



Assessing the Landscape of Washington State School Nurse Services and Health Teams to Advance Health Equity 2023

Mayumi Willgerodt PhD, MPH, RN, FAAN, FNASN
Benjamin White PhD, RN
Kathleen Johnson DNP, RN, NCSN-E, PHNA-BC, FNASN, FAAN
Annie Hetzel MSN, RN, NCSN
Gail Fast MN, RN

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Background

School nurses are critical to addressing health inequities among children (PreK-12). **School nurses remove barriers to healthcare access and provide direct care, care coordination, and case management to students in need.** And, for those who have access to health care, nurses serve as a major conduit of critical information about traditional health care services. However, students in the Western U.S. have less access to a school nurse than other regions of the U.S (Willgerodt, Brock & Maughan, 2018).

Fewer school nurses mean higher school nurse caseloads and less time per student.

Recent research indicates that school nurse caseload (numbers of students served) predicts academic outcomes (e.g. % of students meeting math and English grade level standards), with caseloads being a function of school nurse delivery models (i.e., staffing models) (Best, Oppewal, & Travers, 2018; Yoder, 2020; Willgerodt & Griffith, 2021). However, school nurse staffing models vary significantly across Washington State, limiting the ability to measure outcomes or formulate evidence-based recommendations about how to deliver health services in schools effectively.

School health teams are an important structure within the local school community, especially for youth who are impacted by academic and health inequalities.

Previous research on school nursing services suggests an uneven distribution of registered nurse services in Washington, but schools also utilize licensed practical nurses, health aides, and school office staff to deliver care. Understanding how these teams work together is critical to provide guidance to all schools, and ensure that children are able to access the educational opportunities provided by the school district.

Unfortunately, to date, a systematic assessment of school nursing services and staffing models that includes all health room staff has not been conducted in Washington State.

The recent Covid-19 pandemic necessitated quick pivots and adaptations to school health services delivery in order to reduce infection and promote school attendance. We further sought to describe what innovations emerged— to better understand how these innovations may be applied to non-Covid care in schools, while simultaneously preparing for the inevitable next pandemic. Our findings can inform the continued development of agile and resilient schools to effectively and efficiently meet the needs of Washington communities.



This project, “Assessing the landscape of Washington State School Nurse Services and Health Teams to Advance Health Equity,” sought to:

- **Describe** the Washington State school nursing workforce, services, and staffing models to inform district and state policy on school health services.
- **Understand** the ways in which school health teams work together to support students’ health efficiently.
- **Explore** emerging innovative approaches to health services delivery resulting from the Covid-19 pandemic to identify structures and processes that will improve school nursing practice.

Assessment Methods

The landscape assessment utilized a mixed-mode design that included survey, interviews and focus groups.¹

SURVEY

The survey was adapted from the National School Nurse Workforce Study (Willgerodt, Brock, & Maughan, 2018), in partnership with practicing school nurses and school nurse leaders in Washington State. Questions centered on demographic characteristics of the respondents, staffing models, school nurse roles, practice and evaluation, collaboration strategies among school health teams and changes to service delivery during the Covid-19 pandemic.

The survey was piloted with Washington State School Nurse Corps Administrators who provided feedback on the clarity of questions, how long the survey took to complete, readability and question appropriateness. The survey was revised to reflect the feedback received and then tested using Qualtrics, the online platform for the survey.

District nurse leaders for all 295 Washington State school districts were emailed the survey. Those nurses who served more than one district were asked to complete the survey for each of their districts. Email reminders and follow up phone calls were made throughout the data collection period to encourage and support survey completion. The survey was deployed in May 2022 and was available until June 30 2022.



¹This project was reviewed by the University of Washington and deemed exempt from human subjects review (IRB ID STUDY00015510)

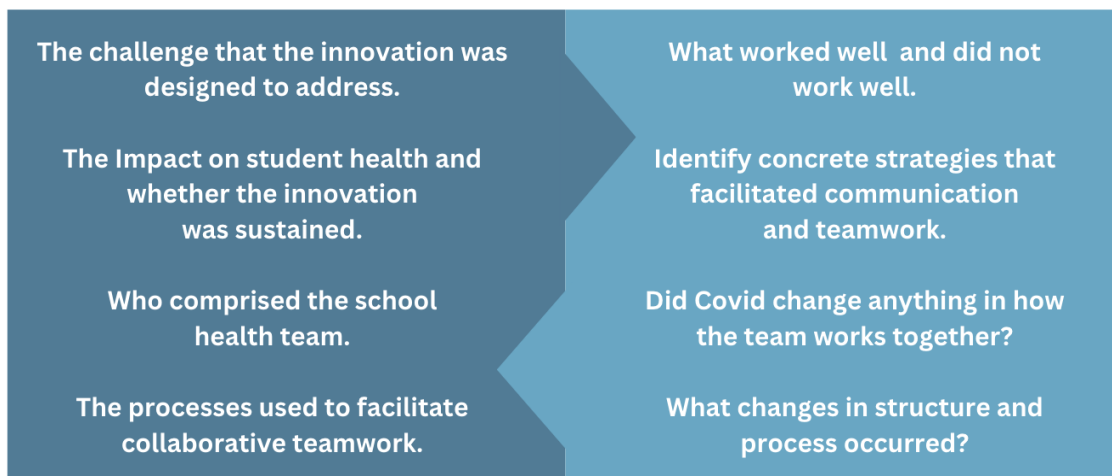
A total of 251 surveys were distributed: 251 returned (100%), 251 completed (100%), far surpassing the response rate goal of 40%. Because respondents covered multiple districts, data reflect information on 297 school districts—293 public, 3 tribal, and 1 charter school. Two public school districts were excluded as they did not have nursing services (see Appendix Table 1).

INTERVIEWS

Interviews were conducted with 10 school nurse leaders to obtain a deeper understanding of innovations adopted and changes to service delivery during the COVID pandemic. Nurses were selected based on survey responses regarding changes to and impact on service delivery, district location, and type of school. This intentional selection ensured representation of districts in different contexts.

Nurses were asked to briefly describe any changes in service delivery that occurred during the pandemic.

In addition to describing the innovation more deeply, nurses were asked to describe the challenge that the innovation was designed to address, its impact on student health and its sustainability. At the time of the interview, nurses were asked to identify who comprised the school health team and the processes used to facilitate collaborative teamwork to inform Project Goal #3.



FOCUS GROUPS

To understand how school teams optimally work together to provide coordinated and comprehensive care, focus groups were conducted with teams that nurses identified as highly collaborative.

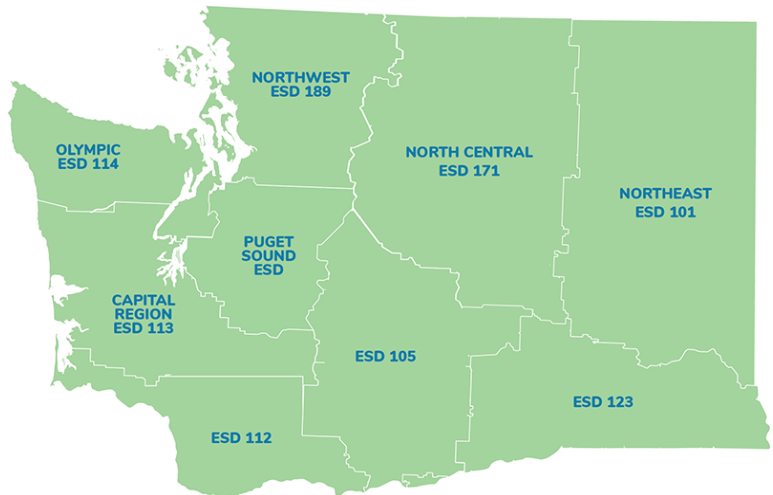
Focus group questions were developed in partnership with invested individuals and were grounded in a real-life scenario: “Think of a student who you have worked with recently. Can you describe how the child was identified and what you did, with particular attention to who you spoke with, when, and in what way?”

Focus group participants were asked to identify what worked and did not work well to illuminate concrete strategies that facilitated communication and teamwork. Time permitting, an additional question was asked “Did Covid change anything in how the team works together? What changes in structure and process occurred?”

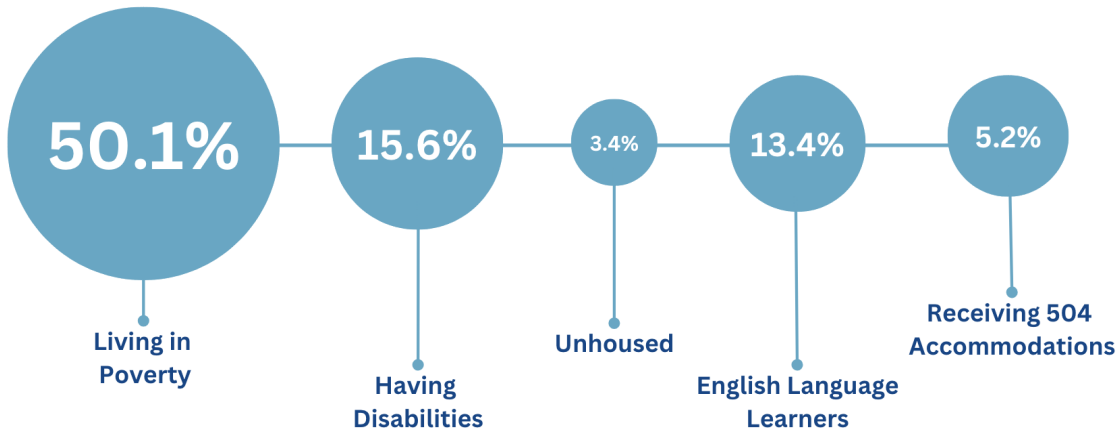
School Health Services Delivery in Washington State: The Context

The Washington State public education system is comprised of 295 public school districts, 6 state tribal education compact schools, and 16 charter schools.

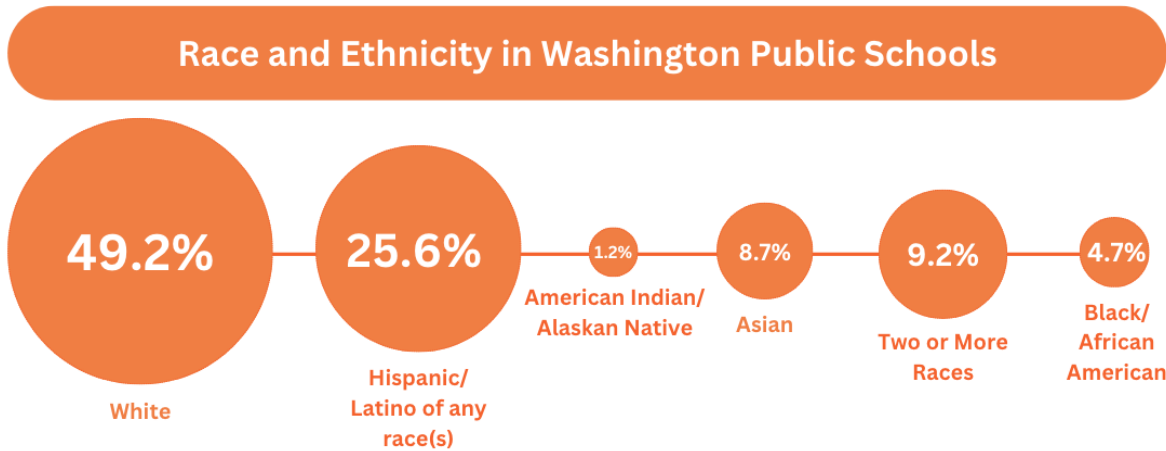
The State is divided into 9 regional educational service districts (ESDs - see green map) that provide resources and support (including direct services where needed) to school districts, particularly in rural areas.



1,092,977 Children Enrolled in Washington Public Schools



In the 2022-23 academic year, there were 1,092,977 children enrolled in Washington State public schools. Of these children, 50.1% are living in poverty, 3.4% are unhoused, 13.4% are English Language Learners, 5.2% receive 504 accommodations, and 15.6% are identified as having disabilities.



Washington State utilizes a student health acuity classification model that encompasses five levels of student need within a building:

Level A – requires 1:1 nursing care (e.g. students with a tracheostomy);

Level B – requires a full time nurse on site (e.g students with complicated Type I Diabetes);

Level C – requires weekly RN oversight for stable health issues where care can be delegated to unlicensed assistive personnel (UAP – e.g students with well controlled asthma or life-threatening food allergies);

Level D – requires annual oversight of an RN (e.g. students with stable, non-life-threatening health conditions such as eczema)

These acuity levels inform student needs for intensity of care provided by school health services.

THE SCHOOL NURSE CORPS: WASHINGTON STATE'S UNIQUE SUPPORT STRUCTURE FOR SCHOOL HEALTH

The majority (51.9%) of Washington State school districts are considered rural. Burdened with budget constraints and rural isolation, smaller schools in rural districts often have difficulty finding and retaining qualified school nurses to provide services as well as the leadership necessary for a successful school health program. Rural districts are further burdened by limited medical resources and extreme distances from major medical centers necessary for the management of students with chronic health conditions.

To address these gaps, the Washington State legislature established the School Nurse Corps program administered through the Office of Superintendent of Public Instruction in 1999, to maintain, support and improve student health and safety (Joint Legislative Audit and Review Committee, 1997).

A School Nurse Corps Nurse Administrator (SNCNA) is employed in each of 9 regional ESDs, providing regional school health leadership in two distinct areas:

1. Direct services to the neediest small districts
2. Access to consultation, technical assistance, professional development and resources for schools within their ESD.

The SNC program is an invaluable resource for excellence in school nurse practice in Washington state and has been supported through legislative funding for over 20 years.

The Landscape

WASHINGTON STATE SCHOOL NURSE WORKFORCE

As the only licensed health professional employed in most schools, school nurses practice in professional isolation and in a non-health setting. Straddling health and education sectors and interfacing with the boards of both professional nursing and education at the national, state and district level adds an additional layer of regulatory complexity to the school nurse role.

School nurses are bound by the same nurse practice acts and standards of practice and ethics as nurses in other healthcare settings (National Association of School Nurses, 2022), but are also accountable to education-related regulations and policies, as employees within the education sector.



Understanding the school nurse workforce is complicated by a lack of accurate data to identify who is functioning in the school nurse role and the number of school nurses. In Washington State, school nurses may become ESA- certified—these are nurses who are registered nurses who have a minimum of a BSN and have completed a Professional Education Standards Board approved course focused on state-specific regulations and laws (PESB, n.d.). However, some districts employ nurses as paraprofessionals (also called “classified” nurses) regardless of professional certification status.

While Washington state collects employment data on certificated school nurses, the numbers of classified nurses are hidden in the aggregates of other paraprofessional staff who are not nurses. Also, the determination of which nurses are hired as certificated versus paraprofessionals is typically addressed in the local school district’s Collective Bargaining Agreement, which varies across the state. In other words, districts may choose to employ nurses into certificated or paraprofessional positions. Teachers, counselors, psychiatrists, speech & language specialists are all certificated while teachers aides and secretaries are generally considered paraprofessional staff.

Our survey data indicate that there are approximately 728 ESA certified nurses, 469 classified nurses, and 55 certificated nurses employed as classified nurses across the responding districts. After taking into consideration district enrollment and the health needs of students within districts, rural districts were significantly more likely to employ ESA-certified nurses compared to more urban districts (Appendix Tables 2-4 for regression analyses).

School nursing is unique in that individuals are more likely to be working part-time vs full-time compared to other specialties within nursing. To address this, and the fact that many nurses are hidden in aggregate counts of paraprofessional staff, there is consensus that counting full-time equivalent (FTEs) of nursing positions provide a more accurate picture of the workforce. In the absence of any state data collection method, the SNC collects registered nurse hours in each district and calculates FTEs, but this data collection is mandatory only for districts receiving staffing support from the SNC program, only 2/3 of Washington State school districts.

Survey findings, which represent 293 public school districts, 3 tribal schools, and 1 charter school across Washington State, reveal that there are 996 FTEs of registered nurses working in 2137 schools.

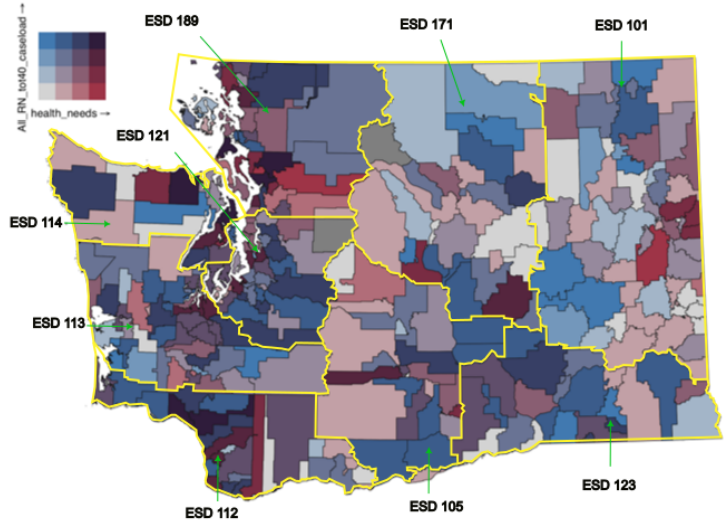
Understanding the landscape of school nursing services in terms of school nurse FTEs also facilitates more accurate examination of RN caseloads and workload, particularly in the context of health needs of students and known social influences of health. RN caseloads (the number of students per 1 FTE RN) vary considerably across Washington State.



RN CASELOAD AND DISTRICT HEALTH COMPLEXITY

As noted earlier, Washington State utilizes a classification system to designate schools as requiring differing levels of health needs and which informs staffing decisions.

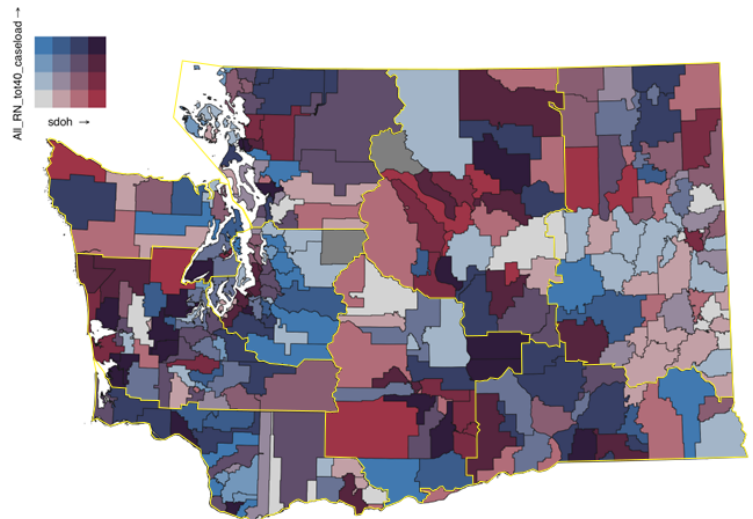
The adjacent map shows the distribution of RN caseload in relation to the complexity of student health needs² in a school district, increasing from gray to light blue tint, and student health needs, increasing from gray to red. As you can see, there are numerous dark purple districts, indicating the highest health complexity and highest RN caseloads, immediately adjacent to dark red districts—those with the highest health complexity and lowest RN caseloads, illustrating a lack of equity based merely on the district the student attends vs health needs.



RN CASELOAD AND DISTRICT SOCIAL INFLUENCES OF HEALTH

The exposure of a student to social influences of health has an impact on the complexity of care that students need to support their health and education access. Social influences of health are “conditions in the environments where people are born, live, learn, work, play, worship, and age” and include economic stability, access to quality education, health care quality and access, neighborhood and built environment, and the social and community context (CDC, 2021).

The adjacent map describes RN caseloads compared to the level of student disparity related to social influences of health. The size of RN caseloads are shown as increasing from gray to light blue tint, and student disparity described by social influences of health, increasing from gray to red. Therefore, areas coded as gray have low RN caseloads and low exposure to social influences. The areas coded as deep purple have high RN caseloads and high exposure to social influences (poorer ability to have their needs met).



² Student health complexity in a district was calculated using the reported number of students in each health acuity category defined by Washington State, weighted by the complexity of each category from Level A, nursing dependent, to Level D, health concerns.

School Nurse Leadership

School nurse supervisors or leads are responsible for evaluating the practice of school nurses in the district, mentoring and training new and experienced nurses, and providing advice for district health decisions. In addition to their administrative duties, almost all respondents in our survey provide direct care services to students and 60.8% deliver more than 8 hours a week of direct care.

Despite the value they contribute to student health, nursing care quality, and district functioning, over half of district lead nurses receive no additional salary for their role. These complexities leave interpretation of the structural supports for the health needs of students to district non-nurse administrators who often have limited understanding of the differences in scope of practice for various nurses and student health. Further, 46.1% report a lack of clerical support to assist them in their work, limiting the ability of nurses to practice at their full scope, and reducing time available for nursing vs clerical duties. **Two-thirds (68.4%) of districts made staffing changes as a result of COVID. However, the majority of the changes were to non-nursing hours, with 45.8% of districts reporting no added nursing hours.**

Staffing rubrics are commonly used within nursing to inform staffing model decisions and allocate resources. Nationally, school nursing staffing rubrics have considered numbers of students unhoused, living in poverty, requiring special education support and who are English Language Learners as these factors increase the time required to provide the same level of care compared to students without those barriers. However, within school districts, decisions about staffing models remain ambiguous. Only 11.8% of districts utilize some type of rubric to determine allocation of nursing hours to schools, highlighting the lack of a state-wide algorithm to systematically ensure that schools and districts receive appropriate health services.

When asked about supervision, 66.7% of survey respondents state that nurses in their district are supervised by a non-nurse and 56% state that school nurses' job performance in their district is evaluated by a non-nurse.

(See Appendix Tables 5-10)



School Health Teams

School health teams are composed of Registered Nurses (RNs), licensed practical nurses (LPNs), and unlicensed assistive providers (UAPs) who provide varying levels of care for students. School districts employ licensed practical nurses (LPNs) in a variety of ways such as 1:1 medical support of medically fragile students or to provide treatments and health room coverage. The Washington State Nurse Practice Act requires that LPNs be supervised by an RN and, under Common School Law, UAPs must also be supervised by an RN..

LPN Utilization in Districts with LPNs

68% | Partner with RN to care for students

64% | Provide Episodic care in the health room

60% | Medication administration

37% | Provide Care as 1:1 Nurse

36% | Sub when Nurse absent

29% | Moves between schools to support students with acute nursing needs.

Additionally, some districts have part-, or full-time unlicensed health room assistants (UAPs) who are unlicensed personnel who typically receive on-the-job training and may or may not have basic first aid and resuscitation training. Many schools also rely on office staff to provide basic first aid and medication administration to students.

Responses obtained from district nurse leads indicate there are approximately 223 full-time equivalents (FTEs) of LPNs and 524 FTEs of UAPs.

Approximately 32% of school districts employ LPNs who must be supervised by the RN to provide care for students, as well as administer medications and provide 1:1 care for nursing dependent students.

UAPs provide support for school nurses in 54% of districts. Most districts with UAPs utilize them for medication administration (89%), care delegated by an RN at another location (80%) and to provide episodic care in the health room. Almost half of districts with UAPs assign them to support students with health conditions in the classroom or on field trips (48%) as well as assist the RN in the health room when the RN is present (49%).

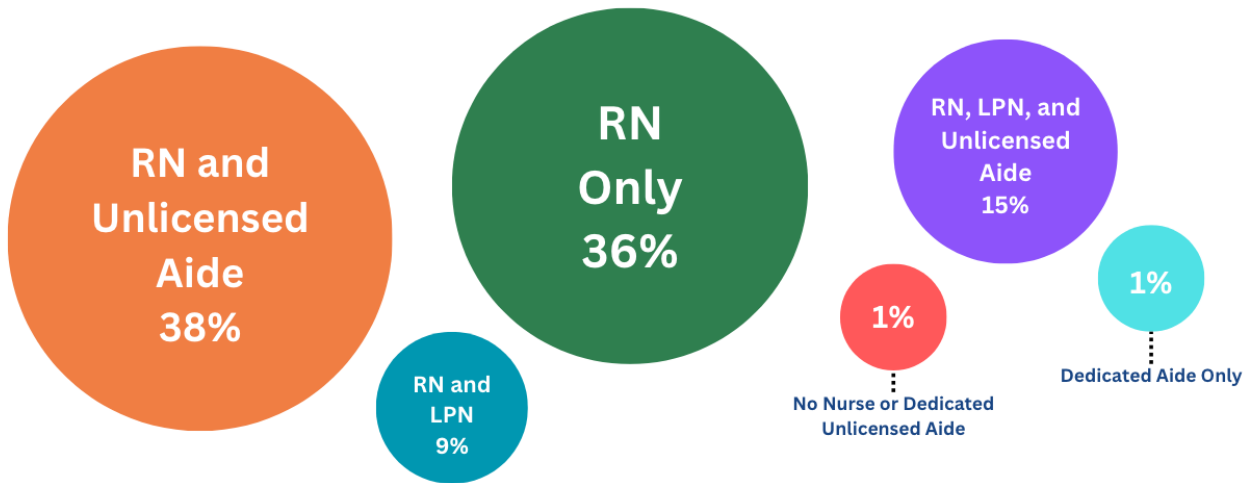
(See Appendix Tables 11-12)



MODELS OF SCHOOL HEALTH SERVICES

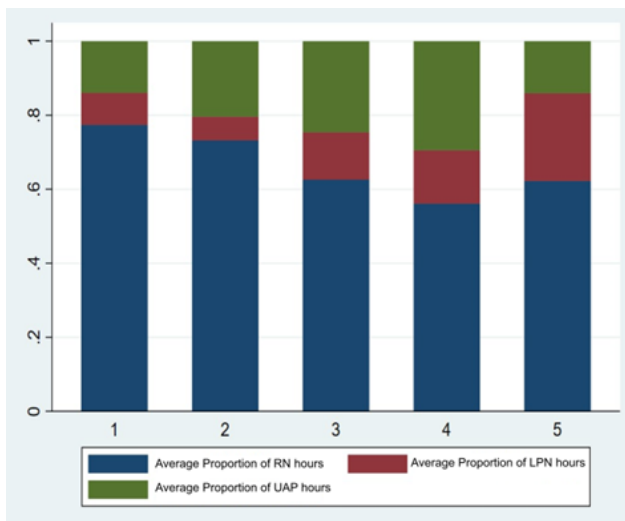
The majority of the school districts in WA employ school health teams that include LPNs or UAPs in addition to RNs (62%). However, after accounting for district student enrollment and student health needs, school health teams in urban districts are 55.2 times more likely to include an LPN and UAP compared to rural districts, suggesting that urban districts may have more access to resources to support a school health team. Nurses in rural districts are often the only ones providing care for all the students in those districts. (Appendix Table 13)

Nursing Team Composition in Washington Districts

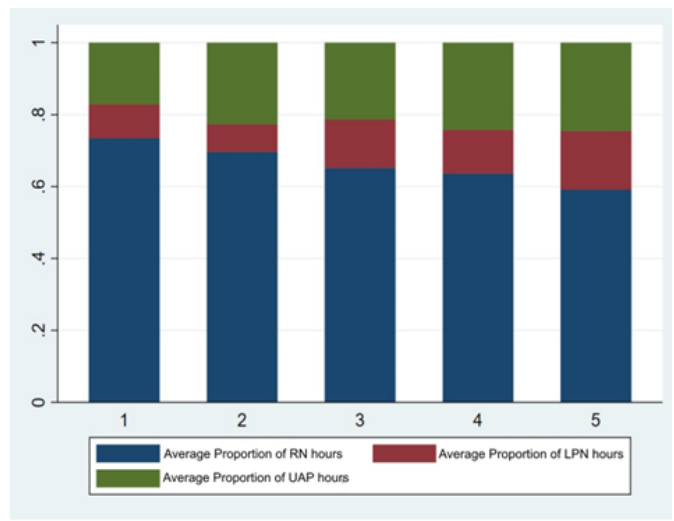


Differences were noted in the proportion of RN, LPN and UAP hours within districts with varying levels of known social influences of health. The following graphs depict these variations among districts with low to high percentage levels of social influences divided into quintiles (1-5), accounting for district student enrollment. The graphs show that as the percentage of social influences of health increase from one to five, the proportion of hours for care from an RN (vs a LPN and/or UAP) changes. For example, districts with higher levels of students who are unhoused have fewer RN hours as a proportion of all hours allocated to school health services, compared to districts with lower numbers of students who are unhoused.

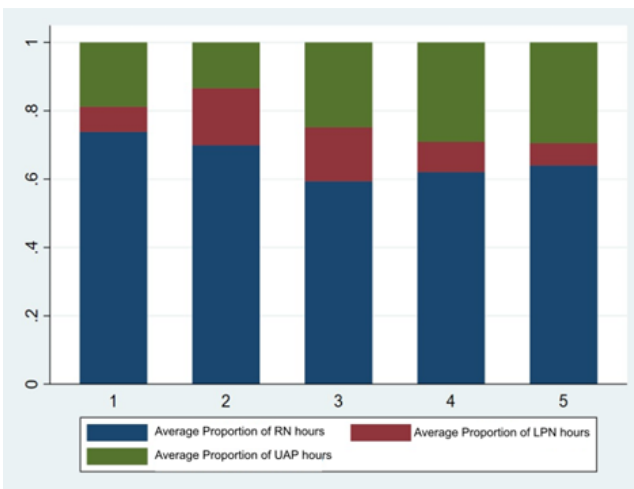
NURSING TEAM COMPOSITION IN DISTRICTS BY PERCENTAGES OF UNHOUSED STUDENTS



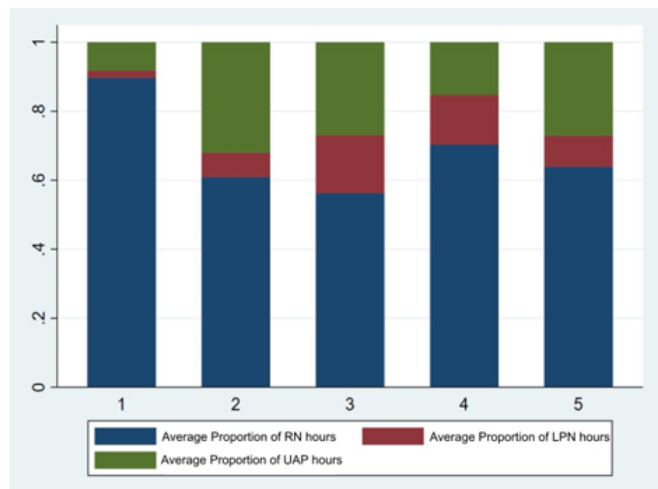
NURSING TEAM COMPOSITION IN DISTRICTS BY NUMBERS OF UNDERREPRESENTED MINORITIES



NURSING TEAM COMPOSITION IN DISTRICTS BY MIGRANT STATUS



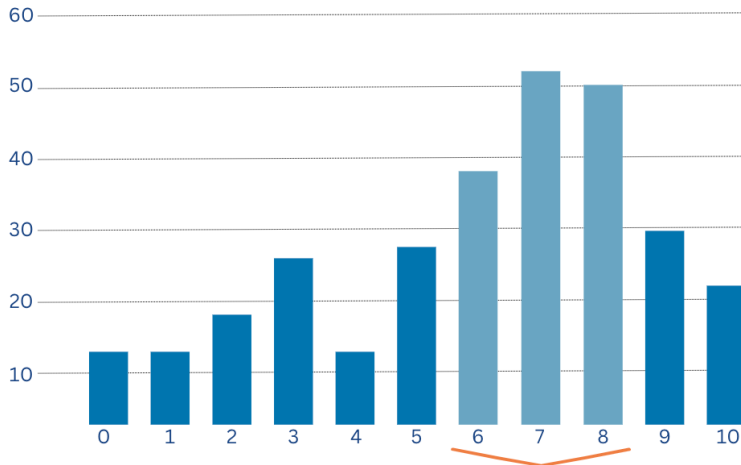
NURSING TEAM COMPOSITION IN DISTRICTS BY NUMBERS OF ENGLISH LANGUAGE LEARNERS



Project Goal 2: Interdisciplinary Collaboration in Washington School Districts

Using a scale of 1-10, survey respondents were asked to assess their perceptions about how school health teams within their district worked with other professions to care for their students. Respondents who perceived the collaboration to be less than ideal identified that working in silos, lack of time and lack of awareness by of other professions as contributing factors to the low levels of collaboration.

Degree of Collaboration Between Health Professionals



Those who reported higher levels of collaboration identified clear role delineation and communication as critical to effective partnerships within schools.

In addition, structures within schools to support collaboration included Multi-Tiered Systems of Support (MTSS) (24%) designed to provide early and preventative interventions) and established care team meetings such as student intervention teams and child study meetings (39%) (Appendix Tables 14-15).

However, less than ¼ of the nurses felt that the school nurse was a consistent member of these teams; the majority of the time, the school nurse was invited depending on the need, as determined by others in the school.

Exemplary school health teams were interviewed to explicate key characteristics that enabled efficient teamwork. Teams interviewed were school administrators, mental health counselors, school nurses, school secretaries, school psychologists, and behavioral health interventionists.

Characteristics of effective school teams:

- Common Values
- Defined Roles and Responsibilities
- Clear Communication
- Caring Relationships
- Being Physical Present



COMMON VALUES

Common values experienced by these exemplar teams were respect, flattened hierarchy, student-centeredness, and valuing a team culture. Promoting respect as a shared value among team members was operationalized by ensuring that all team members are inclusively invited to meetings, regardless of their specific roles, valuing the diverse skill set of each individual and abstaining from intimidation based on one's role or level of education.

When the team addresses the needs and crises of students, there is no strict hierarchy in determining who takes the first step in addressing the student's needs.

Student-centeredness prioritizes the needs and well-being of their students by embodying care and concern for their welfare, aligning their efforts with the students' diverse requirements, advocating for their best interests, and working collaboratively toward shared goals.

You have to respect the skillset that the people are bringing to the table. And you can't marginalize any of those. And it doesn't if it's a classified team member or custodian.

"For a student with learning challenges and a recent seizure disorder, we ensured her safety and educational continuity. This included setting up internet connectivity for her medical equipment, telemedicine consultations, academic planning, and sports participation. Our goal is to support her transition beyond high school while ensuring her well-being."

All teams verbalized a commitment to nurturing a team culture that prioritizes member well-being which strengthens the team's identity and enhances work dynamics, "It is a team and we all have our part and we all have an amazing gift that they bring to it and that's what makes it work."

DEFINED ROLES AND RESPONSIBILITIES

Team members described being aware of their role and their place within the team, "We recognized that each one has a special skill set that is important to the case. Everybody brings something to the table... We all have different things that contribute and together it makes an effective approach."

In addition to their individual roles, team members were also aware of their role within the larger school community as professionals.

Team members understood the trust the community placed on them and the responsibility they had to the students and each other. One principal described the collective role their team filled, "They do what they're supposed to. If they don't know what to do, they ask the questions that need to be asked so that they can do their job the best they can."

We recognized that each one has a special skillset that is important to the case. Everybody brings something to the table... We all have different things that contribute and together it makes an effective approach.

CLEAR COMMUNICATION

Effective communication is vital for successful teamwork, facilitating the sharing of thoughts, ideas, and information among team members to enhance cooperation and achieve common goals. Clear communication as noted by participants was divided into two key components: process and structure.

Process refers to the methods and ways team members use to interact and exchange information, such as handoffs, telephone calls, emails, Google Docs, shared calendars, and platforms like OneDrive. Among the numerous communication platforms available, email and phone calls were the two most popular choices, as reported by four out of six schools.



Everything is pretty much by email. If we feel like someone else needs to be joining in as a part of the team, then will jump in and include them in the email.



Established structures within the school also greatly enhanced communication and coordination efforts. These consist of utilizing a framework of student support, such as the Multi-Tiered System of Support (MTSS), or for those schools not utilizing a MTSS framework, regular team meetings that included all members of the school team.

“In our collaborative approach, we prepare for Individualized Education Program (IEP) meetings by addressing students' needs beforehand. This involves gathering data, obtaining health records, and involving specialists (such as nurses, Speech & Language Pathologists, Occupational and Physical Therapy, counselors, special education teachers, and others) as necessary.”

CARING RELATIONSHIPS

Effective teams described fostering caring relationships with other team members as critical to the team's functioning. While the teams often spoke about their devotion to students, they also described the importance of caring for each other and other colleagues.

Teams discussed wanting not only the best for themselves, but also for the rest of the people they worked with. As one noted, “We will take care of each other. We'll remind each other to take care of each other and create opportunities to take care of each other.”



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BEING PHYSICALLY PRESENT

Almost all teams articulated the benefit of being physically present together in the school building as being central to their effectiveness as a team. Having the ability to walk into someone's office to update them, or discuss a complex situation facilitated coordination of care. As one team described:



Because we're so close in proximity and we have a great relationship, I'm going to drop what I'm doing to help with the physical side, and M's going to drop what she's doing to take care of the mental health side. We could take care of those almost at the same time. It's seamless. So, I think that's a good example.



"A student who was brought to my attention that this student was self-harming in our bathroom. And I was brought down by other students who were concerned. Thankfully B. was here in the counseling office. So I was able just to direct that student over to B., where she was able to help get the cuts cleaned up, to bandage them up, making sure they were okay and everything like that too. As soon as this student was taken care of, the student came back to my office and then we made the appropriate phone calls."

Similarly, being co-located at the same time contributed to seamless transitions and hand-offs, "And because we're so close in proximity and we have a great relationship, I'm going to drop what I'm doing to help with the physical side, and M's going to drop what she's doing to take care of the mental health side. We could take care of those almost at the same time. It's seamless. So, I think that's a good example."

Project Goal 3: Innovations During Covid

While many school nurses reported innovative responses to the increased demands of Covid-19 responses, nurses from eight districts were interviewed to better understand these innovations.

The interviews yielded six types of innovations that included:

1

Enhanced collaboration with community and regional partners

2

New methods of data management

3

Establishment of dedicated space for Covid and health management

4

Leveraging grand funding to enhance services

5

Changes in service models

6

Increased use of technology resources

<p>1</p> <p>Enhanced collaboration with community and regional partners</p>	<p>2</p>	<p>3</p>	<p>4</p>	<p>5</p>	<p>6</p>
<p>1</p>	<p>2</p> <p>New methods of data management</p>	<p>3</p>	<p>4</p>	<p>5</p>	<p>6</p>
<p>1</p> <p>Establishment of Dedicated Space for Covid and Health Management improved the efficiency of access to information, planning and supply management for covid response.</p>	<p>2</p>	<p>3</p> <p>Establishment of dedicated space for Covid and health management</p>	<p>4</p>	<p>5</p>	<p>6</p> <p>The impact was to improve access to supplies, improved coordination of covid response, less duplication of services in a crisis, consistency of information disseminated, and improved connections with the community when the district provided a needed, accessible service.</p>
<p>1</p> <p>Grants allowed the delivery of more health services to the students, families and the community thus enhancing the value of the school as the “heart of the community”. Consequently, nurses practiced at full scope, resulting in enhanced services, educational and promotional materials were developed, technology tools were purchased, and covid response teams and tools were developed and implemented.</p>	<p>2</p>	<p>3</p>	<p>4</p> <p>Leveraging grant funding to enhance services</p>	<p>5</p>	<p>6</p> <p>Nurses felt empowered with the time providing service consistent with their perception of community and student needs.</p>

1

Changes to Service Models included the addition of Unlicensed Assistive Personnel (UAPs) who provided routine care to free up nurses to do more complex care and planning for implementation of can care coordination of covid interventions. This resulted in greater recognition of nursing skills and value, increased inclusion in district decision making, and decreased strain on nurses due to greatly increased workload from covid duties.

2

3

4

5

Changes in service models

6

1

Increased use of Technology Resources included increased partnership with community resources and medical providers to provide telehealth, enhanced use of technology such as tablets for educating community members at health fairs, development of applications to support covid monitoring and reporting, as well as increased use of remote and recorded training materials for staff. The impact was improved access to care for students, improved reach of individual nurses to provide care, educate the community and train staff. These interventions were especially important to improve access to care for rural, remote communities with limited community resources and long distances to larger medical centers and specialized medical providers.

2

3

4

5

6

Increased use of technology resources

The relaxation of the concept of “the way we’ve always done it” required in response to a major, deadly health emergency allowed districts to utilize resources in ways that had not been done before. Improved integration of the school into the larger community, enhanced collaboration with a variety of community resources, including technology and community health and medical providers resulted in improved access to care for students and the community, stronger partnerships and more efficient use of resources.

This project outlined not only the current state of school health services delivery in Washington State, but also the potential of improved access to health services due to increased funding and innovative approaches. It presents opportunities for policy guidance at the state and district level to restructure, analyze, and evaluate the state of delivery of school health services for our most vulnerable students.

School nurses mitigate the effects of complex health conditions and social influences on student health thus equalizing their opportunity to access the educational opportunities offered by our state's teachers. Health equity for children with chronic health conditions assures that EVERY child has access to the educational opportunities will produce the healthiest next generation of Washingtonians allowing them to contribute to their highest capacity.

APPENDIX

Table 1. Final Sample of Participating Districts (N=297)

Strata	Stratum	N	%
ESD	101	59	19.9%
	105	25	8.4%
	112	30	10.1%
	113	44	14.8%
	114	15	5.1%
	121	34	11.4%
	123	23	7.7%
	171	28	9.4%
	189	35	11.8%
	Tribal Schools	3	1.0%
	Washington State Charter School Commission	1	0.3%
	Urbanicity	Urban	29
Suburban		51	17.2%
Town		59	19.9%
Rural		154	51.9%
Income	<40% FRLP	76	25.3%
	>40% FRLP	221	74.7%
Enrollment Size	< 100	39	13.1%
	101-500	65	22.2%
	501-2000	83	27.6%
	2001-5000	49	17.2%
	5001-10000	28	9.1%
	>10000	31	10.8%

Table 2. Regression of the number of ESA-certified nurses as predicted by Rurality when controlling for enrollment and district health acuity

Explanatory variables	F	Df	P-value	R ² adjusted
Rurality, District Student Health Acuity, Enrollment	208.199	3	<.001	0.688

Explanatory Variable(s)	Estimate	95% CI	P-value
Intercept	-3.658	-6.496, -0.820	0.012
Rurality	0.866	0.185, 1.548	0.013
District Student Health Acuity	-0.210	-0.813, 0.394	0.494
Enrollment	1.006	0.907, 1.104	< 0.001

Table 3. Regression of the number of classified nurses as predicted by rurality when controlling for enrollment and district student health acuity

Explanatory variables	F	Df	P-value	R ² adjusted
Rurality, District Student Health Acuity, Enrollment	23.089	3	< 0.001	0.195

Explanatory Variable(s)	Estimate	95% CI	P-value
Intercept	0.629	-1.683, 2.942	0.593
Rurality	-0.001	-0.557, 0.556	0.998
District Student Health Acuity	0.081	-0.411, 0.573	0.746
Enrollment	0.242	0.161, 0.323	< 0.001

Table 4. Regression of the number of ESA-certified nurses employed as classified nurses as predicted by Rurality when controlling for District Student Health Acuity and Enrollment

Explanatory variables	F	Df	P-value	R ² adjusted
Rurality, District Student Health Acuity, Enrollment	13.926	3	< 0.001	0.127

Explanatory Variable(s)	Estimate	95% CI	P-value
Intercept	-0.118	-0.607, 0.372	0.636
Rurality	0.027	-0.091, 0.145	0.649
District Student Health Acuity	0.059	-0.045, 0.163	0.267
Enrollment	0.040	0.023, 0.057	< 0.001

Table 5. Respondent Demographics (N=244)

Demographic Variable	N	%
Title		
Lead/District	192	78.7%
Supervisor	13	5.3%
Manager	5	2.0%
Director	23	9.4%
Rotating Lead	11	4.5%
Highest Level of Nursing Education		
Vocational/Practical certificate-nursing	2	0.8%
Diploma nursing	6	2.5%
Associate Degree	48	19.7%
Bachelor's Degree	126	51.6%
Master's Degree	57	23.4%
PhD		-
DNP	2	0.8%
Not a Nurse	3	1.2%
Highest Level of Non-Nursing Education		
Associate Degree	53	21.7%
Bachelor's Degree	51	20.9%
Master's Degree	14	5.7%
PhD	0	
N/A	126	51.6%
Nursing License(s) Held by Respondent*		
LPN	3	1.2%
RN	236	96.7%
ARNP	8	3.3%

*Respondents may hold multiple active licenses

Table 6. Description of Nurse Lead Work

	N	%
Number of districts supervised		
1	209	85.7%
2	21	8.6%
3	9	3.7%
4	3	1.2%
5	1	0.4%
Payment Structure for Lead Role		
Salaried	47	19.3%
Additional hourly	36	14.8%
Stipend	20	8.2%
No extra pay	141	57.8%
Work as a district lead nurse includes providing direct care	215	88.1%
Provides greater than 8 hours of Direct care per week	154	63.1%

Table 7. Availability of Clerical Support (N=297)

	N	%
Availability of clerical support		
Available	97	32.7%
Not available	137	46.1%
Comments regarding support	63	21.2%
Inconsistent support		
Support from UAPs		
Support from LPNs		
Support from secretary or registrar for vaccination with the support of the nurse		

Table 8. District use of staffing rubrics (N=295)

	N	%
Districts utilizing a staffing rubric	35	11.8%
Information included in workload rubric for districts using a rubric (n=35)		
Student data (e.g., demographics, number of students who are unhoused)	20	57.1%
School data (e.g., number of Title 1 schools, number of elementary, middle, and high schools)	18	51.4%
Information about health needs in the school (e.g., number of students and staff with health needs or chronic conditions)	32	91.4%
Information about the staffing available	23	65.7%

Table 9. Evaluation and Supervision of School Nurses

	N	%
Evaluator of clinical practice of school nurses (Select all that apply.)		
Nurse Supervisor	72	24.2%
Non-Nurse Supervisor	148	49.8%
Both Nurse Supervisor and Non-Nurse Supervisor	20	6.7%
Self-evaluation	51	17.2%
Basis for School Nurse Performance Evaluation		
Nursing-specific criteria	95	32 %
Non-nursing specific criteria (same as teachers)	80	26.9%
Both non-nursing specific and nursing specific	54	18.2%
Other or unsure	68	22.9%
Supervisor of School Nurses in District is an RN		
Yes	99	33.3%
No	198	66.7%

Table 10. Staff Changes during the COVID Pandemic (N=297)

	N	%
In the past two years, the district made staffing changes as a result of COVID		
Yes	203	68.4%
Maybe	27	9.1%
No	66	22.2%
Total Extra paid nursing hours added per week due to COVID, if any		
0 hours	136	45.8%
1-5 hours	42	14.1%
6-10 hours	27	9.1%
11-15 hours	11	3.7%
16-20 hours	10	3.4%
> 20 hours	69	23.2%
Total extra non-nursing hours added per week due to COVID, if any		
0 hours	112	37.7%
1-5 hours	32	10.8%
6-10 hours	15	5.1%
11-15 hours	12	4.0%
16-20 hours	14	4.7%
> 20 hours	110	37.0%

Table 11. District Utilization of LPNs (N=72)

	N	%
District Utilization of LPNs (of districts that employ LPNs)		
LPNs provide care as 1:1 nurses*	24	33.3%
Medication administration*	52	72.2%
Partner with RN to care for students*	59	81.9%
Provide episodic care in the health room*	56	77.8%
Substitute nurse when the school nurse is absent*	28	38.9%
Moves between schools to support students with acute nursing needs (ie.- to administer insulin to students with T1D, etc.)*	25	34.7%

Table 12. District Utilization of dedicated UAPs (N=161)

	N	%
District Utilization of UAPs in the Health Room (of districts that employ dedicated UAPs)		
UAP provides episodic care in the health room, delegated by an RN at another location	128	79.5%
Supports RN in the health room, while the RN is present	79	49.1%
Supports students with health conditions in the classroom or on field trips	78	48.4%
Medication administration	144	89.4%

Table 13. School Health Team Roles by Urbanicity (N=294)

	No Nurse or dedicated UAP		Dedicated UAP only		RN only		RN + LPN + UAP		RN + LPN		RN + UAP	
	N	%	N	%	N	%	N	%	N	%	N	%
Urbanicity												
Urban	0		1	0.3%	12	4%	31	11%	12	4.1%	25	8.5%
Rural	2	0.6%	1	0.3%	93	31%	14	4.8%	15	5.1%	85	29%

*Table does not include Tribal schools, N = 294

Table 14. Comments regarding School Health Team Collaboration by Collaboration Quartiles

Quartile	Comments
Lowest (0-4 rating) n = 76 (25.7%)	“The opportunity could be there but limited hours impedes collaboration.”
	“I am occasionally asked if there are medical concerns for students. I am not always aware a student has a specific mental health concern. Whenever I ask for information, there is always cooperation though.”
	“ I know there are behavioral specialists and mental health counselors, but there is no collaboration as I don’t even know how many or where they are assigned.”
	“SBIRT, school counselors and psychs work separately/in silos from healthcare.”
	“We do not have a school counselor or social worker.”
25-50% (>4 – 7 rating) n = 120 (40.5%)	“Collaborate when necessary without issue. No formal team or process.”
	“Nurses and health aides collaborate all the time. We only have 1 mental health counselor on staff so they are very overwhelmed. We work with the BHS and social workers on a minimal basis.”
	“Each building is different.”
	“We do not work together for all students as that is not usually necessary, but for a percentage of students, we collaborate regularly throughout the year. We also know to reach out to each other when needed.”
50-75% (>7 – 8 rating) n = 50 (16.9%)	“Everyone plays a role and informs others when necessary for problems.”
	“I work primarily in the high school. I am always in contact with the mental health counselor regarding students.”
	“Our factor that keeps us from a 10 is that we don’t have the time to collaborate as much as we feel we need to and we also always feel there is room for improvement. We have a very good working relationship with our school counselors and collaborate frequently to help students.”

Highest (>8 rating) n = 50 (16.9%)	“This has been the most important factor to our success as a district this year. Between supply levels waxing and waning, staff becoming positive for COVID, and the overwhelming workload of the Omicron surge, our district staff, both Health services and others, have pulled together in extraordinary ways to get the job done and keep kids in school.”
	We are team driven and collaborate daily.
	“The counselors and nurses work very closely to provide care to students while at school.”

Table 15. Structures for Collaboration (N=297)

	N	%
MTSS	72	24.2%
Care Team Meetings (Child Study meetings, Student intervention teams, etc.)	115	38.7%
No structures for multidisciplinary collaboration	112	37.7%
Other	86	29.0%
In districts with multidisciplinary collaboration structures, is the school nurse a consistent member of the multidisciplinary team (N=186)		
Yes		
Varies	47	
If the nurse is not a consistent member, are they invited? (N= 47)		
Yes	29	61.7%
No	18	38.3%

DESCRIPTIONS OF INNOVATIONS DEVELOPED

1. Enhanced Collaboration with Community & Regional Partners

o Types of collaboration

- Community Covid-19 Vaccine Clinics –
- Partnership with school, hospital, and local low-income clinic.
 - Community Covid testing
 - Use of social media to disseminate resource information re: covid
 - Collaboration with local EMS to transport nurses when roads were impassable
 - School nurses provided testing for local EMS staff when needed
 - Outreach to community in local fairs to promote vaccines & testing, distribute tests, and provide information
 - Collaboration with Public Health, Tribal Health, National Indian Health Services
- Contract tracers from the community to build trust and utilize culturally relevant practices
 - Weekly meetings with local health providers in five counties, tribal health, superintendents, school nurse leaders to ensure consistent information and promote partnerships
- Tribes agreed to be provider for Covid vaccines for the entire community where 99% of students are tribal members

o Impact of Collaboration

- Collaboration and consensus building promoted resolution of jurisdiction issues among local and tribal governments.
- Improved timeliness of student access to nursing care
- Improved facilitation of care for students directed by medical providers
- Improved protection of elders from covid
- Enhanced understanding of tribal relationships and increased connections through the use of tribal contact tracers
- Empowerment of nurses and greater job satisfaction
- Improved communication through collaborative connections
- Consistency in covid management across multiple jurisdictions (county, tribe, school)
- Test to Stay program was very effective at keeping students in school safely
- Improved recognition and respect for nursing staff “You are the experts”
- “If you have the right team, you can get anything done”

o Sustainability

- Partnerships are expected to continue with potential changes in providers
- Relationships established are likely to continue

2. New Methods of Data Management

o Types of Interventions

- Collaboration with Microsoft to create software to efficiently manage covid data that interfaced with health department for reporting

o Impact of Interventions

- Better real time understanding of covid status of large populations
- More efficient and accurate covid reports

o Sustainability

- Uncertain if the innovations will be used beyond Covid.

3. Establishment of dedicated space for Covid and health management

- o **Types of Interventions**
 - District in central Washington used ESSR funds to purchase a building to house district administration, specialty nursing staff, and access by the broader community for Covid testing, immunizations, and health fairs.
 - Promoted consistent health education for the community via Zoom
- o **Impact of Interventions**
 - Improved timely access to services for students, families and the community
 - Resource for accurate Covid information
 - Improved nursing connection to community
 - More flexibility in responding to needs
 - Improved awareness by district of importance of nurses
 - Improved community awareness that schools are a resource
 - Consolidation of Covid response
 - Efficient, consistent communication
 - Better workload management by nurses through enhanced collaboration
 - Dedicated building to store Covid supplies and facilitate nurse staff meetings and work areas
- o **Sustainability**
 - Expected to be sustained due to no further expenses and strong administrative support
 - Proximity of the building in one district improves access to marginalized populations which supports continued availability

4. Leveraging grant funding to enhance services

- o **Types of Interventions**
 - Educational & promotional materials
 - Vaccine Clinics
 - Increased nursing hours
 - Purchased technology tools
 - Learn to Return grants were used to purchase supplies and fund additional staff
 - Test To Stay program implemented
 - Covid Response Team to manage Covid community hotline and data
- o **Impact of Interventions**
 - Improved access to testing in a community with limited testing resources
 - Better connections with community
 - Schools as the “heart of the community
 - Home visits to test if needed
 - Empowerment of nurses
- o **Sustainability**
 - It is not certain how grant dollars will be replaced

5. Changes in service models

- o **Types of Interventions**
 - Addition of UAPs
 - RNs created written guidelines for roles and responsibilities of team members
 - RNs managed care planning, staff training, delegation, and coordinated Covid-19 care including communication with administration, staff and families

- o **Impact of Interventions**
 - Decreased strain of adding covid duties to nursing work
 - Improved continuity of care of students
 - Increased involvement of nurses in district decisions
 - Improved collaboration of nurse leaders
- o **Sustainability**
 - o Wide variations among districts

6. Increased use of technology resources

- o **Types of Interventions**
 - Multiple school districts in rural Washington established telehealth programs for students in the district that provided physical, mental health care, and social supports which improved access in these marginalized communities.
 - Multiple partners were included in telehealth resources
 - Tablet to use in community health fairs to demonstrate covid testing website
 - Return to School application developed by Microsoft that facilitated reports to public health, and more efficient internal management of student status related to their attendance/ need for exclusion due to covid
 - Technology to provide staff training
- o **Impact of Interventions**
 - Allowed students to access care more readily to minimize impact of illness & injuries
 - Improved reach of nurse to provide care if at a different school site
 - Student access to services improved
 - Better recognition of the value of telehealth to improve access to care
 - Increased staff training resources
- o **Sustainability**
 - Telehealth was expected to be maintained

REFERENCES

- Best, N. C., Oppewal, S., & Travers, D. (2018). Exploring School Nurse Interventions and Health and Education Outcomes: An Integrative Review. *The Journal of School Nursing, 34*(1), 14–27.
- Centers for Disease Control and Prevention. (2021). About Social Determinants of Health (SDOH): What are social determinants of health? cdc.gov. <https://www.cdc.gov/socialdeterminants/about.html>
- Joint Legislative Audit and Review Committee. (1997). School nurse survey: Report 97-5. leg.wa.gov. <https://leg.wa.gov/jlarc/AuditAndStudyReports/Documents/97-5.pdf>
- Professional Educator Standards Board. (n.d.). Educational Staff Associates. Retrieved November 10, 2023, from <https://www.pesb.wa.gov/current-educators/assignment/educational-staff-associate/>
- Willgerodt, M. A., Brock, D. M., & Maughan, E. D. (2018). Public School Nursing Practice in the United States. *The Journal of School Nursing, 34*(3), 232–244. <https://doi.org/10.1177/1059840517752456>
- Willgerodt, M. A., & Griffith, K. (2021). Examination of Social Determinants of Health, District Health Needs, School Nurse Caseload, and Academic Outcomes in Washington State. *The Journal of School Nursing, 36*(1), 105984052110478. <https://doi.org/10.1177/10598405211047849>
- Yoder, C. M. (2020). School Nurses and Student Academic Outcomes: An Integrative Review. *The Journal of School Nursing, 36*(1), 49–60. <https://doi.org/10.1177/1059840518824397>