



Center *for* Rural Health

North Dakota Hospital Assessment: 2014 Chartbook

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Center for Rural Health

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THE CENTER FOR RURAL HEALTH

The Center for Rural Health (CRH), established in 1980, is one of the nation's most experienced organizations committed to providing leadership in rural health. Their mission is to connect resources and knowledge to strengthen the health of people in rural communities. The CRH serves as a resource for health care providers, health organizations, citizens, researchers, educators, and policymakers across the state of North Dakota and the nation. Activities are targeted toward identifying and researching rural health issues, analyzing health policy, strengthening local capabilities, developing community-based alternatives, and advocating for rural concerns. Although many specific activities constitute the agenda of the Center, four core areas serve as the focus: (1) education and information dissemination; (2) program development and community assistance; (3) research; and (4) policy analysis. The CRH is also home to five national programs.

Additionally, staff at the CRH oversee the North Dakota Medicare Rural Hospital Flexibility (Flex) Program, a state based partnership that works with and assists all rural hospitals to stabilize and sustain their local healthcare infrastructure. Flex is a companion to the Critical Access Hospital (CAH) designation process. Hospitals receive CAH designation from the Center for Medicare and Medicaid Services (CMS). The Flex Program helps to sustain the rural healthcare infrastructure by strengthening critical access hospitals, thereby maintaining access to care for rural residents. By applying the components of Flex, the program fosters the growth and sustainment of rural collaborative healthcare systems across the continuum of care.

Furthermore, the North Dakota Flex Program operates through a formal partnership involving the Center for Rural Health, the North Dakota EMS Association, the North Dakota Healthcare Review, and the North Dakota Hospital Association.

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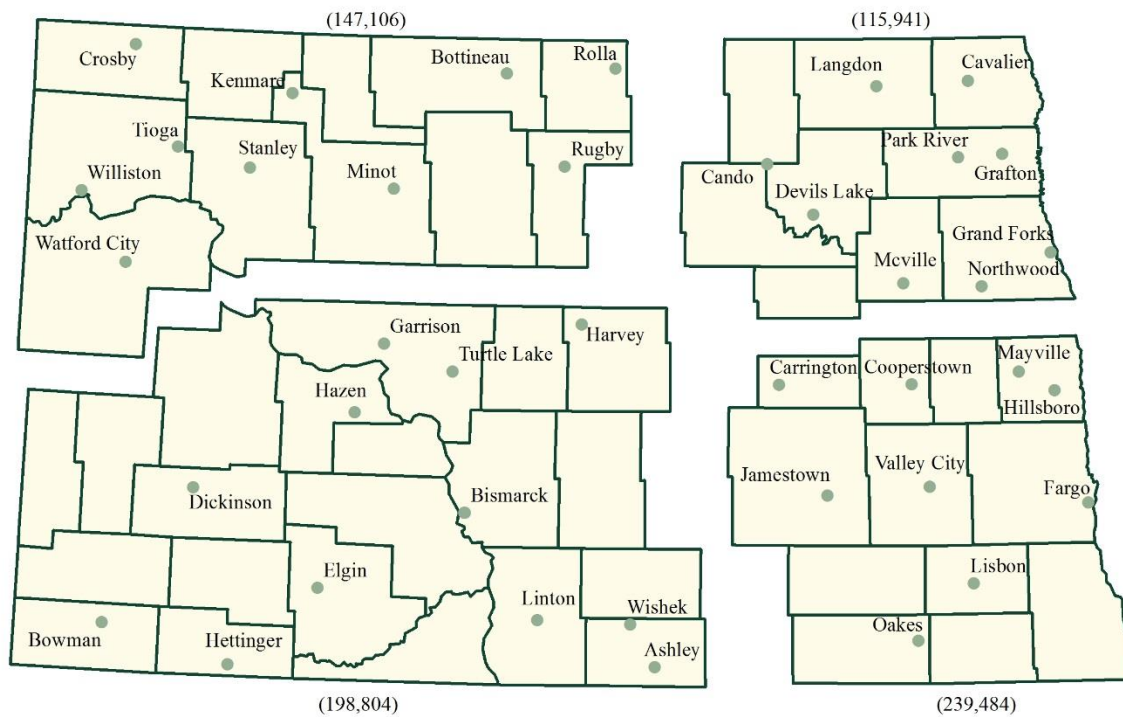
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INTRODUCTION

In the Fall of 2014, the Center for Rural Health began to develop a survey on hospital issues, workforce, and utilization and impact of the North Dakota Medicare Rural Hospital Flexibility (Flex) Program. The Flex program had surveyed all North Dakota hospitals previously, but earlier surveys focused solely on the utilization and impact of the Flex Program, to include an assessment of the relationships between tertiary and critical access hospitals (CAHs).

This Chartbook presents the findings of the 2014 hospital survey. This resource does not provide analysis or discussion of the results, but instead, offers a graphic discourse on the current hospital environment. Output includes aggregate data stratified by geographic region (Northwest, Northeast, Southeast, Southwest) and hospital type (CAH or tertiary).

Figure 1. North Dakota CAH & PPS Hospitals by Geographic Region



North Dakota Hospitals

According to the North Dakota Department of Health, there are 52 hospitals in the state (36 critical access hospitals [CAHs], six general acute Prospective Payment System [PPS] hospitals, three psychiatric, two Indian Health Service [IHS], two longterm acute care, two transplant, and one rehabilitative). Of the above, the 36 CAHs and 6 PPS hospitals were surveyed on their current workforce vacancies; a total of 42 hospitals.

A Critical Access Hospital (CAH) is a hospital certified under a set of Medicare Conditions of Participation (CoP), which are structured differently than the acute care hospital CoP. According to the U.S. Department of Health and Human Services:

Some of the requirements for CAH certification include having no more than 25 inpatient beds; maintaining an annual average length of stay of no more than 96 hours for acute inpatient care; offering 24-hour, 7-day-a-week emergency care; and being located in a rural area, at least 35 miles drive away from any other hospital or CAH (fewer in some circumstances). The limited size and short stay length allowed to CAHs encourage a focus on providing care for common conditions and outpatient care, while referring other conditions to larger hospitals.¹

The incentive of CAH designation is that those rural hospitals designated as such receive cost-based reimbursement while larger providers receive a standard fixed reimbursement rate. The unique system of reimbursement enhances the financial performance of small rural hospitals that were under significant financial strain prior to CAH conversion. The 36 CAHs in North Dakota are all located in rural communities. In this report, these hospitals will be referred to interchangeably as either rural hospitals or CAHs.

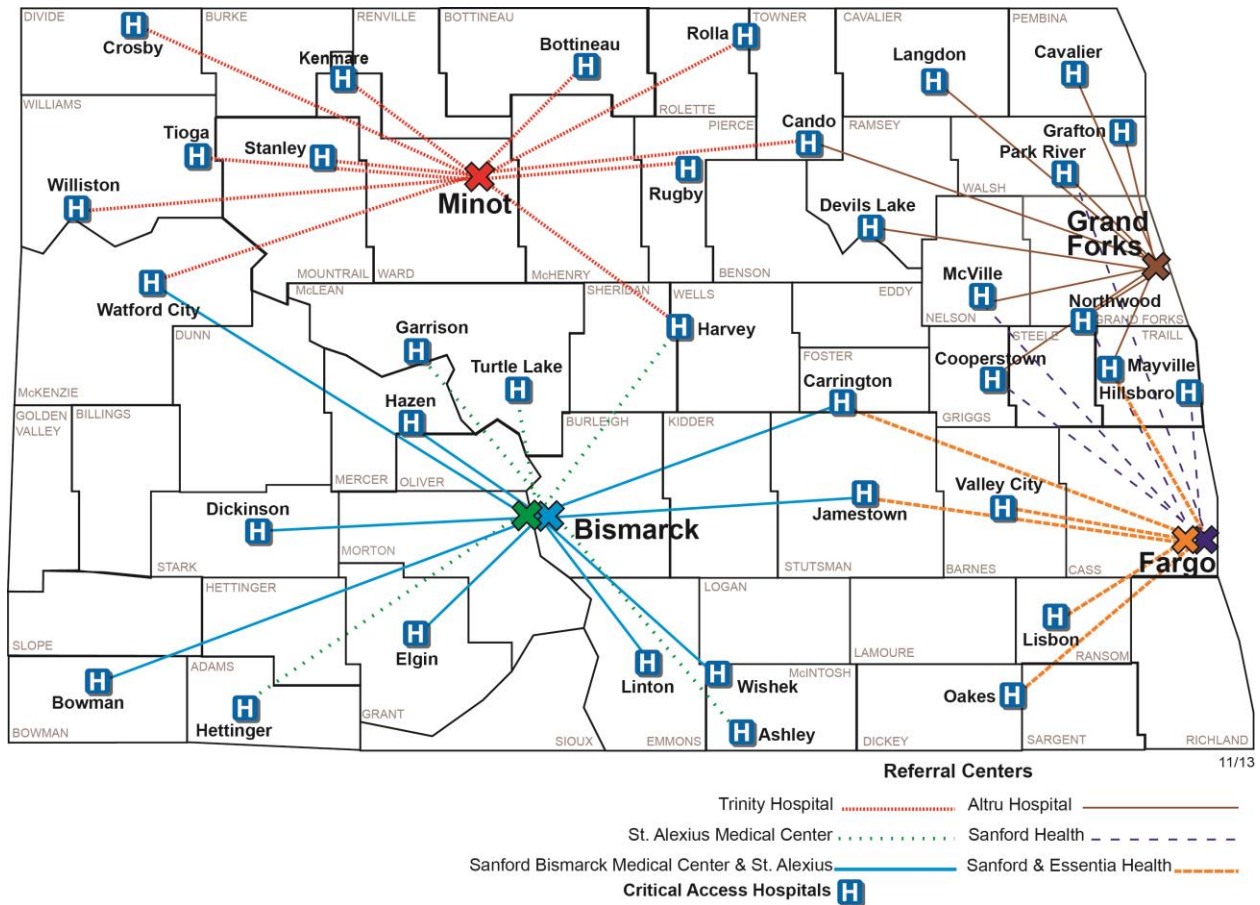
As mentioned, there are also six large urban PPS hospitals; also referred to as tertiary centers or tertiary hospitals. The terms PPS hospitals, urban hospitals, and tertiary centers will be used interchangeably in the discourse to follow. The large urban hospitals are located in North Dakota's four largest cities; at least one in each corner of the state to include Bismarck, Grand Forks, Fargo, and Minot. The six tertiary centers include:

- Trinity Hospital (Minot)
- St. Alexius Medical Center (Bismarck)
- Sanford Bismarck Medical Center (Bismarck)
- Altru Hospital (Grand Forks)
- Sanford Health (Fargo)
- Essentia Health (Fargo)

Each of the 36 CAHs has an agreement with at least one of the six primary urban hospitals. The map in Figure 2 illustrates the referral patterns and/or agreements held between the CAHs and their identified referral centers. While this map is similar to that in Figure 1 presenting the geographic regions utilized in the presentation of data to follow, Figure 2 highlights the complexity of CAH referral patterns in North Dakota.

¹ <http://www.hrsa.gov/healthit/toolbox/RuralHealthITtoolbox/Introduction/critical.html>

Figure 2. North Dakota CAHs & Referral Hospitals



Survey Method

The hospital survey was developed by staff at the CRH, to include those working under the Flex program, and additional CRH staff with experience in healthcare workforce assessment. Previous versions of the Flex program hospital survey were reviewed and many questions were carried into the current survey. Center for Rural Health staff also modeled the questionnaire after one previously used in Washington. Because the North Dakota Flex program primarily works with the state’s critical access hospitals, those questions in the survey related to the Flex program, its services, and plans for the future were not included in the version sent to the six urban centers.

All 42 North Dakota CAH and PPS hospitals received an electronic survey through Qualtrics². Rural (CAH) hospital CEOs were asked to participate and were sent a link to the online questionnaire. The CEOs of the six large urban-tertiary hospitals were also asked to participate

² The Qualtrics Research Suite is a powerful online survey tool available to all faculty, staff and students at the University of North Dakota for academic purposes. The Research Suite allows researchers the capacity to build complex surveys that fulfill a variety of research needs. This tool can build surveys incorporating features such as branching, skip logic, response timing, video and audio integration, direct export to SPSS and Excel, and many more. It is an electronic survey tool.

but were sent a paper questionnaire and an online link; they could choose to respond by either means. Non-respondents were contacted by e-mail and phone, and the final response rate was 100%.

The main feature of the questionnaire was a matrix that lists 25 hospital workforce types (e.g., ultrasound techs and registered nurses [RNs]). The questionnaire included other questions regarding physician workforce and hospital administrators. Five additional questions were asked about workforce-related issues. From the survey, much useful workforce information can be calculated (e.g., current provider-type-specific full-time equivalent (FTE) employees, FTE positions being actively recruited, and provider-type specific vacancy rates). A copy of the survey instrument may be found in Appendix B. The findings of this survey are reported below.

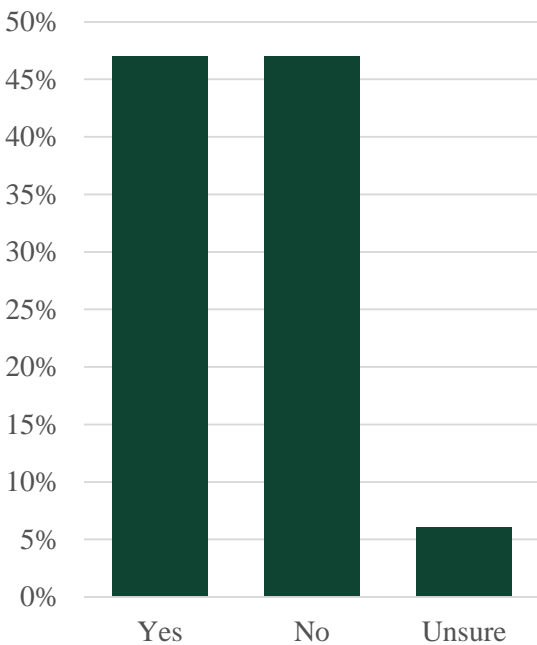
HOSPITAL TAX SUPPORT & FOUNDATION DOLLARS: CAHs

Tax Support

Each critical access hospital was asked if they received county and/or city tax support, as well as whether or not they were currently operating a hospital foundation. The response rate for this question set (five questions) was 36 of 36 hospitals.

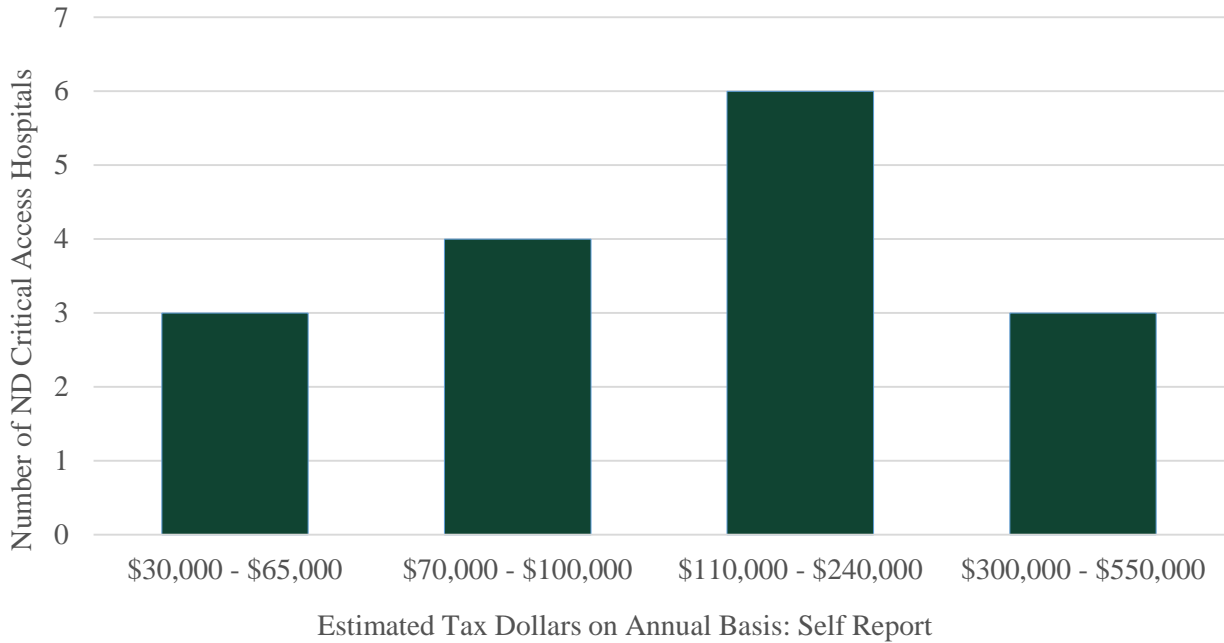
In 2005, only four CAHs had some level of local tax support (e.g., mill levy, sales tax), but by 2011, this had increased to 13, or 36% of all CAHs. The Center for Rural Health's 2014 CAH and PPS Hospital Survey found this had increased to 17 CAHs (47%). See Figure 1.

Figure 1. Percent of CAHs Receiving County and/or City Tax Support: 2014 ($n = 36/36$)



Ten CAHs reported receiving \$100,000 or more a year from local taxes, with three gaining \$300,000 or more a year. The lowest tax yield was \$30,000, and the highest level of local support was \$550,000. Only 16 of the 17 CAHs indicating they received tax support provided the estimated annual figure (Figure 2). Over 80% of CAHs receiving county/city tax support receive less than \$250,000 on an annual basis.

Figure 2. Estimated Dollars Received on an Annual Basis (2014) by CAHs through County/City Tax Support (*n* = 16/36)



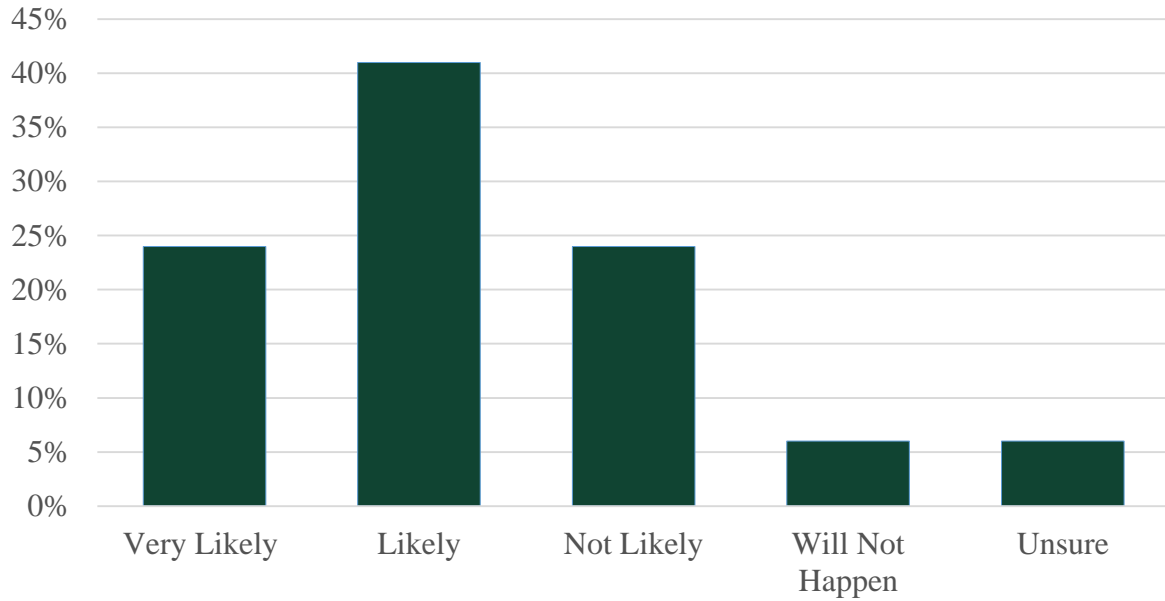
Of those receiving tax support, 14 provided the rate of the tax or mill levy; 64% were receiving City sales tax dollars with 35% receiving mill levy monies. No CAH had a county tax in place (Table 1). Of those with a city sales tax, 56% had a tax rate at or below 1% with no city sales tax greater than 5%. Five CAHs received support from a mill levy at a rate of 3-10; two CAHs did not provide the rate of their mill levy.

Table 1. Percent of Sales Tax/ Mill Levy for CAHs in 2014

City Sales Tax/ Mill Levy	Number of ND CAHs
1/2% City sales tax	2
1% City sales tax	5
2% City sales tax	1
5% City sales tax	1
3 Mills	1
9 Mills	1
10 Mills	1
Mill Levy	2

Four of the 17 CAHs not already receiving city/county tax support indicated there was a likelihood of local taxes being initiated in the next five years; seven stated it would not happen (Figure 3).

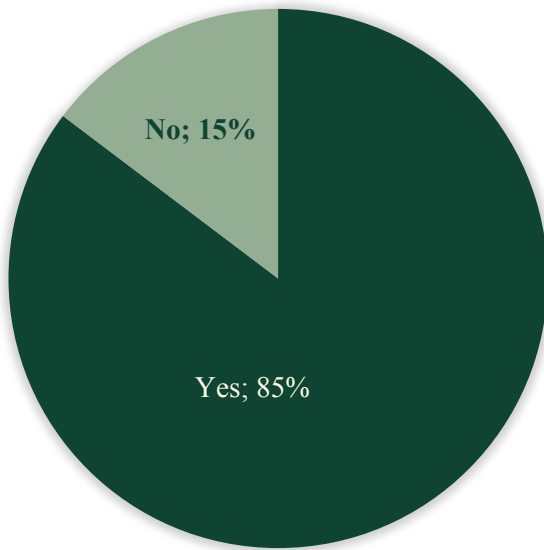
Figure 3. Likelihood of CAH Local Tax Support in Next Five Years ($n = 17/36$)



Foundation Dollars

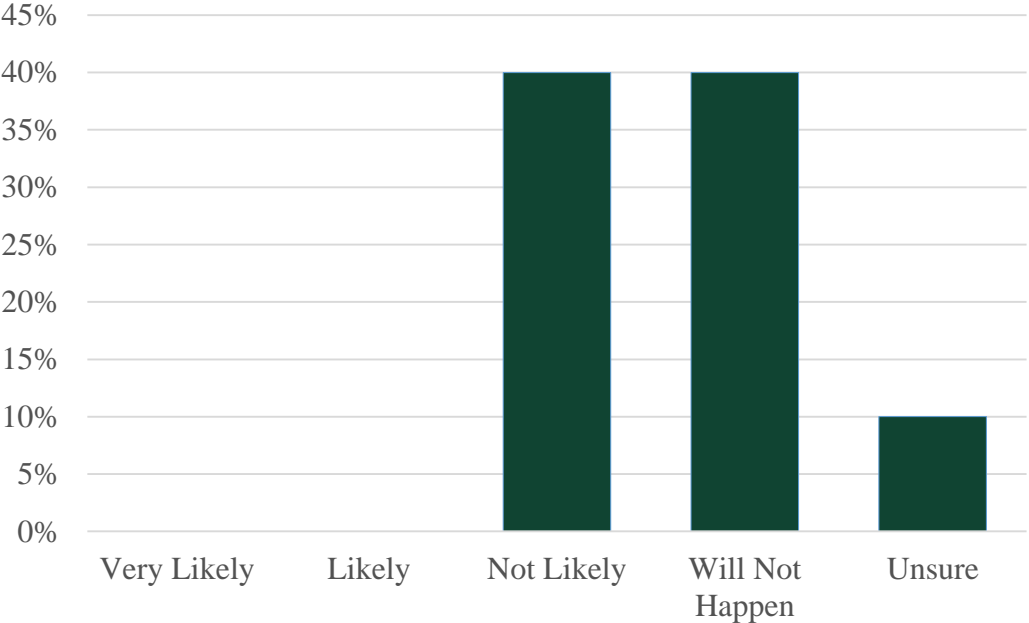
In 2005, 18 CAHs had the support of a local hospital foundation; this increased to 26 CAHs (72%) in 2011. By 2014, 29 CAHs (81%) had a hospital foundation (Figure 4).

Figure 4. Percent of North Dakota CAHs with a Hospital Foundation in 2014 ($n = 34/36$)



Four of the five CAHs not already receiving additional support through a hospital foundation indicated that it was not likely they would create a foundation in the next two years (Figure 5).

Figure 5. Likelihood of CAH Hospital Foundation (n = 5/36)



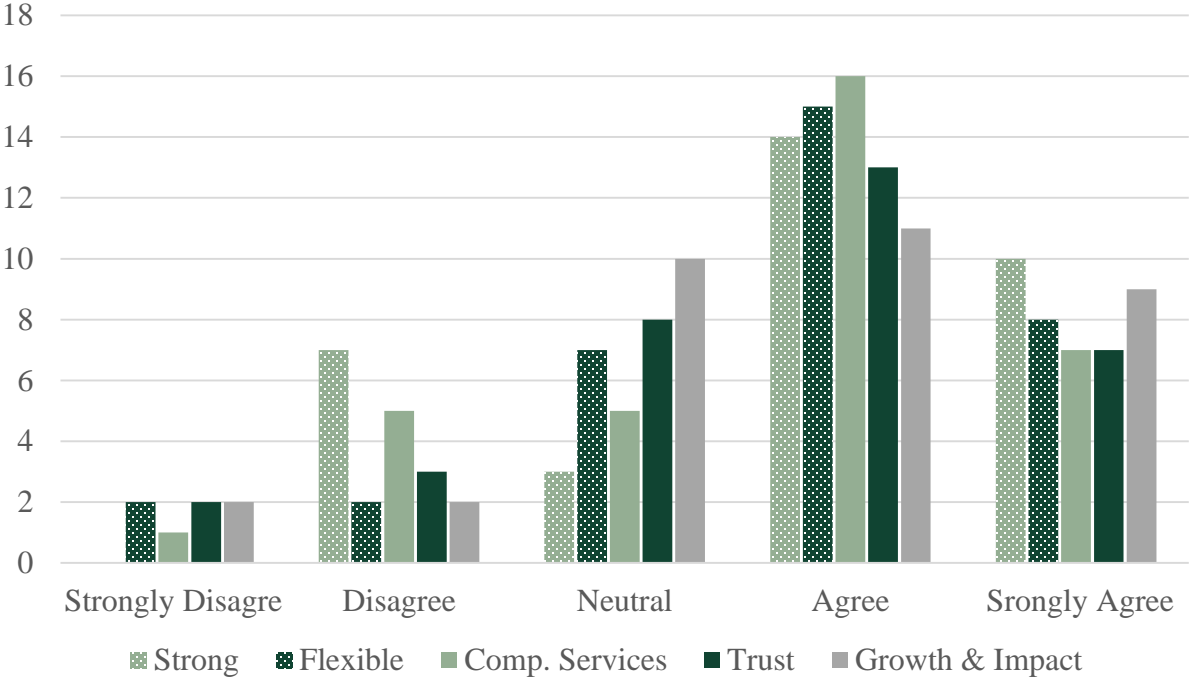
HOSPITAL RELATIONSHIPS & NETWORKS: CAH REPORTING

As mentioned, each of the 36 critical access hospitals has at least one agreement with one of the six tertiary facilities. To assess the relationship between the CAHs and their primary tertiary center, each rural hospital was asked to identify their primary tertiary facility, and rate the CAH-tertiary relationship with regard to five variables (Figures 1-2).

The five variables included:

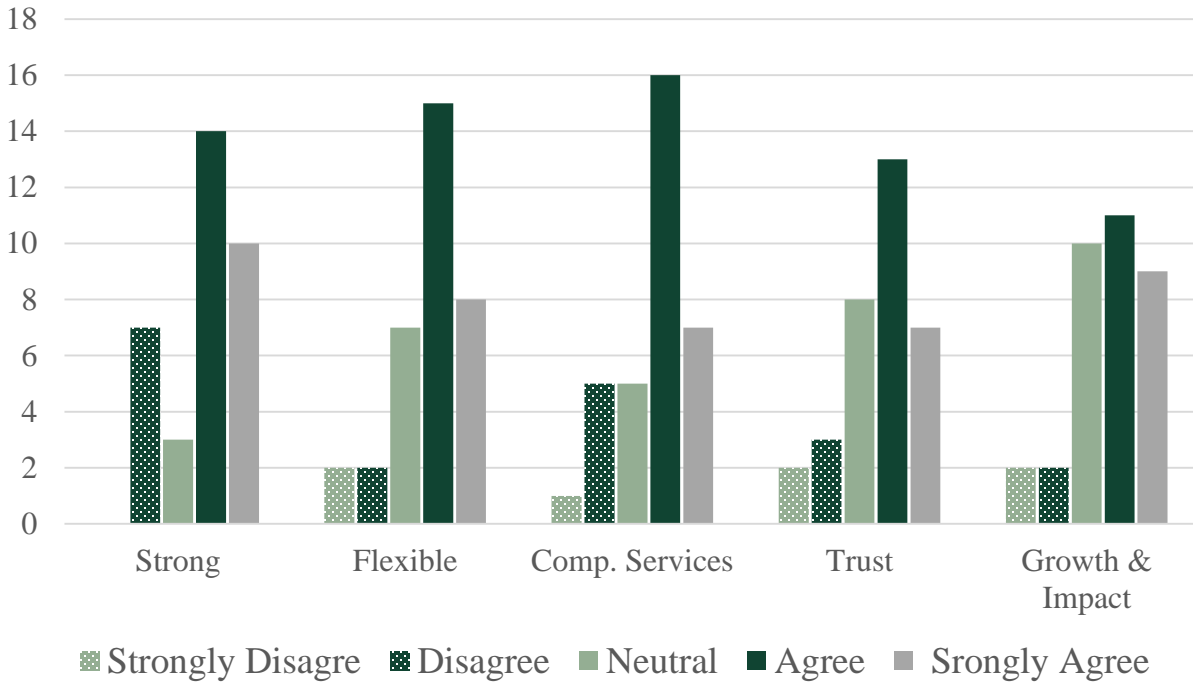
- The CAH/Tertiary Network is Strong (*n* = 34/36)
- The CAH/Tertiary Network is Flexible (*n* = 34/36)
- The CAH/Tertiary Network Provides Comprehensive Services (*n* = 34/36)
- The CAH/Tertiary Network Fosters Trust between Providers (*n* = 33/36)
- The CAH/Tertiary Network Will Grow & Positively Impact CAH (*n* = 34/36)

Figure 1. ND CAH/PPS Hospital Relationship Variables by Level of CAH Agreement



Nearly 71% of the North Dakota CAHs agreed or strongly agreed that the current network was strong; 68% indicated they agreed or strongly agreed that the network was flexible; 68% agreed or strongly agreed the network provided comprehensive services; 61% felt the network fostered a sense of trust between providers; and 59% agreed or strongly agreed that they were optimistic the network would grow and positively impact the hospital (Figures 1-2).

Figure 2. ND CAH/PPS Hospital Relationship Rating by Each Relational Variable



To further explore hospital network membership and participation, the 36 North Dakota CAHs were asked to identify which networks they belonged to, as well as which activities they participate in within that network. See Table 1 for the number of CAHs participating in each activity within a given network. The response sample is not equal across network or activity type. The Catholic Health Initiatives, Sanford Fargo, St. Alexius Medical Center, Trinity Hospital, and the CAH Quality Network are the only networks to provide support across all activity types to their participating hospitals.

Table 1. Number of CAHs Participating in Health Activities within a given Network

Name of Network	Not a Member	Quality	Recruit/Retention	Health IT	Staff Ed.	Medical Ed.	EMS	Medical Coverage /Support	Board Develop. & Ed.	Supply Mgmt.
Altru Health System	21	7	–	9	5	7	–	4	6	1
Catholic Health Initiatives	25	6	6	6	6	5	3	4	6	5
Essentia Health System	30	–	–	–	1	–	–	–	–	–
Northland Healthcare Alliance	22	3	2	7	5	2	–	–	–	2
North Region Health Alliance	21	–	–	4	2	1	–	–	5	2
Sanford Bismarck	26	–	1	–	–	–	–	2	1	–
Sanford Fargo	19	8	3	6	6	3	3	5	4	4
St. Alexius Medical Center	19	7	7	8	6	7	2	7	5	5
Trinity Hospital	22	4	1	1	1	1	1	2	1	1
CAH Quality Network	7	25	2	3	17	5	2	2	3	1

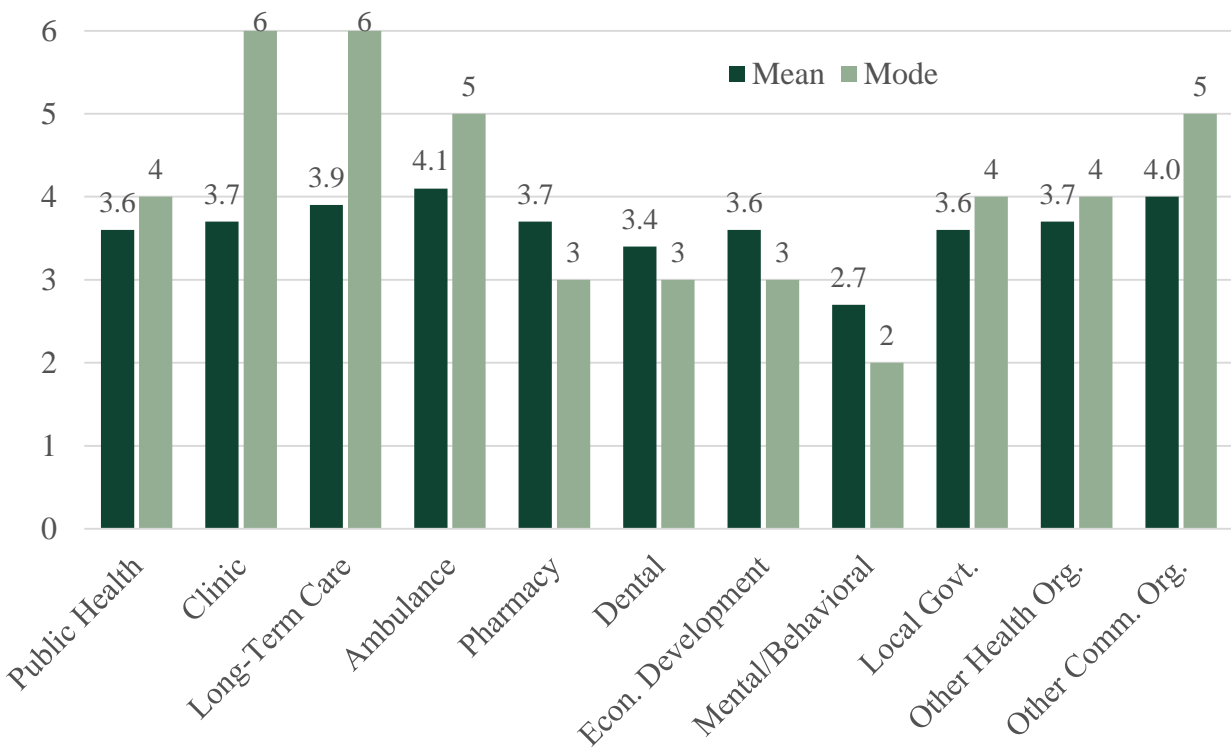
Outside of hospital agreements/networks, the 36 CAHs participate and engage in health activities with community organizations. The participating rural hospitals were asked to indicate the quality of their relationship (poor [1]; below average; average [3]; above average; excellent [5]) with 11 community organizations, to include:

- Public health
- Local clinic
- Long-term care
- Ambulance
- Pharmacy
- Dental
- Economic development
- Behavioral/mental health

- Local government
- Other health organizations
- Other community organizations

On average, the participating hospitals indicated the strongest quality relationship with ambulance (average score of 4.1, most common score of 5), and the lowest quality relationship with mental/behavioral health (mean 2.7, mode of 2). Average scores presented below do not include response values for those who responded with “we operate this organization,” though this value (6) is included when discussing the mode illustrated in Figure 3.

Figure 3. North Dakota CAH’s Average Scores & Most Common Responses for Quality of Relationship with Community Organizations



ISSUES FACING NORTH DAKOTA CAHS

Through work with the critical access hospitals in North Dakota, the Center for Rural Health was able to provide a list of issues that CAHs have identified as significant problems in recent years. From this list of 32 issues, each CAH rated how significant of a problem each has been for their facility (not a problem [1]; minor problem; problem [3]; moderate problem; severe problem [5]).

Table 1 lists each of the issues in descending value based on the average rating. The most severe problem facing North Dakota CAHs is listed first. The categories of “access to mental/behavioral health services – inpatient and outpatient” and “access to mental/behavioral health services – substance abuse” both averaged 4 (moderate problem), and had “severe problem” identified by the greatest number of participants (mode value of 5). Following “access to behavioral health services, issues around hospital reimbursement” and “care for the under and un-insured” were rated as moderate or severe problems for North Dakota CAHs.

Table 1. Rank Listing of Problems CAHs are Facing & their Rated Severity

	N			
	Mean	Mode	Valid	Missing
Access to mental/behavioral health-Inpatient & outpatient	4.1	5	35	1
Access to mental/behavioral health services-Substance abuse	4	5	34	2
Hospital reimbursement (Medicaid)	3.9	5	33	3
Hospital reimbursement (third party payer)	3.9	5	34	2
Impact of uninsured	3.9	3	34	2
Primary Care Physician workforce supply	3.8	5	35	1
Impact of under-insured	3.8	4	34	2
Hospital reimbursement (Medicare)	3.7	5	34	2
Nursing workforce supply	3.6	4	35	1
Health care reform impact	3.5	5	35	1
Ancillary workforce supply (lab, x-ray, PT, etc.)	3.3	4	35	1
Acquiring and/or maintaining Health IT	3	2	35	1
Service area population change	3	2	35	1
Nurse practitioner/physician assistant supply	3	4	35	1
Non-Primary Care Physician workforce supply	2.7	1	32	4
Maintaining access to primary care services	2.7	2	35	1
Hospital staff training	2.7	3	35	1
Physical Plant and Building Issues	2.6	2	31	5
Hospital staff morale	2.6	2	33	3
Service area economic change	2.6	2 ^a	35	1
Adequate patient transport services (EMS)	2.6	1	34	2
Addressing community health and wellness	2.5	2	34	2
Meeting Medicare Conditions of Participation	2.5	2	35	1
Providing 24 hour emergency coverage	2.5	1	35	1
Access to dental care	2.3	1	35	1
Quality of care reporting	2.2	2	35	1
Access to medical library- on site	2	1 ^a	32	4
Providing pharmacy coverage	1.9	1	35	1
Relationship with designated tertiary hospital	1.9	1	35	1
Maintaining trauma designation	1.8	1	34	2
Community support for the hospital	1.7	1	35	1
Access to medical library- remote access	1.6	1	34	2

Following identification of problem severity, CAHs were given the opportunity to list the one issue they were most concerned about, either from the list above or a new struggle. All of the self-identified issues could be described as a financial/reimbursement concern, or a concern for current workforce. Table 2.

Table 2. Self-Reported CAH Primary Concerns

CAH Self-Reported Primary Concerns		
Financial/Reimbursement Concerns	Finding a Physician that will reside in our community.	
	Uncertainty of the impact of Health Care Reform and lack of reimbursement for Wellness and Disease management to meet the new demands of "healthy communities".	
	Reimbursement because more cuts are threatened to Medicare and most of our hospital business is Medicare.	
	Declining population = decreased use of facility = no money!!	
	Reimbursement (nobody wants to pay).	
	Change in reimbursement methodology- long term.	
	Finances. Bad debt. Uncollected revenue from private pay patients and uncollected deductibles.	
	Financials, keeping the facility open, cost pressures from all areas not just one issue. Keeping 340B going will be important, Medicaid should pay just like Medicare giving the amount projected from Medicare numbers right away and having a final settlement later.	
	Reimbursement.	
	Reimbursement.	
	Financial viability.	
	My greatest fear for the near future is the federal threat to rural health care programs and reimbursement.	
	Financial viability due to variety of factors.	
	Financial stability.	
	Need additional providers.	
	Without a doubt aging plant is a big threat it is exacerbating by increasing deductibles, bad debt, and cash flow problems.	
	Increasing bad debt.	
	Continuing to meet the needs of our local community while our payers are driving what they feel quality should be.	
	Workforce Concerns	Lack of qualified health care professionals in western ND.
		Maintaining adequate staffing.
Physician and nursing supply for the future!		
Recruiting Internal Medicine- immediate		
Recruit and retain physicians and nurse practitioners.		
Primary Care (MD); have been trying to recruit for more than 2 years unsuccessfully.		
Recruitment and retention of mid-level providers and physicians.		
Overall ability to staff positions as employees retire, and able to get mobile services to our facility in the future.		
We do have a new administrator.		
Physician recruitment to our community.		
Employee commitments to their positions. We are tolerating behaviors that I did not ever think we would be tolerating. The lack of commitment from personnel.		
Workforce Supply, Physicians, Nursing, Ancillary professionals		
Maintaining coverage for our Emergency Department.		

HOSPITAL WORKFORCE: FTE & VACANCY RATES

Both urban tertiary hospitals and rural critical access hospitals were surveyed on their current number of full-time equivalent (FTE) employees, vacant FTEs, vacancy length, and recruitment difficulty as they relate to 25 health professions. The question specified:

Please answer the following questions regarding only your short-term general operation (e.g. urgent care clinic, ER, & inpatient). In your answers, do not include other parts of your overall operation (e.g. long-term care, primary care and specialty clinics, hospice, ambulances services, and outsources services) or out of state care/services. Do not include contract employees.

Hospital Workforce Capacity: CAH/PPS FTE & Geographic Variation

While Figures 1 and 2 provide hospital workforce capacity (FTE) in 2014, they do not illustrate the provider need, nor are they an indication of number of individuals employed within any given health profession. It is clear from Figure 1 and 2 that there are more registered nurse FTEs than any other provider type in both critical access hospitals (CAHs) and urban (PPS) hospitals in North Dakota. Figure 1 also indicates that a very low percentage of the NP FTEs in North Dakota are in rural CAHs (less than 20%); 81% of the NP FTEs in North Dakota are in the PPS hospitals. Figure 2 illustrates the low rates of FTE for special provider groups in rural hospitals compared to PPS facilities (see radiation therapy techs for an example). Table 1.

Figure 1. CAH & PPS Hospitals' Total Entry-Level & Nursing Staff FTEs

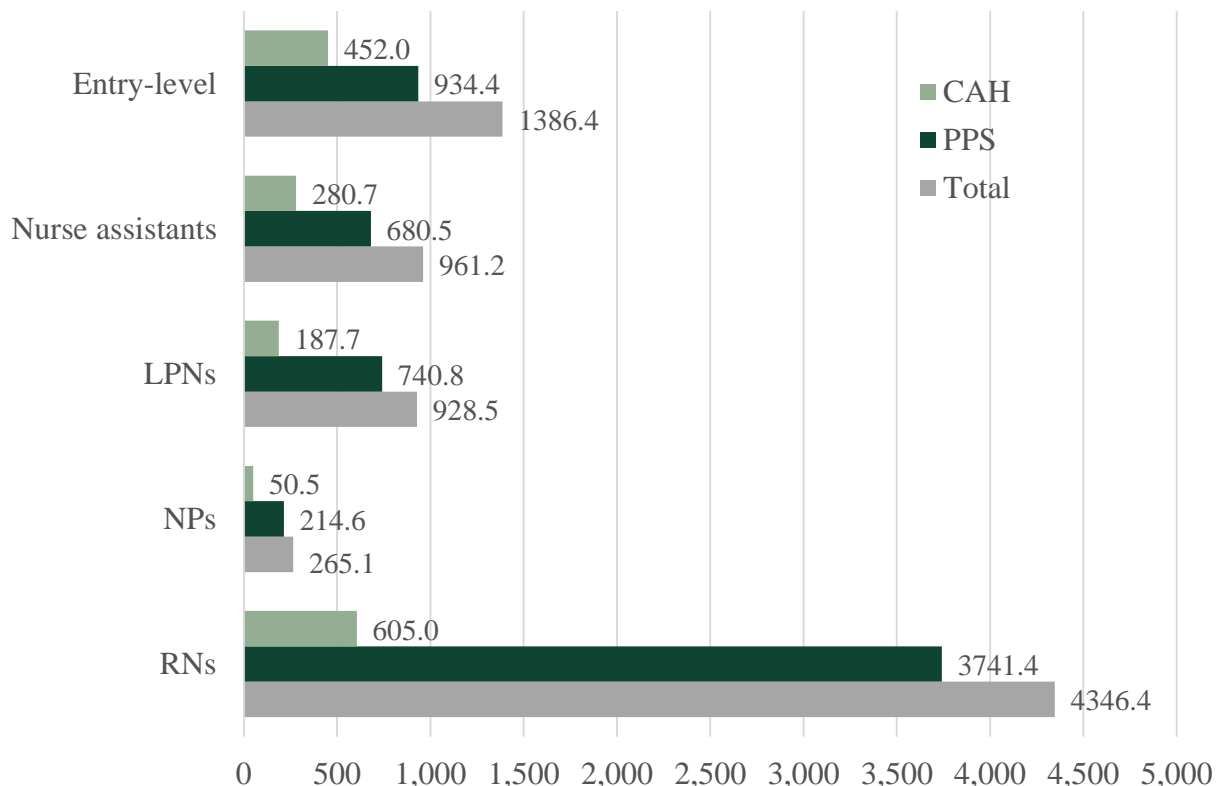


Figure 2. CAH and PPS Hospitals' Total FTEs by Health Profession

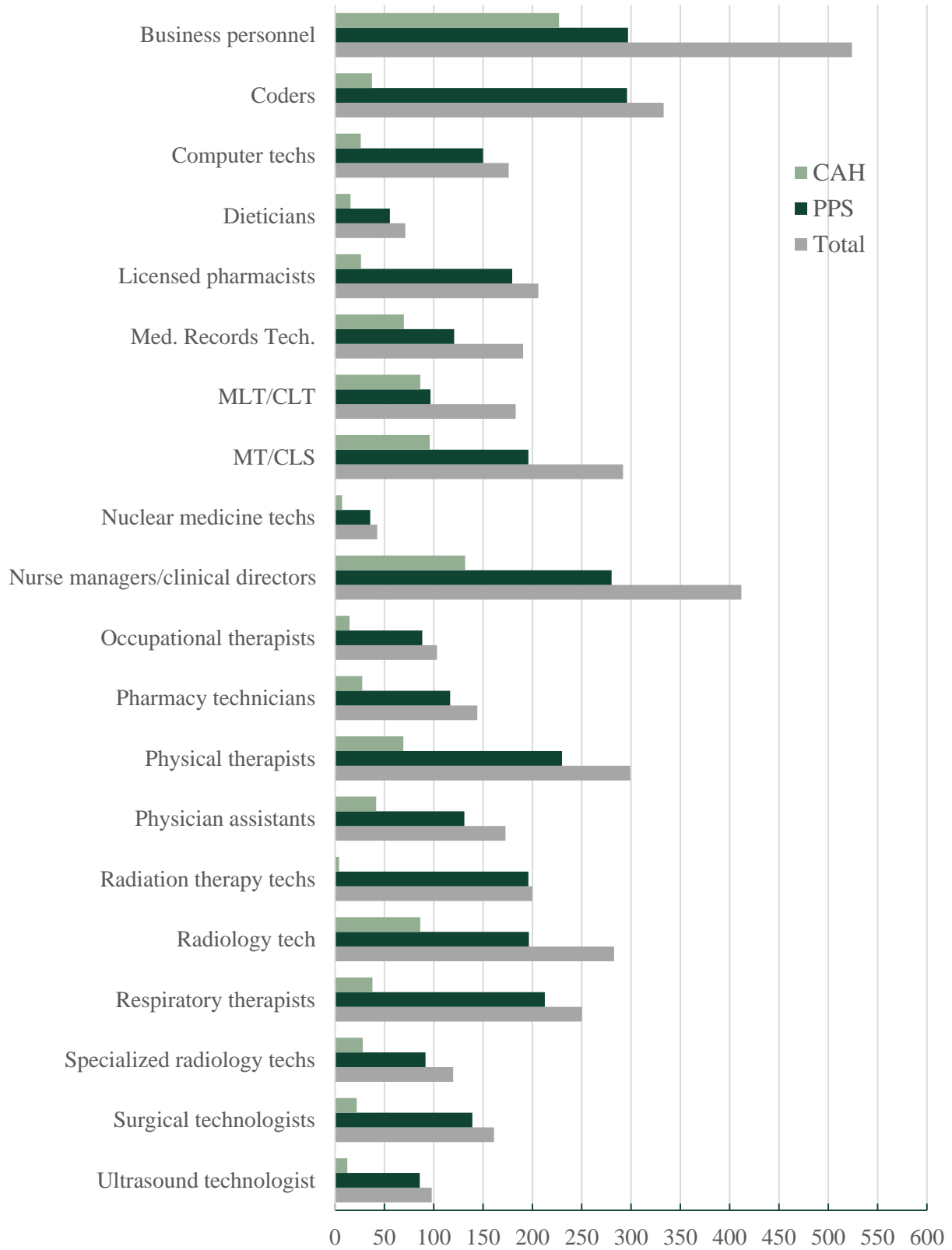


Table 1. CAH and PPS Hospitals' Total FTEs by Health Profession

	CAH	PPS	Statewide Total
Business Personnel	227.0	297.1	524.1
Coders	37.3	296.0	333.2
Computer techs	26.1	150.0	176.1
Dieticians	15.7	55.5	71.2
Licensed pharmacists	26.4	179.7	206.1
Med. Records Tech.	69.8	120.8	190.6
MLT/CLT	86.3	96.8	183.2
MT/CLS	95.9	196.1	291.9
Nuclear medicine techs	7.0	35.7	42.7
Nurse managers/clinical directors	131.8	280.3	412.1
Occupational therapists	14.8	88.4	103.2
Pharmacy technicians	27.6	116.7	144.3
Physical therapists	69.2	230.0	299.2
Physician assistants	41.6	131.2	172.8
Radiation therapy techs	4.0	196.0	200.0
Radiology tech	86.3	196.6	282.9
Respiratory therapists	37.8	212.6	250.4
Specialized radiology techs	28.0	91.8	119.8
Surgical technologists	22.0	139.2	161.2
Ultrasound technologist	12.3	85.9	98.2

Among North Dakota CAHs there is little variation in total FTE across health professions. Figures 3 and 4 provide the total FTE by region among CAHs. Refer back to Figure 1 under *Introduction* to see the geographic regions and their respective total population.

Figure 3. CAHs' Total FTEs across Health Professions by Region

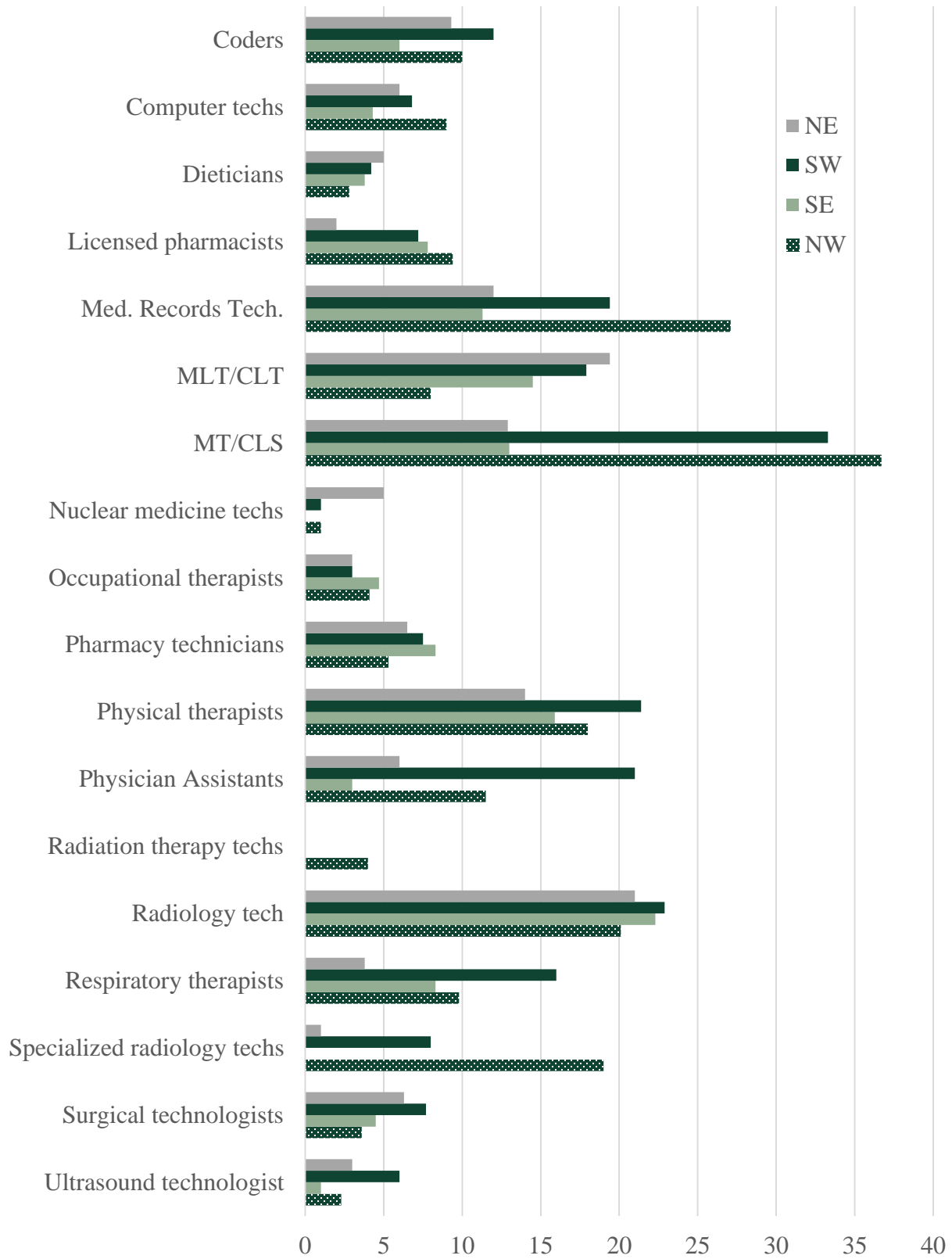


Figure 4. CAHs' Total FTEs across Health Professions by Region, Continued

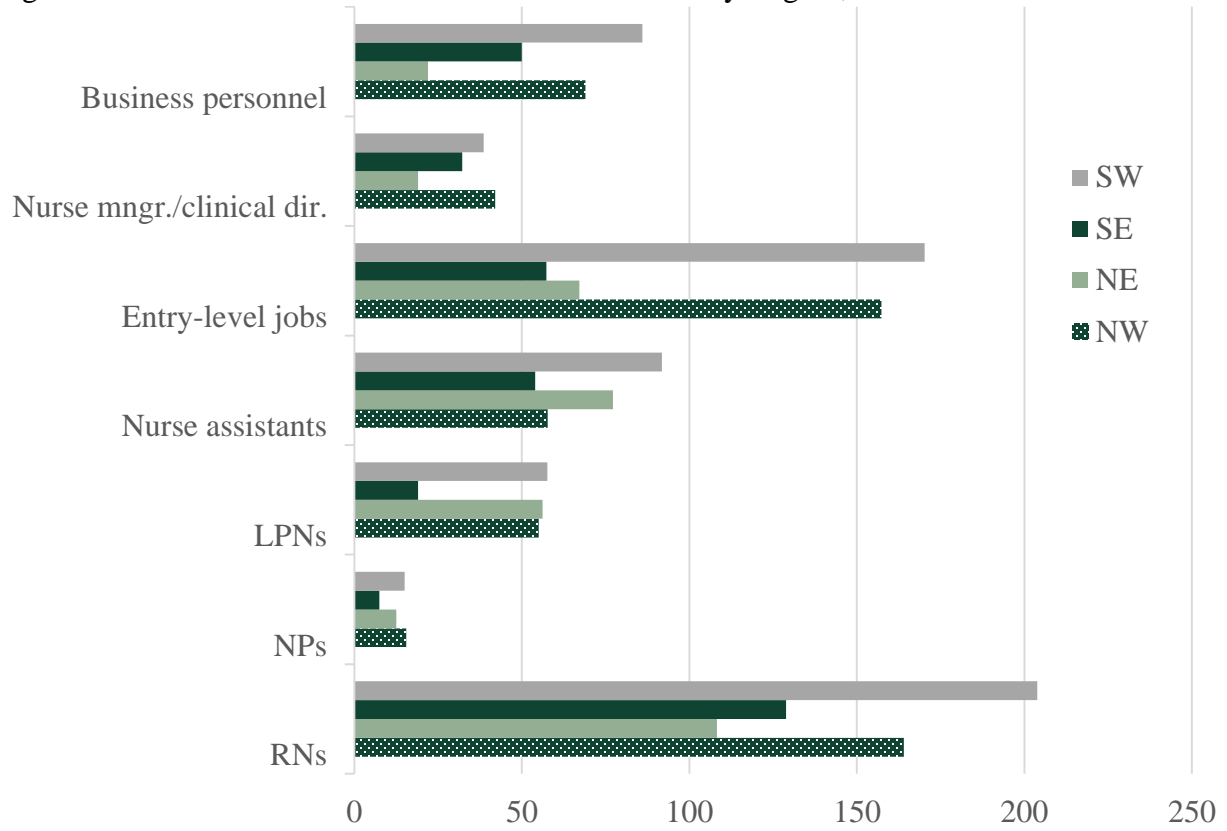


Table 2. CAHs' Total FTEs across Health Professions by Region

	NW	SE	SW	NE
Business personnel	69	22	50	86
Coders	10	6	12	9.3
Computer techs	9	4.3	6.8	6
Dieticians	2.8	3.8	4.2	5
Entry-level jobs	157.3	67.2	57.3	170.2
Licensed pharmacists	9.4	7.8	7.2	2
LPNs	55	56.2	19	57.6
Med. Records Tech.	27.1	11.3	19.4	12
MT/CLS	36.7	13	33.3	12.9
MLT/CLT	8	14.5	17.9	19.4
NPs	15.5	12.5	7.5	15
Nuclear medicine techs	1	0	1	5
Nurse assistants	57.7	77.2	54	91.8
Nurse mngr./clinical dir.	42	19	32.2	38.6
Occupational therapists	4.1	4.7	3	3
Pharmacy technicians	5.3	8.3	7.5	6.5
Physical therapists	18	15.9	21.4	14
Physician Assistants	11.5	3	21	6
Radiation therapy techs	4	0	0	0
Radiology tech	20.1	22.3	22.9	21
Respiratory therapists	9.8	8.3	16	3.8
RNs	164	108.2	128.9	203.9
Specialized radiology techs	19	0	8	1
Surgical technologists	3.6	4.5	7.7	6.3
Ultrasound technologist	2.3	1	6	3

Hospital Workforce Vacancy Rates: CAH/PPS & Geographic Variation

To determine hospital and health professional vacancy rates, each health profession's vacant FTE for which hospitals were currently recruiting was divided by the sum of the employed FTE and vacant FTE; this quotient was multiplied by 100 to identify the percentage of positions vacant. Note, these vacancy rates are not averages of hospital rates (means of means) but are rates using the overall category number of vacancies and employed providers (weighting these rates by FTE hospital employment counts) and thus providing more accurate estimates. See Figure 5, Table 3.

Among PPS (urban) hospitals, the highest vacancy rates are among nurse assistants (17), physician assistants (14.1), and nurse practitioners (11.4). The highest CAH vacancy rates are among occupational therapists (16.8), and nurse practitioners (12.2). The one health profession with high vacancy rates across both rural and urban hospitals is nurse practitioner.

Figure 5. CAH & PPS Hospitals' Vacancy Rates by Health Profession

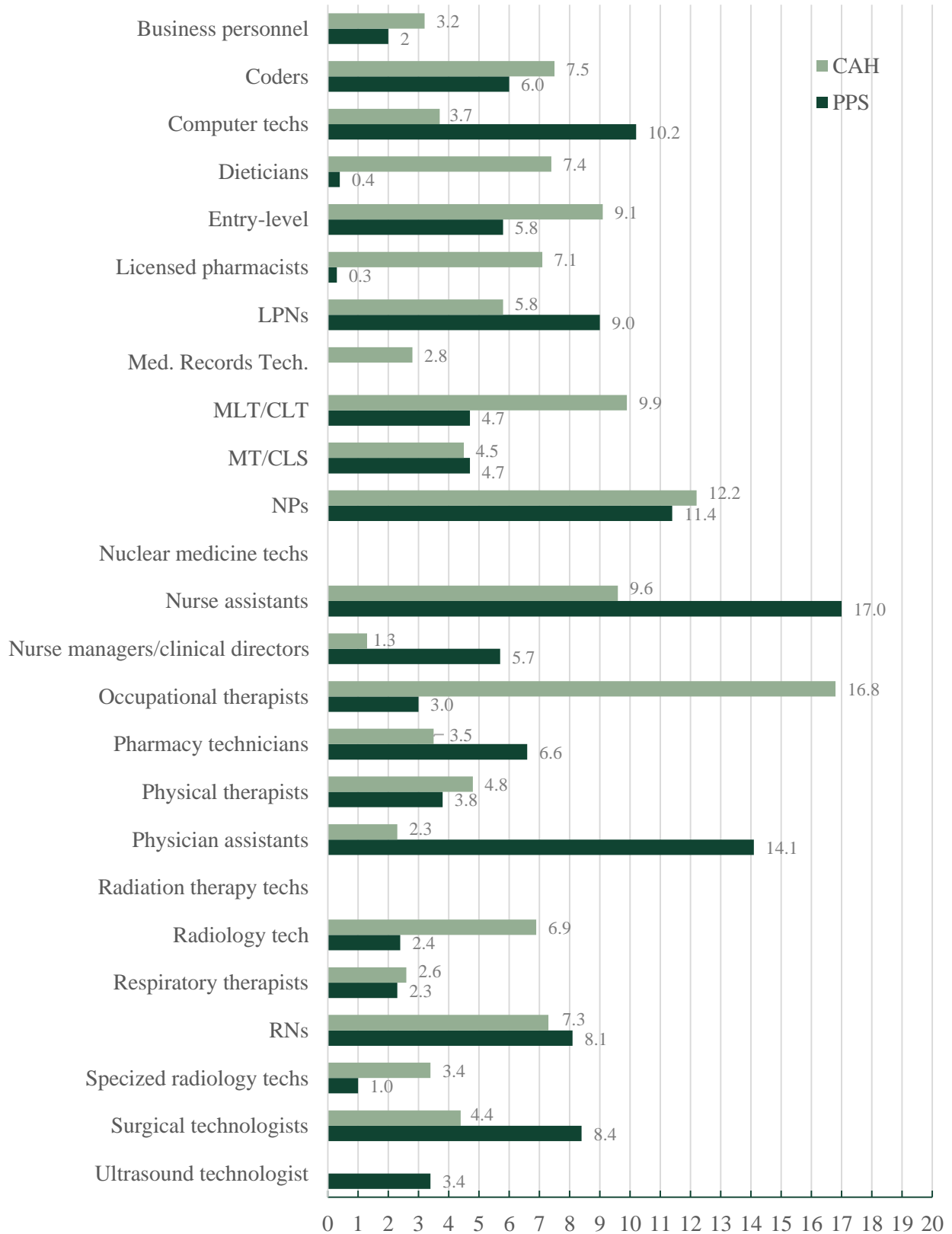


Figure 6. CAHs' Vacancy Rates across Health Professions by Region

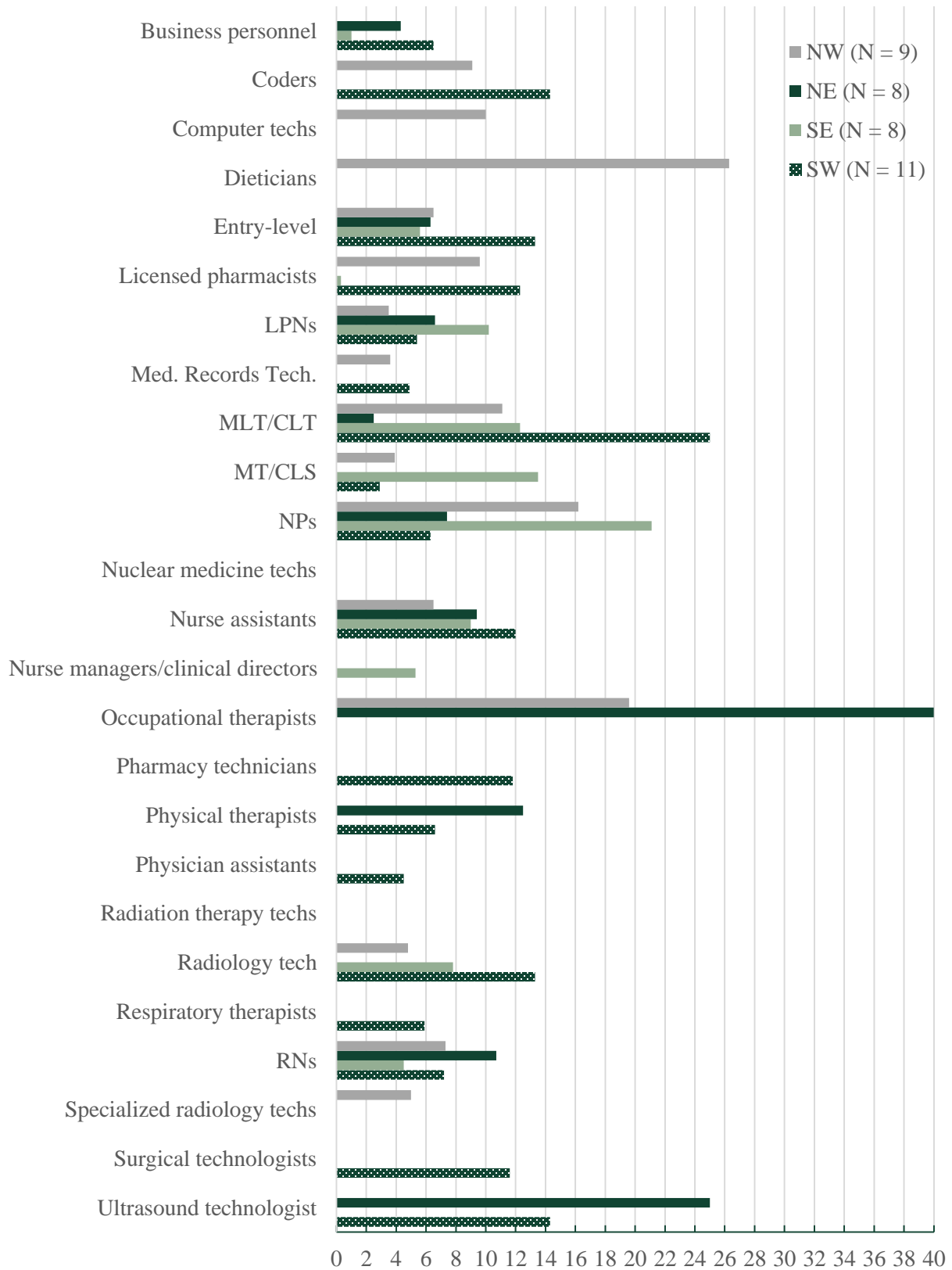


Table 3. CAHs' Vacancy Rates across Health Professions by Region

	NW (n = 9)	SE (n = 8)	SW (n = 11)	NE (n = 8)
Business personnel	0.0	1.0	6.5	4.3
Coders	9.1	0.0	14.3	0.0
Computer techs	10.0	0.0	0.0	0.0
Dieticians	26.3	0.0	0.0	0.0
Entry-level	6.5	5.6	13.3	6.3
Licensed pharmacists	9.6	0.3	12.3	0.0
LPNs	3.5	10.2	5.4	6.6
Med. Records Tech.	3.6	0.0	4.9	0.0
MLT/CLT	11.1	12.3	25.0	2.5
MT/CLS	3.9	13.5	2.9	0.0
NPs	16.2	21.1	6.3	7.4
Nuclear medicine techs	0.0	0.0	0.0	0.0
Nurse assistants	6.5	9.0	12	9.4
Nurse managers/clinical directors	0.0	5.3	0.0	0.0
Occupational therapists	19.6	0.0	0.0	40.0
Pharmacy technicians	0.0	0.0	11.8	0.0
Physical therapists	0.0	0.0	6.6	12.5
Physician assistants	0.0	0.0	4.5	0.0
Radiation therapy techs	0.0	0.0	0.0	0.0
Radiology tech	4.8	7.8	13.3	0.0
Respiratory therapists	0.0	0.0	5.9	0.0
RNs	7.3	4.5	7.2	10.7
Specialized radiology techs	5.0	0.0	0.0	0.0
Surgical technologists	0.0	0.0	11.6	0.0
Ultrasound technologist	0.0	0.0	14.3	25.0

Among CAHs, all regions have vacancy rates for their LPNs, NPs, RNs, nurse assistants, entry-level (e.g. housekeeping) positions, and MLT/CLT. There is a greater need for occupational therapists in the Northeast than any other region. Likewise, the Northwest has a much larger vacancy rate for physical therapists than any other region. Note the small sample size for each region.

Limitation to Workforce FTE & Vacancy Estimates

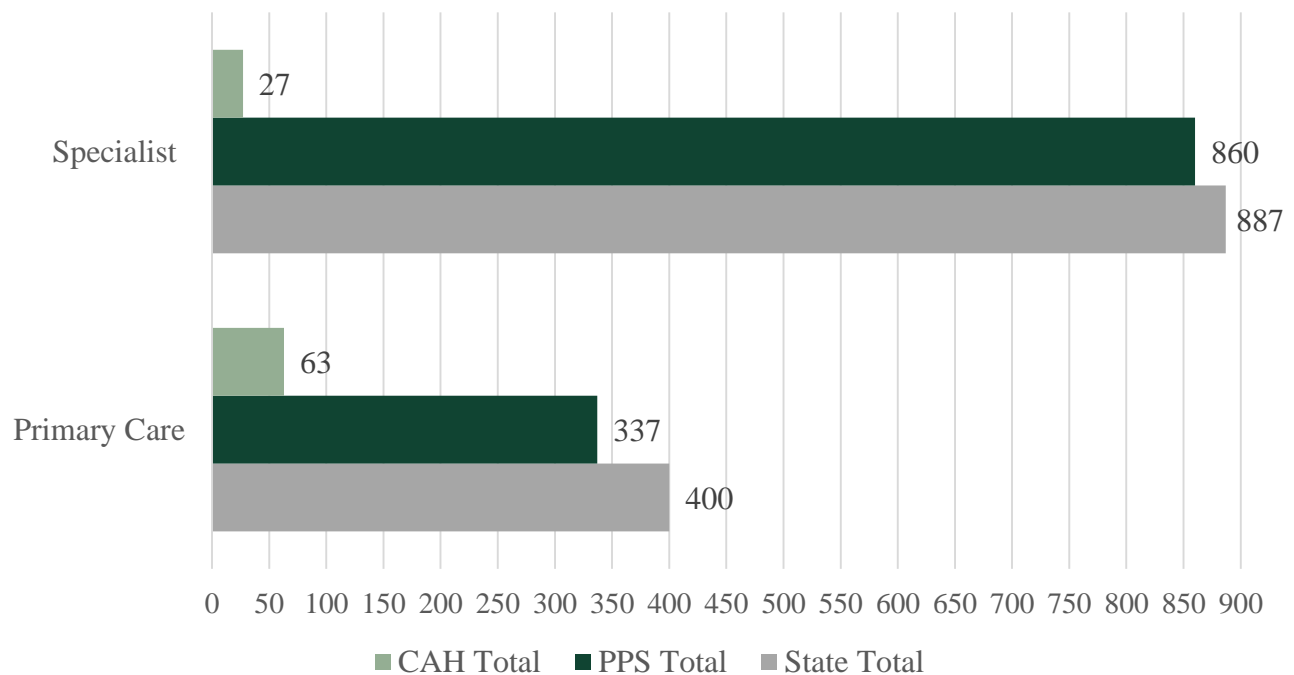
While the findings from the North Dakota Hospital Workforce Survey tell us much about short-term general hospital workforce, they may not be generalizable to all North Dakota providers' nonhospital employment sectors (e.g., nursing homes and physicians' office practices). However, significant shortages for the hospitals can be ominous for other employment situations because the hospitals are often able to provide higher reimbursement and better job conditions than are other providers. Of course, significant systemic shortages of provider types across North

Dakota's hospitals are significant in and of themselves because of how they influence the provision of timely and quality healthcare. Caution needs to be taken in interpreting the findings because some vacancy rates are based on small numbers of healthcare employees, and many factors influence vacancy rates. For instance, health-provider-type vacancy rates are influenced by hospital need, salaries hospitals are willing to pay, availability of employed and unemployed providers looking for positions, local community conditions and opportunities, the physical condition of the hospital, working conditions, and so forth.

PHYSICIAN WORKFORCE

All six tertiary facilities indicated they have physician positions in their short-term hospital operation; 23 of 32 (72%) critical access hospital (CAH) respondents indicated having physician positions. Nine hospitals in the state (all rural hospitals) stated they had no physician positions. Among CAHs, a majority of the physicians are located in the West (61%); there are seven physician positions in the Northwest, seven in the Southwest, and five and four in the Northeast and Southeast, respectively. Among the 23 CAHs that have physician positions, there are 27 specialists and 63 primary care physicians; between the six urban hospitals there are 860 specialists and 337 primary care physicians. The figures indicate that CAHs have more primary care physicians than specialists while urban hospitals have more than two times the number of specialists than primary care physicians. See Figure 1.

Figure 1. Physician Positions in CAHs & PPS Hospitals by Care Type



Specialty and primary care physicians are not evenly dispersed across the state. There are several more primary care physicians among urban hospitals in the Southeast (182) than urban hospitals in any other region. See Figure 2. It is important to note that there are two urban facilities in the Southeast and Southwest; the Northeast and Northwest have one tertiary center each. Critical access hospitals are more evenly dispersed across the state (see Table 1) and as a result, so are the number of primary care physicians. However, CAHs in the Southeast did report a much lower number of primary care physicians than any other region.

Figure 2. Total *Primary Care* Physician Positions by Region and CAH/PPS Designation

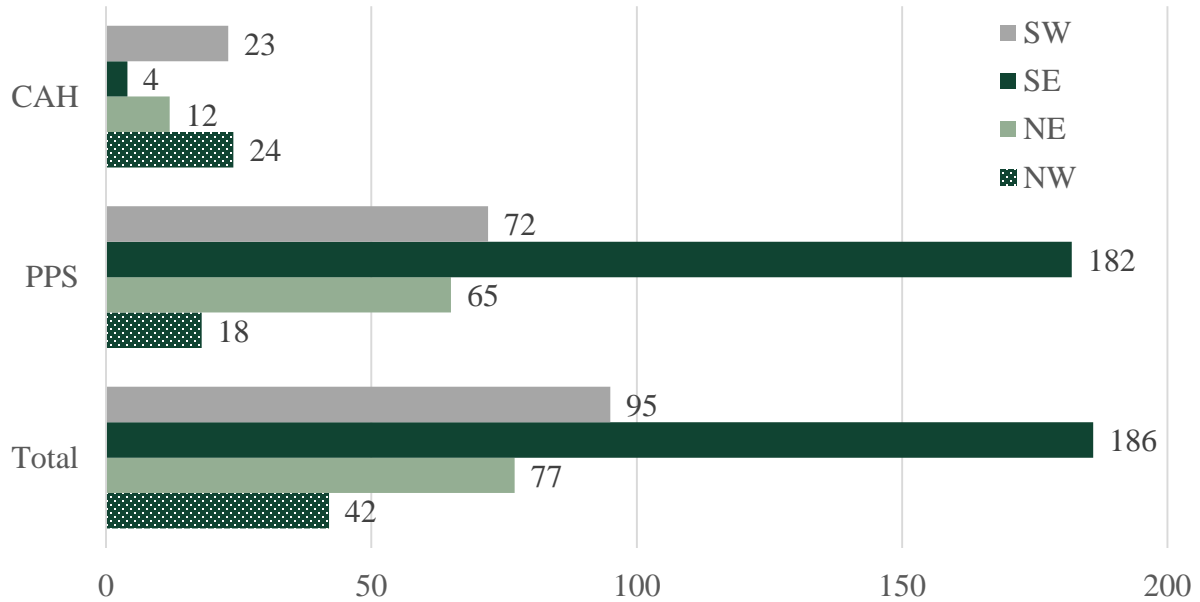
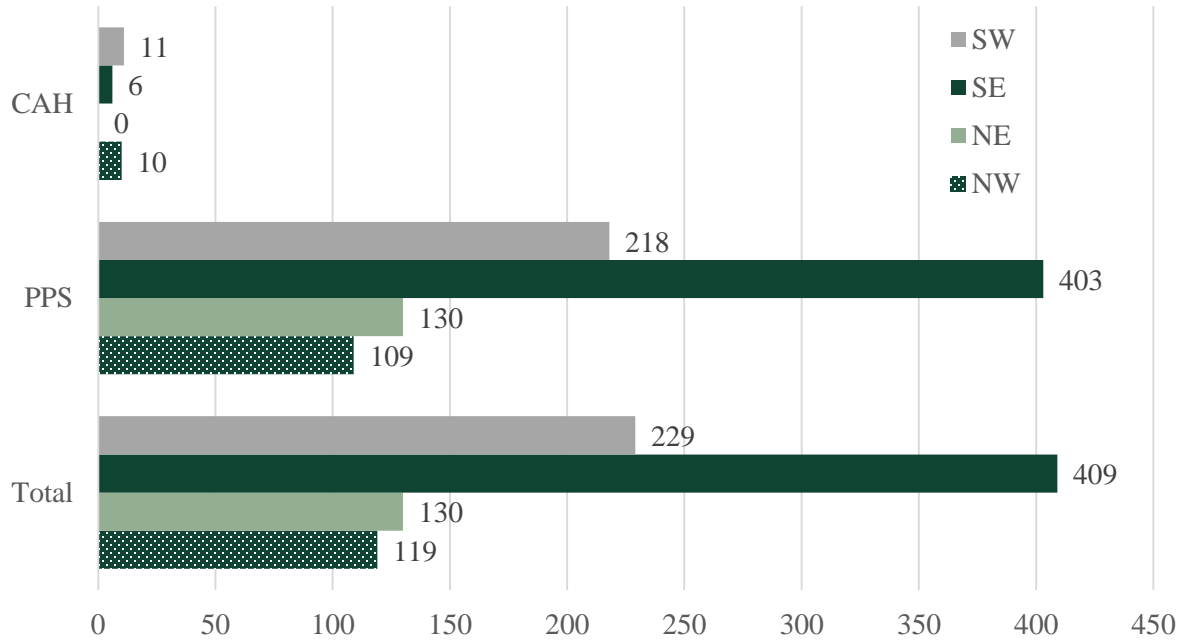


Table 1. Number of CAH & PPS Hospitals in Each Region of North Dakota

	SW	SE	NE	NW
Critical Access Hospitals	11	8	8	9
Tertiary Hospitals	2	2	1	1

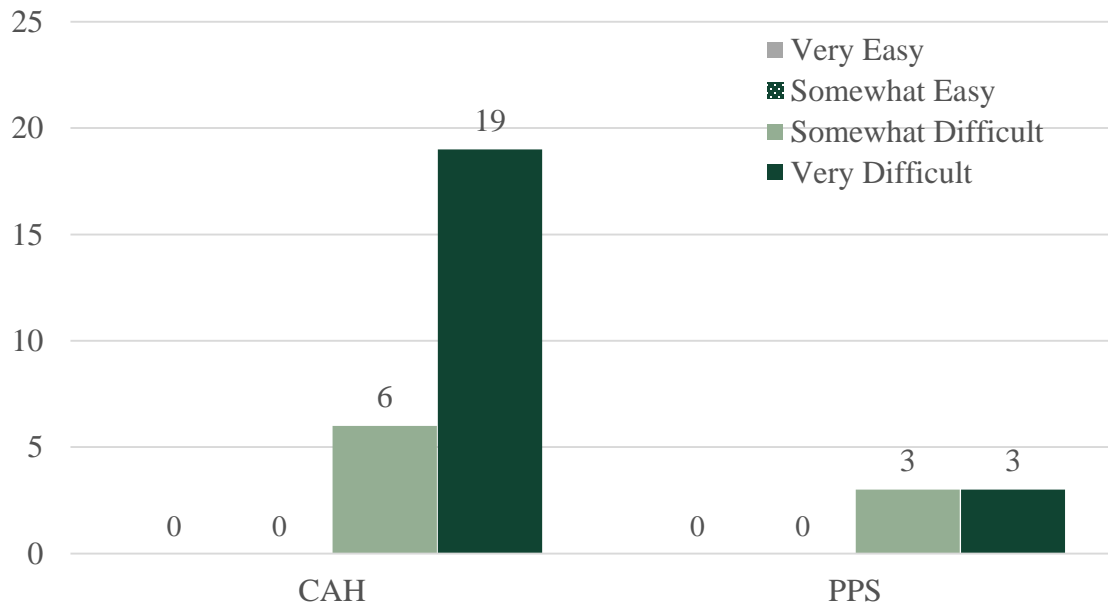
Similar to the trend among primary care physicians, urban hospitals in the Southeast have more specialist physicians than any other region (nearly two times as many as the Southwest region which also houses two tertiary centers). See Figure 3. Among CAHs, the Northeast region does not have a single specialty care physician.

Figure 3. Total Specialty Care Physician Positions by Region & CAH/PPS Designation



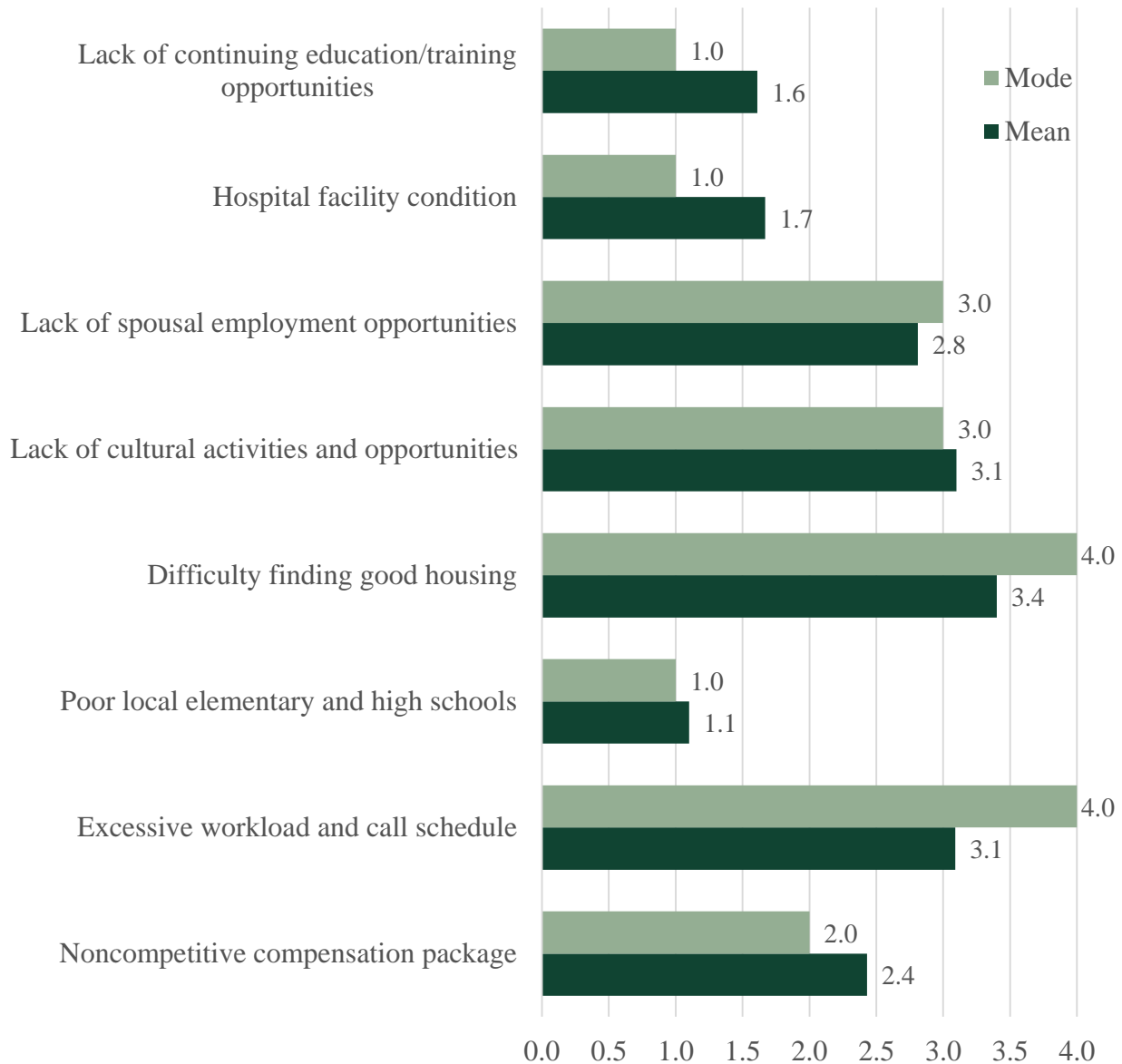
When asked how difficult it is to fill primary care physician vacancies, all hospitals (both rural and urban) indicated it was somewhat or very difficult; 50% of PPS hospitals (3) that responded to this question stated it was very difficult compared to 76% of CAHs ($n = 25/36$). See Figure 4. Data indicates that rural facilities in North Dakota have a much greater difficulty filling primary care physician vacancies than do urban centers.

Figure 4. CAH & PPS Difficulty Filling Primary Care Physician Vacancies



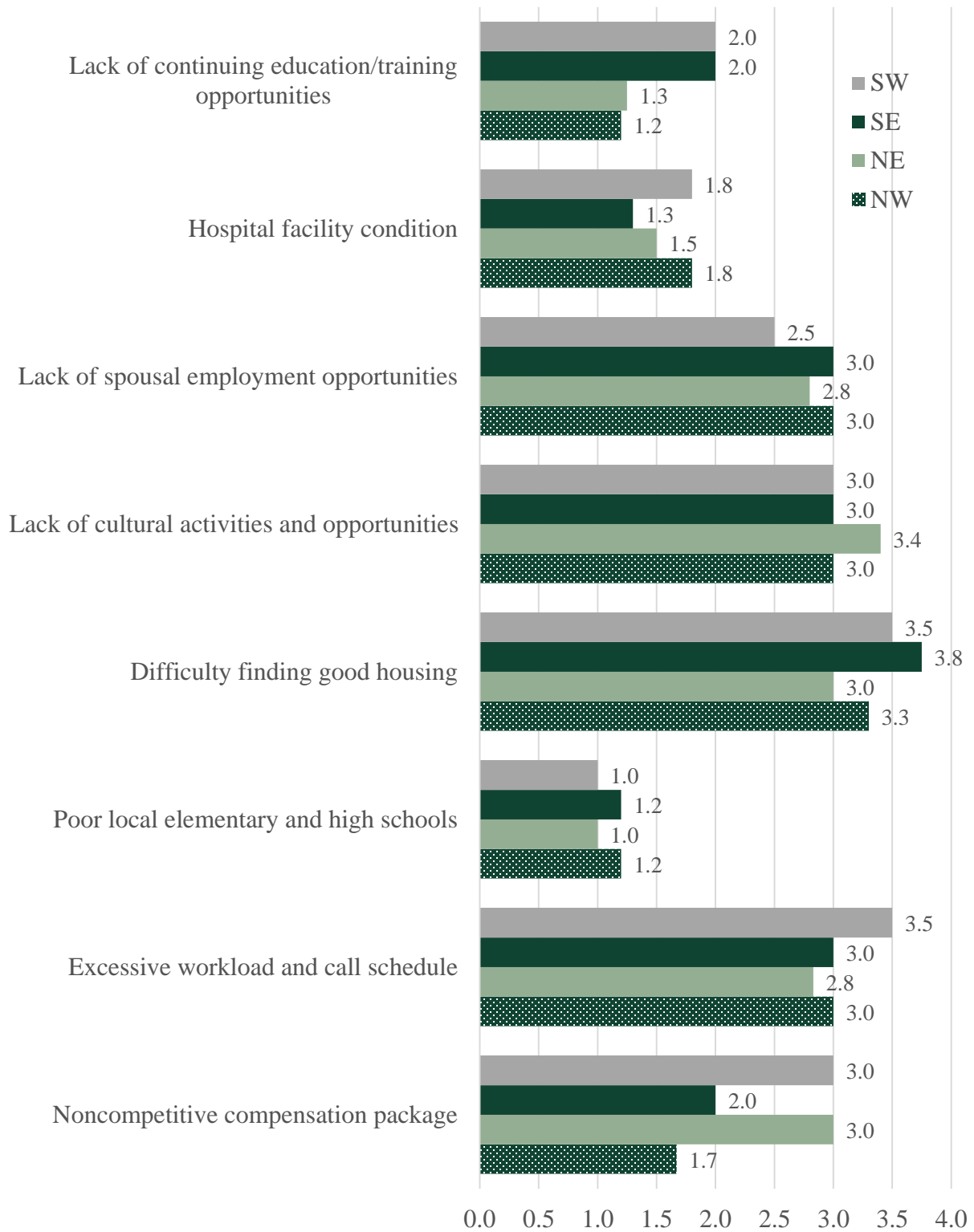
Among CAHs, the three most significant barriers to recruiting a physician were: difficulty finding good housing; excessive workload and call schedule; and lack of cultural activities and opportunities. See Figure 5.

Figure 5. Importance of Various Barriers to Physician Recruitment in CAHs (Scale: 1, not important problem – 4, important problem)



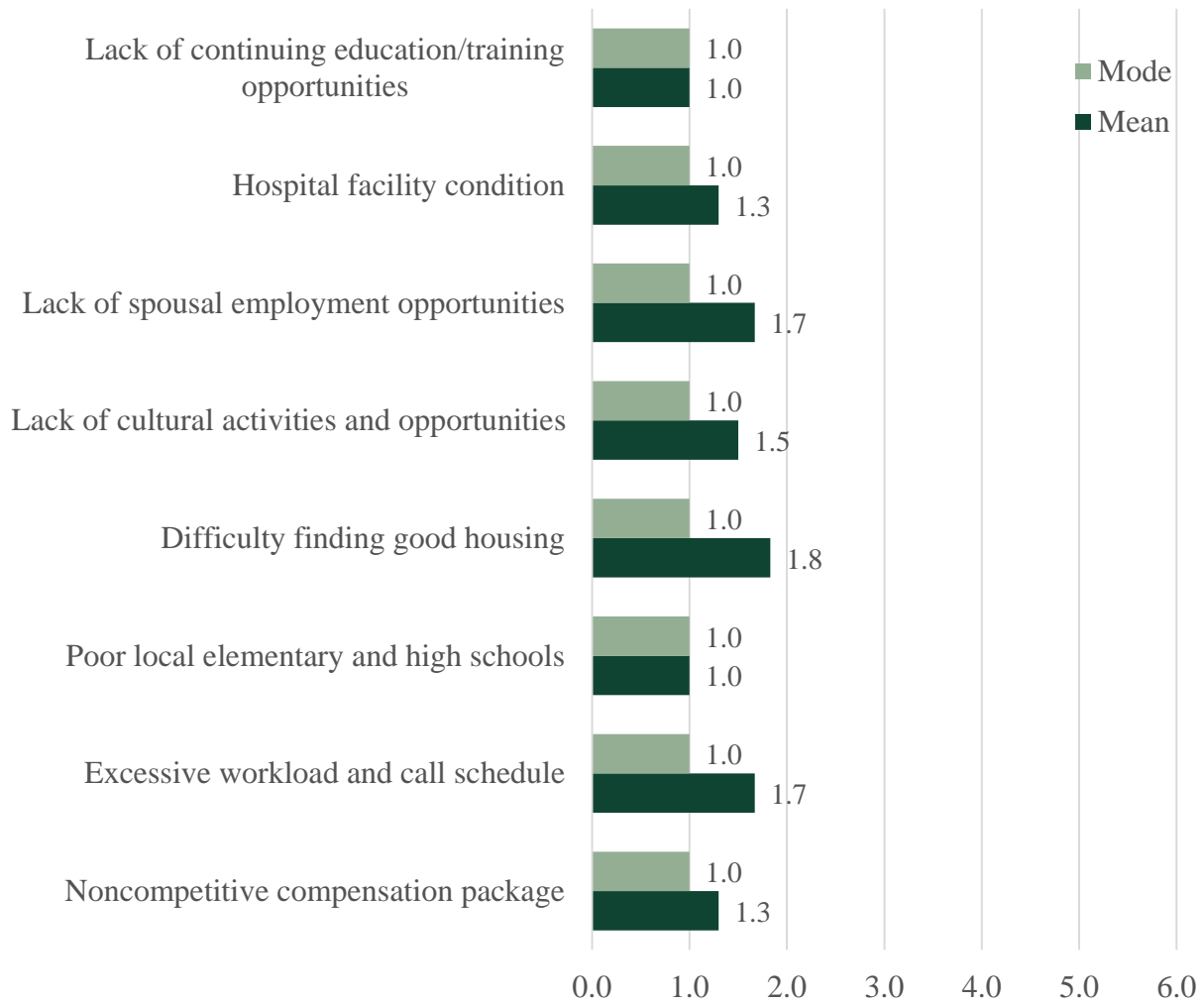
The only barrier to physician recruitment among CAHs that varied by region was in relation to the competitive compensation packages. Those in the Southwest and Northeast indicated this was more important of an issue than did the other regions. See Figure 6. Four of the CAHs wrote in a response for “other important problems” and included: childcare; remote location is undesirable; ER call; and geography (i.e., they do not want to live in a small town).

Figure 6. Average Rank of Importance of Various Barriers to Physician Recruitment in CAHs by Region (Scale: 1, not important problem – 4, important problem)



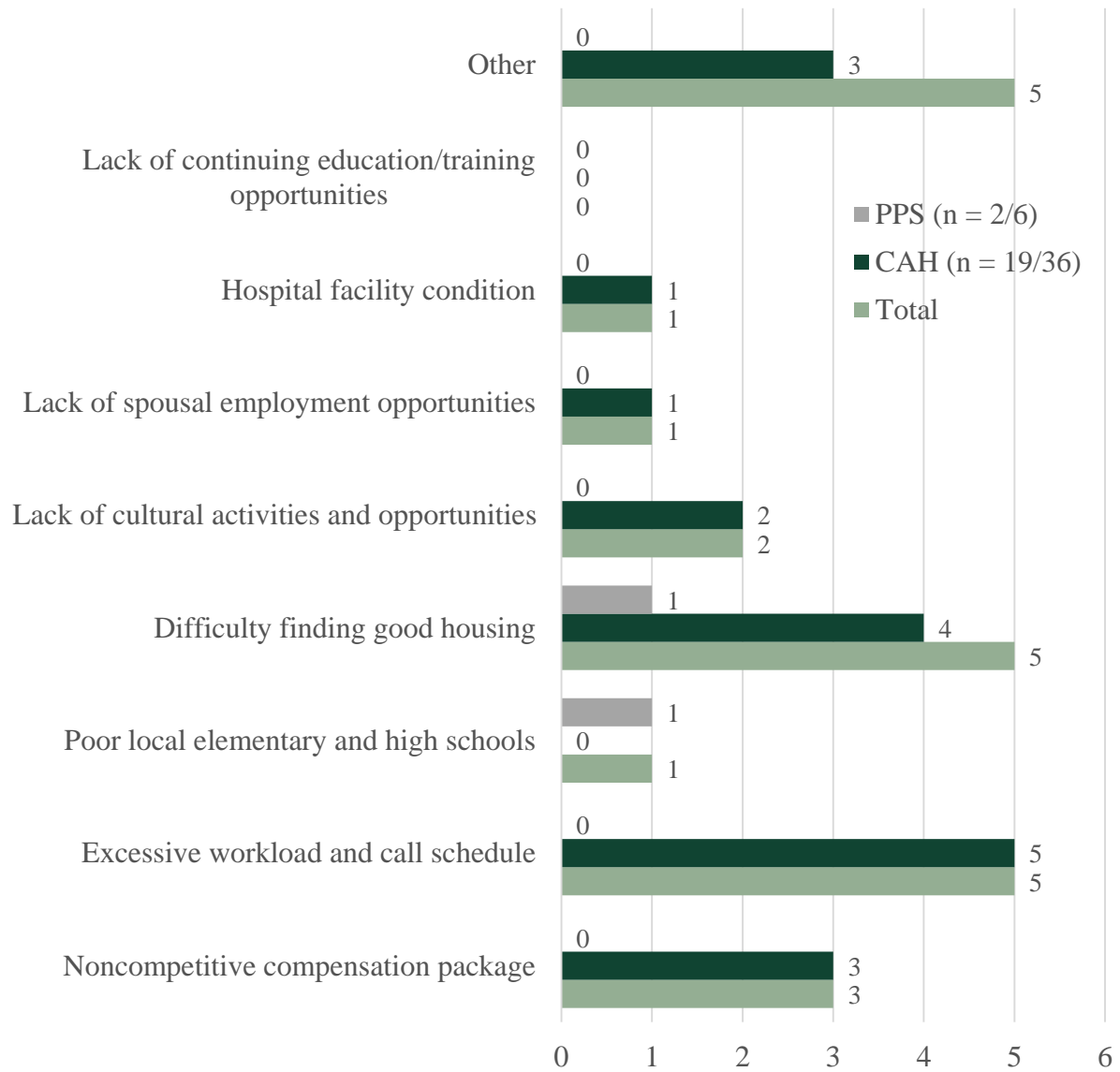
The six urban hospitals did not identify any of the listed factors as important in physician recruitment. However, two of the six tertiary centers did write in that weather in North Dakota was an important problem. See Figure 7.

Figure 7. Importance of Various Barriers to Physician Recruitment in PPS Hospitals



From the list above, each hospital identified the one leading issue. Excessive workload and call schedule was the primary concern among CAHs, while the tertiary centers did not identify a leading issue. Figure 14 identifies the frequency by which each listed barrier was identified as the leading concern among CAHs and PPS facilities. As with the earlier Likert scale, the rural facilities wrote in an additional problem they face in physician recruitment and identify as a leading issue: location and remoteness of their community. Urban facilities wrote in a lack of qualified candidates as a leading concern. See Figure 8.

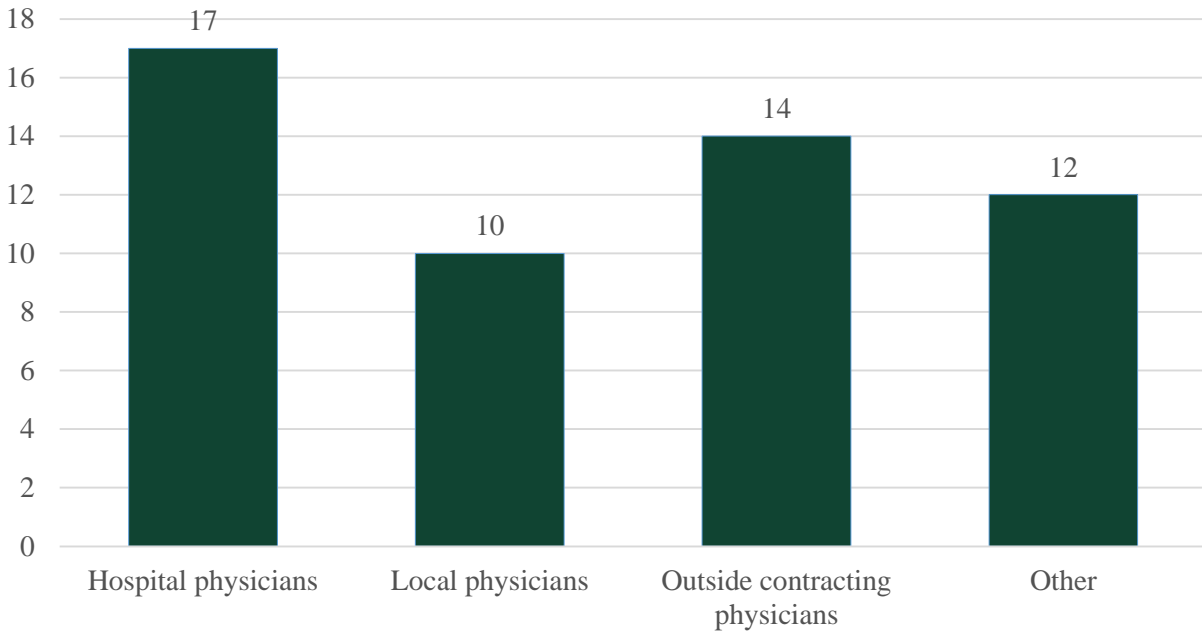
Figure 8. Frequency by Which Each Barrier to Physician Recruitment was Identified as the Primary Concern for CAHs & PPS Hospitals



With regard to the emergency department, all six tertiary centers indicated they employ a hospital physician as the physician on staff. One tertiary also employs outside contracting physicians in addition to the hospital physicians in their emergency department. Rural hospitals employ a variety of physician types to staff their emergency department. See Figure 9.

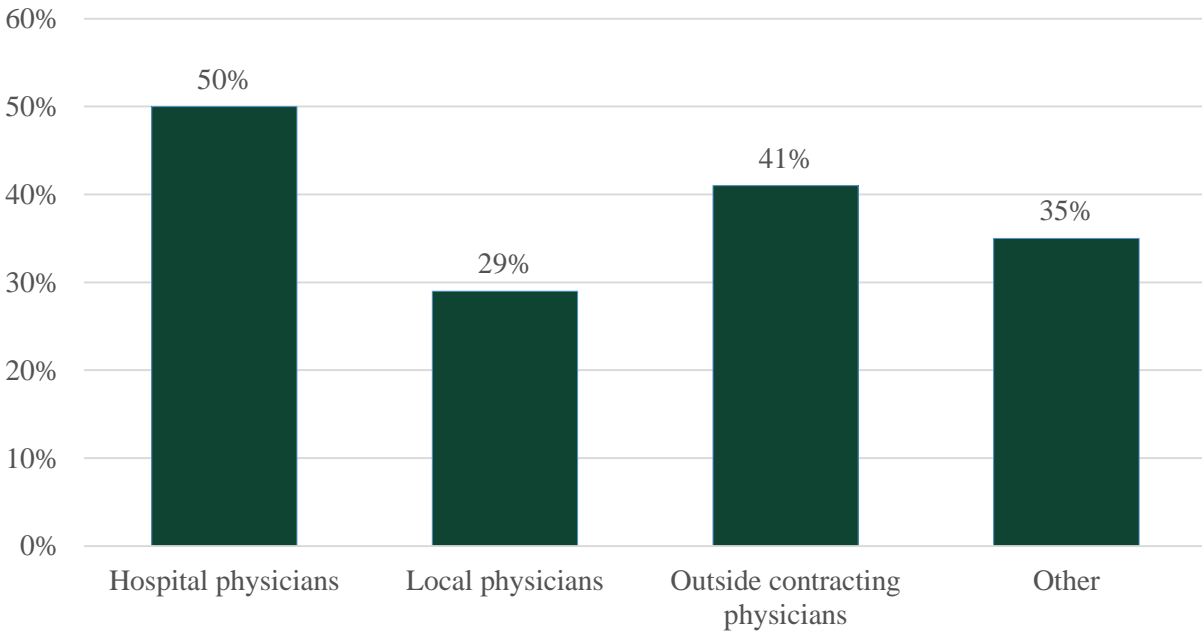
Of those who identified which physicians staff their emergency department ($n = 34/36$), 16 employed and relied on more than one physician type to staff their emergency department. Of the 12 CAHs that stated “other” staff, one indicated using a locum physician while the other 11 noted they staffed mid-level providers in their emergency department (NP, FNP, PA), with physicians on call or as “back-up.”

Figure 9. Number of CAHs that Employ each Physician type to Staff the Emergency Department (n = 34/36)



Two CAHs did not indicate how they staffed their emergency department. From a response of 34, Figure 10 illustrates the percent of North Dakota CAHs that rely on each physician type to staff their emergency department.

Figure 10. Percent of CAHs that Employ each Physician type to Staff the Emergency Department (n = 34/36)



OTHER HOSPITAL WORKFORCE DATA

In an open-ended question, hospitals were asked to identify the provider types that were most numerous in their facility. Respondents listed anywhere between one and four provider types. Among critical access hospitals (CAHs), registered nurses, nursing assistants, and mid-level providers were the most numerous. See Table 1. Tertiary facilities indicated: neurosurgery, RNs, hospitalists, family medicine, and physician locums.

Table 1. CAH Responses to Most Numerous Provider Type

	CAHs
Registered nurse	11
CNA	5
Mid-level (NP, FNP, PA)	5
None	4
LPN	2
Pharmacist	2
Physician	2
Dietician	1
Family medicine	1
Lab tech	1
MD locums	1
Medical Tech.	1
Primary Care	1
Rad tech.	1
Respiratory therapy	1

The positions listed as the most difficult to recruit for among tertiary centers were psychiatry, RNs, CLS/CLT, and primary care physicians (two of the six tertiary centers did not answer this question). The second professional positions most difficult to recruit for among tertiary facilities were emergency medicine, surgical techs, and speech language pathologists. Finally, listed as the third leading professional most difficult to recruit, urban hospitals listed orthopedic surgery, information technology, and physical therapists.

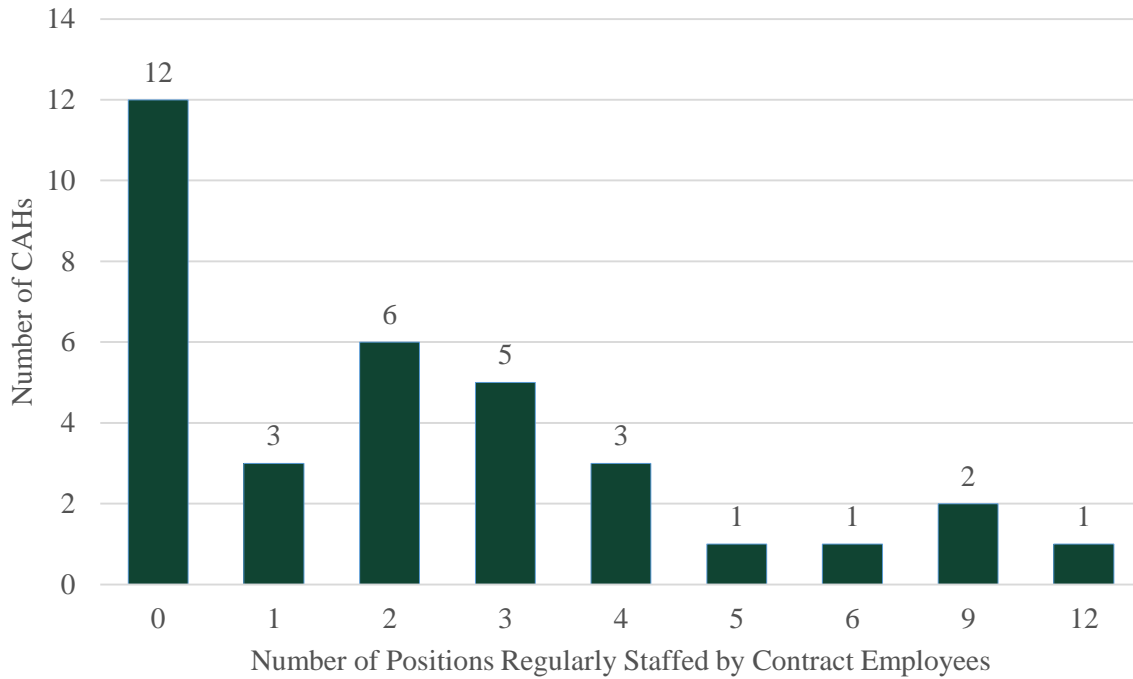
Among CAHs, physicians were by far the leading position of which it was most difficult to recruit. Other leading positions that were hard to recruit for among rural facilities were registered nurses, nurses, mid-level providers, and lab techs. See Table 2 for the number of CAHs that ranked each of the listed health professions as difficult to recruit for, ranked first, second, and third.

Table 2. Most Difficult Health Professions to Recruit for in CAHs in Rank Order

	First Most Difficult	Second	Third
Physician	13	2	2
Family Medicine	4		
Medical Doctor	4		
Registered Nurses	4	8	4
Speech Therapists	2		
Nurses	1	2	3
Nursing Assistants	1		2
Physical Therapist	1		4
Entry Level (housing, dietary, etc.)	1	3	1
Internal Medicine	1	1	
Providers	1		
Primary Care Physicians	1		
Professional Nursing	1		
Lab Tech		4	4
Mid-level (NP, FNP, PA)		5	4
Coder		1	1
DON		1	
Emergency Medicine		1	1
Hospitalist		1	
Management		1	
Medical Tech.		1	
Red Tech		1	
Allied Professionals			1
Surgery			1

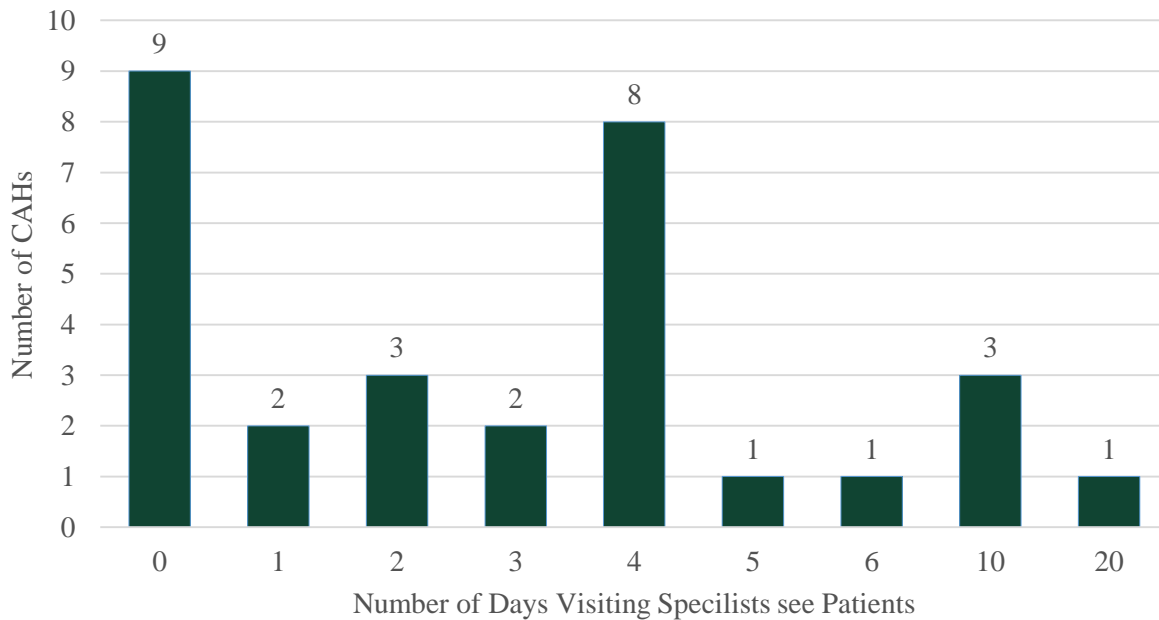
Both urban and rural facilities noted using locum or contract services to staff their hospitals. Tertiary centers regularly contract between 0 and 36 of their positions. CAHs indicated between 0 and 12. See Figure 1.

Figure 1. Number of CAH Positions Regularly Staffed by Contract Employees ($n = 34/36$)



Visiting specialists see patients in the hospital between two and ten days a month among tertiary centers; 0-20 days a month in CAHs. See Figure 2.

Figure 2. Number of Days a Month Visiting Specialists see Hospital Patients in CAHs ($n = 30/36$)



In the last year, no urban hospital had gone on “divert status” because of RN shortages. While only two CAHs had to go on “divert status,” they had to do so five and six times, respectively.

Hospitals in North Dakota also struggle with filling administrator vacancies in both rural and urban communities. No hospital (rural or urban) indicated that it was very easy to recruit for administrator vacancies. Of the CAHs that responded to this question (31), 58% indicated it was somewhat difficult with an additional 13% stating it was very difficult. No PPS hospital indicated that it was very difficult, though three of the five tertiary respondents did state it was somewhat difficult to fill administrator vacancies.

Figure 3. Difficulty Filling Administrative Vacancies by CAH/PPS Designation

