural and tribal communities through distance-learning nursing pathway education?*

The first step to implementing the approach described above would be to form a consortium of representatives from education, industry, regulation, and labor, that would conceive an initial strategy and guide a long-term process to adapt and improve programs as regional needs fluctuate and change. A coordinating team formed by the consortium would initiate and facilitate the implementation of the lines of action. The coordinating team would need to reach out to groups of potential collaborators for the lines of action. It would seek to create a shared vision and understanding of the strategy proposed and facilitate the formation of project teams. It is ideal if this consortium has a research arm to track programs and projects across the state and identify best practices.

Some of the information gathered for this report may be of use in identifying areas where there is a good combination of needs, possibilities, and interested parties for a project team to form. This is perhaps most important for the nursing pathway line of action. One possibility is for one of the few under-capacity traditional nursing programs to consider converting to online delivery, as this would make it accessible to more students. The advantage of doing this is that the administrative and other infrastructure would already be place.
Both the coordinating team and the project teams will need to create an understanding of their shared roles and responsibilities and put systems and procedures into place for their work. Once teams are formed, they will need to design projects and formulate grant proposals for the development phase of the lines of action. These proposals would need to be coordinated so that the lines of action could intersect in a coherent way and create a distance-learning system accessible to diverse rural and tribal communities. This could be done through communication between the teams, facilitated by the coordinating team.

As the lines of action unfold, the coordinating team, in consultation with the consortium as a whole, will need to implement the long-term strategy it has made, adjusting it as needed. It would likely also want to include periodic opportunities for partners to meet and reflect together on the progress and future plans, or ideally comprehensive research evaluation plans. The AHECWW recommends and supports efforts to improve data collection regarding nursing and health profession supply and demand. The Washington State Workforce Training and Education Coordinating Board, Health Workforce Council is an excellent resource for data. The Health Workforce Council manages the Health Workforce Sentinel Network, referenced in this report, to provide real-time data and emerging trends. The Washington State Nursing Care Quality Assurance Commission (NCQAC) recently passes a rule that all nurses licensed in Washington must provide workforce data via a survey. This will go into effect January 1, 2018.

**Funding sources**

While this assessment has not been able to provide an easy answer to the question of how to fund distance-learning for rural and tribal communities, it has found a general optimism among stakeholders that certain types of funds can be accessed. On the one hand, grant funding can be sought to develop and pilot lines of action. While this would not be a sustainable source of support, it would allow programs to get up and running, to demonstrate their merits to potential supporters, and to devise schemes for sustaining themselves. There are also sources of funding to support students, and those are ongoing. Different lines of action will be better fits for different funding sources, and project teams will need to identify how best to define their work in relation both to funding eligibility and the strategy of the endeavor.

Some of the sources identified are as follows. There are government grants to support healthcare education such as the Upskill-Backfill Initiative, the Hospital Employee Education and Training grants and HRSA grants including the Nursing Workforce Diversity Program, The Advanced Nursing Education Program, Scholarships for Disadvantaged Students, and the Advanced Education Nursing Traineeship. There is also federal funding for tuition reduction for students in registered apprenticeships. Students can apply for government financial aid, or scholarships from tribal and private sources. For working students, employers and unions may provide tuition support. HRSA also offers tuition reimbursement programs: NURSE Corps (for RNs) and National Health Service Corps (for some nursing specialties). The funds medical facilities spend on travelling nurses and staff turnover could be better spent investing in locally trained nursing staff if a way of transitioning from one scenario to the other can be devised. Another possibility suggested was to explore legislative sources of funds for this endeavor.

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27 For more information or to contribute to data collection, visit Washington’s Health Workforce Sentinel Network: [http://wa.sentinelnetwork.org/](http://wa.sentinelnetwork.org/)
28 For more information Nursing Licensing, visit the Washington State Nursing Care Quality Assurance Commission, WADOH, information: [https://www.doh.wa.gov/LicensesPermitsandCertificates/NursingCommission/NurseLicensing](https://www.doh.wa.gov/LicensesPermitsandCertificates/NursingCommission/NurseLicensing)
Conclusion

With more than 3.8 million registered nurses (RNs) nationwide, nursing is the nation's largest healthcare profession. Of all licensed RNs, 84.5% are employed in nursing.\(^{29}\) The federal government projects that more than 200,000 new registered nurse positions will be created each year from 2016-2026, yet there is still a shortage of nurses in many regions.\(^{30}\)

New strategies to address the mal-distribution and shortages of nurses in underserved regions are needed. Instead of attempting to create one program that would address these needs, an overarching, long-term strategy be devised that would consist of a set of integrated lines of action, parceled out to teams of collaborating agencies. A consortium of education, industry, regulation, and labor representatives, operating through a coordinating team, could facilitate the formation of these teams and integrate their work into the wider strategy.

The AHECWW recommends the development of a comprehensive distance-learning program to strengthen the local nursing workforce for rural and tribal communities that provides additional supports for students coming from disadvantaged backgrounds. However, this assessment of needs and possibilities for a distance-learning nursing program for rural and tribal areas has not produced a simple solution. A range of needs have become apparent. There is an ongoing—but low in volume and geographically dispersed—need for NACs, LPNs, ADNs, BSNs and NPs who are willing to work in rural and tribal facilities, regionally based career and educational ladders may encourage workforce retention. More clinical training opportunities and faculty, including clinical instructors and preceptors are needed throughout the state, but particularly in regions affected by health professional shortages.

There is a need for addressing healthcare conditions in rural and tribal areas in education and for nurses to be certified in specialization areas needed in their facilities, an undertaking that requires clinical experience they generally cannot gain in those areas. It is recommended that schools of nursing reach out to prospective rural and underserved communities to make them aware of opportunities and to support them in enrolling and completing programs and to support more professional development opportunities. RONE demonstrated the benefit of building partnerships between academic institutions and rural health facilities to develop programs that will allow students to continue current employment (or find new employment), while remaining in their home community to tend to other personal responsibilities. With expansion of telemedicine and the recommended distance-learning model, the AHECWW encourages collaboration between industry and academia to enhance modes of education and training that support not only professional development, but also advance efforts to expand access to telemedicine. There may also be mutual benefit in capital investments and economic development projects to create satellite-training facilities that expand opportunity for hybrid learning (online learning mixed with periodic face-to-face courses and simulation practice.)


These recommendations are supported by recommendations from the National Rural Health Association Policy Position on Allied Health and Nursing, research addressing rural workforce issues and contributions from Community and Technical Colleges to workforce development.  

The following lines of action are suggested:

1. Opening up the nursing pathway to improve access to NAC to BSN levels with a contextualized, place-based distance-learning, with a “step-in-step-out” option, and with clinical placement opportunities offered by clusters of collaborating medical and healthcare facilities. (Options for this line of action include the use of simulations for clinical training including telemedicine, and the creation of an apprenticeship program.)

2. Training and supporting nurse instructors and preceptors at hospitals and other facilities.

3. Developing the use of simulations to replace a portion of on-site clinical training. This would involve curriculum development, faculty training, and a plan for equipment maintenance.

4. Offering certification in specialized areas for RNs employed in rural and tribal facilities, in particular by arranging for RNs to get the necessary experience.

5. Providing outreach, support, and mentorship to nurses and nursing candidates in rural and tribal communities to enter or progress along the nursing pathway.

6. Developing a scholarship and/or expand current state loan repayment and scholarship programs specific to rural, tribal, and underserved nursing education.

7. Coordinating, strategizing, and maintaining coherence among these lines of action so that, over time, they come together in a system that supports candidates and the nursing workforce in rural and tribal areas.

Additional funding is needed to sustain an effort to continue refining approaches identified in this assessment and the infrastructure and operating costs of a consortium. The separate lines of action would be likely need to be funded as grant projects for their development and pilot phases initially, during which the consortium leadership would work on the issue of how to sustain their programs once the grants are completed. A coordinating team could create the overarching strategy and assist with the formation of project teams, support their work, and ensure the integration of the lines of action into a working system. It is hoped that as they gain experience in these areas and demonstrate the effectiveness of their programs, they would be able to find support and a workable model for sustainability for a place-based distance-learning program to support workforce development of nurses—from and trained to work in—rural and tribal communities.


Appendices
Appendix 1. Map of rural and urban counties in Washington State

Note: This map was produced by the Washington State Department of Health based on information from the Washington State Office of Financial Management; accessed August 28, 2018, at https://www.doh.wa.gov/Portals/1/Documents/Pubs/609003.pdf; and updated in April 2017. Various rural/urban classification schemes exist. This map corresponds to a classification in which rural counties have an average of fewer than 100 people per square mile.
Appendix 2. Map of four-tier rural and urban classification by zip code in Washington State

Note: This map was produced by the Washington State Department of Health; accessed August 28, 2018, at https://www.doh.wa.gov/Portals/1/Documents/Pubs/609001.pdf; and updated October 2017. The geography is classified based on the following census 2010 rural urban commuting area codes: urban (e.g., Seattle), suburban (e.g., Everson), large town (e.g., Oak Harbor), and small town/rural (e.g., Goldendale).
Appendix 3. Map of population density in Washington State in 2010

Note: This map was produced by the Washington State Department of Social and Health Services and accessed August 28, 2018 at https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/wa/Take-Charge/wa-take-charge-population-density-map.pdf. Data were provided by the U.S. Census Bureau (2010 Census Redistricting Data [Public Law 94-171] Summary File).
Appendix 4. Map of selected rural healthcare facilities in Washington

Note: This map was produced by Rural Health Information Hub (data source: HRSA Data warehouse, US Department of Health and Human Services); accessed August 28, 2018, at https://www.ruralhealthinfo.org/states/images/washington-rural-health-facilities.jpg; and updated December 2016.
Appendix 5. Map of land belonging to federally recognized tribes in Washington State

Note: This map was accessed August 28, 2018, at http://gallagherlawlibrary.blogspot.com/2016/01/tribes-and-tribal-law-in-washington.html (Gallagher Law Library University of Washington).
Appendix 6. Map of Washington State Indian Health Service, tribe operated, and Urban Indian healthcare facilities

Note: This map was produced by Healthier Washington; accessed August 28, 2018, at https://www.hca.wa.gov/assets/program/wa-tribes-and-tribal-clinics.pdf; and updated in February 2018.
Appendix 7. Percent of participating healthcare employers in ACH regions reporting exceptionally long vacancies in the WA Health Workforce Sentinel Network survey (2016-17)

Four reports were made, with ending dates as indicated. The number of participating employers (respondents) is listed at the top of each region’s section. See appendix 11 for ACH region map.

Example interpretation: In the Olympic Community of Health in October 2017, 6% of the 16 respondents reported exceptionally long vacancies for filling NAC positions.

<table>
<thead>
<tr>
<th></th>
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<td>8%</td>
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<td>16%</td>
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<td>33%</td>
<td>-</td>
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<td>100%</td>
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<td>29%</td>
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<td>18%</td>
<td>4%</td>
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<td>19%</td>
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<td>NPs</td>
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<td>44%</td>
<td>31%</td>
<td>33%</td>
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Appendix 8. Heat map of online advertisements for RNs in rural counties in June 2018

Note: This map was produced by the office for assessment and institutional research at Whatcom Community College. The data the map is based on were reported by the Washington State ESD, and may include significant duplications. Conversely, healthcare facilities sometimes will use only one posting even though they have multiple positions available. Despite the uncertainty, the data provide an interesting picture of the variation between rural counties. Principal cities in rural counties are shown, as identified by the 2010 census. The data were accessed in August 2018 at https://fortress.wa.gov/esd/employmentdata/reports-publications/occupational-demand-report.
Appendix 9. Demand for RNs in rural counties as reflected in online ads

Example interpretation: In Adams County, there were 13 online ads for RNs in June 2018, and 17 in June 2017.

<table>
<thead>
<tr>
<th>Counties</th>
<th>June 2018</th>
<th>June 2017</th>
</tr>
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<tr>
<td>Adams</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Asotin</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>Benton</td>
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<td>204</td>
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<tr>
<td>Chelan</td>
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<tr>
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<tr>
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<td>Island</td>
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<td>40</td>
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<td>Jefferson</td>
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<tr>
<td>King</td>
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<td>2,780</td>
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<tr>
<td>Lincoln</td>
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<td>1</td>
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</table>

23 The data, provided by the Washington State Employment Security Department, may include significant duplications. Conversely, healthcare facilities are known to use only one posting though multiple positions are available. Despite the uncertainty, the data provide an interesting picture of the variation among rural counties. These data were accessed in August 2018 at https://fortress.wa.gov/esd/employmentdata/reports-publications/occupational-reports/employer-demand-report.
<table>
<thead>
<tr>
<th>Counties</th>
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<th>June 2017</th>
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<td>Okanogan</td>
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<tr>
<td>Pacific</td>
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<td>7</td>
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<tr>
<td>Pend Oreille</td>
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<td>1</td>
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<td>Pierce</td>
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<td>San Juan</td>
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<td>Skagit</td>
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<td>83</td>
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<tr>
<td>Skamania</td>
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<td>1 or less</td>
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<td>Spokane</td>
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<td>Wahkiakum</td>
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<td>Walla Walla</td>
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<td>Whatcom</td>
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<td>Whitman</td>
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<td>Yakima</td>
<td>146</td>
<td>263</td>
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Appendix 10. Summary of survey results for NAC, LPN, ADN, BSN, and NP shortages

Table 1. Number of facilities reporting the different levels of current and 2-year projected shortfalls of NACs, LPNs, ADNs, BSNs, and NPs

<table>
<thead>
<tr>
<th>NACs</th>
<th>0</th>
<th>1-5</th>
<th>6-10</th>
<th>11+</th>
<th>Projected number of open positions in 2 years</th>
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<td>6</td>
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<td>13</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>NPs</td>
<td>9</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

Example interpretation: Eight survey respondents reported no current open positions for NACs at their facilities and 11 survey respondents reported 1-5 current open positions for NACs at their facilities.

Table 2. Facilities’ expectations of change in demand for NACs, LPNs, ADNs, BSNs, and NPs

<table>
<thead>
<tr>
<th>NACs</th>
<th>Increase in shortage</th>
<th>Projected…</th>
<th>Decrease in shortage</th>
<th>No change in shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>2</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>LPNs</td>
<td>5</td>
<td>0</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>ADNs</td>
<td>5</td>
<td>2</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>BSNs</td>
<td>5</td>
<td>4</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>NPs</td>
<td>4</td>
<td>1</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Example interpretation: Seven facilities projected an increase, two projected a decrease, and 17 projected no change in the shortage of NACs in the next two years.

24 Of the 27 respondents, not all answered for every category. There were not enough data to make generalizations about regional differences.
Table 3. Current and projected shortfalls of NACs, LPNs, ADNs, BSNs, and NPs in facilities serving tribal communities

<table>
<thead>
<tr>
<th></th>
<th>Current (July-August 2018) number of open positions reported</th>
<th>Projected number of open positions in 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1-5</td>
</tr>
<tr>
<td>NACs</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>LPNs</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>ADNs</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>BSNs</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>NPs</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

Example interpretation: Of the 13 reporting facilities serving tribal communities, currently five do not have a shortage of NACs, and five have a shortage of 1-5 NACs.

25 Of the 27 facilities providing numerical estimates of shortages, 13 serve tribal communities. Not all respondents answered for every category.
Appendix 11. Map of ACH regions with nursing program locations in Washington State

Note: This map was produced by the Washington State Healthcare Authority; accessed August 28, 2018, at https://www.hca.wa.gov/assets/program/ACH-map-nursing-programs.pdf; and updated April 2018. Although at least one current satellite program is missing from this map, the map is included in this report because it provides a sense of the distribution of nursing programs.
Appendix 12: Rural nursing distance-learning and diversity initiative work group members and contributors

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J. Scott Graham, Chief Executive Officer, Three Rivers Hospital

Ron O’Halloran, Interim Chief Executive Officer, North Valley Hospital

Council on Nursing Education in Washington State

North Central Washington Hospital Council
Appendix 13: Nursing education/career pathway

Entry-level health profession (technicians, environmental services, reception/records, Dietary Aide, Community Health Worker)

Nursing Assistant Certified (NAC), home health aide (some nursing education programs require a NAC)

Medical Assistant, Unit Assistant, Physical Therapy Assistant, Occupational Therapy Aide, Lab Assistant/Phlebotomist

Licensed Practical Nurse (LPN)

Registered Nurse (ADN)

Bachelor of Science in Nursing (BSN)

Masters of Science, nursing (MSN), with various specialties

Doctorate of Nursing Practice (DNP), with various specialties