

2009 Alaska Health Workforce Vacancy Study



**Alaska Center for Rural Health – Alaska’s AHEC
Institute of Social and Economic Research**

University of Alaska Anchorage
Diplomacy Building, Suites 404 and 500
3211 Providence Drive
Anchorage, AK 99508-4614
(907) 786-6579

<http://nursing.uaa.alaska.edu/acrh>
<http://www.iser.uaa.alaska.edu>

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Advisory Group

Alaska Mental Health Trust Authority
Alaskan's For Access to Health Care (ACCESS): Geoff Bullock
University of Alaska Anchorage: Jan Harris, Sally Mead

Research Team, Alaska Center for Rural Health-Alaska’s AHEC and the Institute of Social and Economic Research (ISER)

Beth Landon, Sanna Doucette, Rosylind Frazier, Meghan Wilson, Darla Siver, Lexi Hill, Kate Sanders, Suzanne Sharp, Kristin Johnson, Patricia DeRoche, Stephanie Martin, and Donna Prator

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EXECUTIVE SUMMARY

Alaska continues to experience health professional shortages. The state has long had a deficient “supply side” characterized by insufficient numbers of key health workers whose recruitment, retention, and training have been impeded by Alaska’s remoteness, harsh climate, rural isolation, low population density, and scarce training resources. Alaska is the only state without a pharmacy school and lacks its own dental and physical therapy schools as well.

Health professional shortages can be decreased through the start of new training programs, the expansion of existing programs, and the improvement of the effectiveness of recruitment and retention efforts. However, strategic planning and the execution of such programs require valid and accurate data. To this end, stakeholders such as the Alaska Mental Health Trust Authority (AMHTA) and Alaskan’s For Access to Health Care (ACCESS), along with schools and departments within the University of Alaska Anchorage (UAA), funded the Alaska Center for Rural Health-Alaska’s AHEC (ACRH) and the Institute of Social and Economic Research (ISER) to conduct a comprehensive health workforce study during winter and spring of 2009.

This report highlights employers’ needs for employees to fill budgeted positions. This is different from a needs assessment that would take into account population demographics and disease incidence and prevalence.

This health workforce study is an assessment of health manpower shortage based on budgeted staff positions and their vacancies in organizations throughout the state. Respondents included part-time positions, which resulted in our counting full-time equivalent (FTE) rather than individuals (“bodies”). In situations where a position was divided among more than one occupation (e.g., Dental Assistant and Billing Clerk), we asked the respondent to count the position under which they considered the position’s “primary occupation.”

This was a point-in-time cross-sectional study. Recently filled vacancies or imminent vacancies were not counted. Positions filled by relief/temporary/locum/contract health workers were counted as vacancies only if these workers were temporarily filling a currently vacant, budgeted position. Due to budget and time constraints, we were not able to conduct a trend analysis that is a comparison of this study’s findings and the prior 2007 study.

The key questions this study sought to answer were (1) How many budgeted positions, either full- or part-time, existed in organizations providing health services in Alaska? (2) How many of these budgeted positions were currently vacant? (3) What was the vacancy rate? (4) How many of the organizations that employ these occupations hired new graduates of training programs? (5) How many of the currently vacant budgeted positions (#2) could be filled by new graduates of training programs? (6) What were the mean and maximum length of time, expressed in months, that the vacancies have existed? (7) What were the principal, underlying causes of vacancies?

The study was designed in consultation with an advisory group that included AMHTA, ACCESS, and UAA. The study targeted 93 health occupations. The unit of analysis was the employment site by organization type, which allowed for the allocation of positions and vacancies by geographic region. For each employer, we identified the staff person most

knowledgeable about hiring and vacancies. In large organizations this meant that one employer might provide information about multiple sites and organization types; smaller employers were responsible for only a single site.

The population for 10 of the organization types was duplicated from the 2007 Alaska Health Workforce Vacancy Study. The final two organization types, Paramedics and State and Municipal health, were added at the request of UAA Allied Health Programs and the Vice Provost of Health Programs after data collection had begun. Paramedics in non-health organizations and the Municipality of Anchorage had not been in the 2007 study. To capture Paramedics, we included non-health-services employers: fire department/emergency services (military, borough, municipality—paid and volunteer), air medevac services, and airports. We also included firefighters with emergency medical services training. We used a list of paramedic employers compiled in 2007 by the paramedic faculty of the University system (Fire and Emergency Services Program in Allied Health) with consultation from the State Emergency Medical Services office. We created the population listing for the 12th type, State and Municipal (employers of public health nurses), which includes just two employers: (1) the State of Alaska, Department of Health and Social Services, Division of Public Health, Public Health Nursing (with 23 sites) and (2) the Municipality of Anchorage, Department of Health and Human Services, Community Health Services Division (with one site). We completed our employer-site list with the assistance of the Chief of Public Health Nursing for the State of Alaska Department of Health and Social Services and the manager of the Municipality of Anchorage, Department of Health and Human Services, Community Health Services Division.

We conducted a census of seven of the organization types, and we sampled from the population of the other five. The data collection consisted of (1) a hard copy of the survey instrument mailed to all sampled organizations, followed by (2) telephone calls from trained interviewers who provided clarification, guidance, and options for returning the completed survey. Data collection commenced on March 9, 2009, and concluded on June 26, 2009, for health and non-health organizations. Additional data was collected in October 2009 for public health nurse occupation. We provided these specific dates to highlight this study as a “point in time” assessment of health manpower shortages as the number of positions and vacancies change over time.

Quantitative survey data were entered, cleaned, and analyzed using SPSS and SAS software. Qualitative and some quantitative data were entered, cleaned, and analyzed using MS Excel. Content analysis of the qualitative data was completed using conceptual/thematic descriptions of the data based on open coding.

The sample of 1,064 employment sites is 72.1% of the statewide population (1064/1476). The 764 completed responses is 51.8% of the statewide population (764/1476), and 71.8% of the sample population (764/1064).

Statewide estimates for positions and vacancies were derived by weighting the sample to the total population from which the sample was drawn. For this study, the population was employment sites (employer sites) of health-care workers in the state of Alaska. We stratified the sample by 12 organizational types.

To assist with the interpretation of the estimated vacancy rates, we have used the following scale in our textual description of the numeric data in the tables.

Vacancy Rate	Descriptor
0% to 5%	Low
6% to 10%	Moderate
11% to 20%	Substantial
21% to 30%	High
Over 30%	Very High

When we collapsed occupations into occupational groups, the sample and estimated vacancy rates were moderate to substantial. The highest estimated vacancy rates were found in Physicians with a substantial 12% vacancy rate and a moderate estimated vacancy rate of 10.2%; Professional Nurses with a substantial 11.2% vacancy rate and an estimate of 11.6%; Other Clinicians/Therapists with a substantial 11.3% vacancy rate and a moderate estimate of 10.0%; Behavioral Health with a moderate 10.2% vacancy rate and 10.1% estimated vacancy rate; and Community Wellness occupations with a moderate sample vacancy rate of 10.2% and an estimate of 10.7%.

For a quick glance, here are the top 10 (of 93) occupations by three different rankings—Estimated Positions, Estimated Vacancies, and Estimated Vacancy Rates—please refer to the tables in Appendix E for the complete list.

Top Ten Health Shortage Professions Based on Estimated Positions						
Occupations	Sample			Estimate		
	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Registered Nurse	2680.8	273.5	10.2%	3176.0	321.6	10.1%
Certified Nurse Assistant	1245.5	102.0	8.2%	1444.9	120.0	8.3%
Administrator/Director/CEO/Manager	837.0	25.0	3.0%	1246.4	33.5	2.7%
Human Services Worker HS	804.0	104.0	12.9%	1198.9	146.4	12.2%
Firefighter with Emergency Medical Service	903.0	26.0	2.9%	1114.1	32.1	2.9%
Billing Clerk/Technician	689.5	37.0	5.4%	1096.1	58.6	5.3%
Dental Assistant	574.0	34.0	5.9%	968.3	61.7	6.4%
Pharmacy Technician	774.5	23.0	3.0%	819.9	27.8	3.4%
Case Manager	620.5	33.0	5.3%	810.2	48.7	6.0%
Medical Assistant	357.0	13.5	3.8%	706.7	30.3	4.3%
Top Ten Health Shortage Professions Based on Estimated Vacancies						
Occupations	Sample			Estimate		
	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Registered Nurse	2680.8	273.5	10.2%	3176.0	321.6	10.1%
Human Services Worker HS	804.0	104.0	12.9%	1198.9	146.4	12.2%
Certified Nurse Assistant	1245.5	102.0	8.2%	1444.9	120.0	8.3%
Licensed Practical Nurse	393.0	44.5	11.3%	578.6	68.2	11.8%
Family Physician	315.8	43.0	13.6%	615.4	67.1	10.9%
Allied Health Dental Asst	574.0	34.0	5.9%	968.3	61.7	6.4%
Billing Clerk/Technician	689.5	37.0	5.4%	1096.1	58.6	5.3%
Family Nurse Practitioner	193.0	36.5	18.9%	337.3	58.2	17.2%
Case Manager	620.5	33.0	5.3%	810.2	48.7	6.0%
Chemical/Substance Counselor	225.0	37.0	16.4%	311.0	48.0	15.4%
Top Ten Health Shortage Professions Based on Estimated Vacancy Rates						
Occupations	Sample			Estimate		
	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Radiation Oncologist	5.0	3.0	60.0%	5.0	3.0	60.0%
Allied Health Paramedic	9.0	4.0	44.4%	9.0	4.0	44.4%
Pediatric Nurse Practitioner	15.0	4.0	26.7%	27.8	10.4	37.4%
Physical Therapy Assistant	53.0	16.0	30.2%	62.3	17.8	28.5%
Nurse Midwife	25.0	4.0	16.0%	41.0	10.4	25.4%
Dietitian	36.5	9.0	24.7%	37.2	9.0	24.2%
Occupational Therapist	115.0	26.0	22.6%	128.5	29.3	22.8%
Women's Health Care Nurse Practitioner	23.0	5.0	21.7%	51.9	11.4	22.0%
Psychiatric Nurse Practitioner	25.0	6.0	24.0%	41.9	8.6	20.5%
Family Nurse Practitioner	193.0	36.5	18.9%	337.3	58.2	17.2%

The following are some highlights of specific occupations:

Primary Care Providers

- Primary-care provider occupations had moderate-to-substantial statewide estimated vacancy rates—Family Physician (10.9%), General Internist (7.8%), Family Nurse Practitioner (17.2%), and Physician Assistant (13.2%).

Professional Nurses

- The findings confirm that the shortage of Professional Nurses continues. Moderate statewide estimated vacancy rates are calculated for Registered Nurse at 10.1%, Nurse Educator at 9.4%, and Public Health Nurse at 7.6%. Nurse Manager at 11.8%, Critical Care/Emergency Room/Intensive Care Unit Nurse at 15.0%, Nurse Consultant at 15.1%, Nurse Manger at 11.0%, and Psychiatric Nurse at 12.9% had substantial statewide estimated vacancy rates. The highest statewide estimated vacancy rates were experienced by Nurse Midwife at 25.4%, Pediatric Nurse Practitioner at 37.4%, Psychiatric Nurse Practitioner at 20.5%, and Women’s Health Care Practitioner at 22.0%.

Pharmacy

- The Pharmacist shortage appears to be easing in Alaska, with 37.1 estimated vacancies statewide and an estimated vacancy rate of 8.5%. Pharmacies had the greatest number of vacancies, followed by the Tribal Health Organizations.

Behavioral Health Services

- Though their vacancies were not numerous (11.0 estimated statewide vacancies), Psychiatrists were particularly in demand (12.7% statewide estimated vacancy rate).
- Most of the statewide estimated vacancy rates for Behavioral Health occupations were moderate to substantial. The greatest unmet demand was for Chemical/Substance Abuse Counselor at 15.4% followed by Aide Village Counselor at 14.9%, Clinical Psychologist at 14.8%, with substantial statewide estimated vacancy rates.

Dental

- The estimated statewide vacancy rate for Dentist was 2.6%; however, this masked a 7.1% estimated rural rate. Dental Hygienist showed an estimated vacancy rate of 8.0% statewide with a 15.8% rate in rural regions.

Therapists

- Therapists of all kinds—Physical, Occupational, Speech, and Speech-Language Pathologist—proved to be in short supply; estimated statewide vacancy rates ranged from 10.4% to 28.5%. No part of the state, urban or rural, escaped the shortages.

Other Nursing Staff

- Looking at other nursing occupations, the vacancy rate for Licensed Practical Nurse was fairly high, with 11.3% in the sample and 11.8% for the statewide estimate. The sample vacancy rate for Certified Nurse Assistant was lower (8.2%, sample; 8.5%, statewide estimate).

Tribal Health Organizations

- Community Health Aide/Practitioners (CHA/Ps) are predominately located within Tribal Health Organizations. CHA/Ps, with 329.0 statewide estimated positions and 42.6 estimated vacancies, yielded a 12.9% estimated vacancy rate.

Allied Health

- Allied Health occupations were too numerous to address in detail in the context of this report. We focused on eight key Allied Health occupations not already listed: Clinical Lab Assistant, Medical Lab Technician, Phlebotomist, Radiology Technician, Sonographer, Medical Assistant, Medical Technician, and Respiratory Therapist. Except for Sonographer, vacancy rates were generally low to moderate for these occupations, between 2.3% and 5.9% in the sample and between 3.5% and 6.6% for the statewide estimates. With the exception of Medical Assistant (with 30.3 estimated statewide vacancies) and Medical Technician (with 14.8 estimated vacancies statewide), the statewide vacancies were relatively low in number. The sample Sonographer vacancy rate was substantial (13.6%), with 8.0 reported vacancies and 9.6 estimated vacancies, resulting in a 13.7% estimated vacancy rate

Community Education and Wellness Occupations

- Dietitian, Health Educator, and Nutritionist occupations are not numerous but do play an important role in prevention efforts. Dietitian had a high sample and statewide estimated vacancy rate at 24.7% and 24.2%, respectively.

Administrators/Managers

- This section focuses on seven key managerial occupations that are specific to health care: Administrator/Director/CEO/Manager, Behavioral Health Supervisor, Health Information Administrator/Manager, Hospital Administrator, Human Resources Director, Medical Director, and Nursing Director/Executive. Sample and estimated vacancy numbers were generally low for these seven occupations, while estimated vacancy rates were moderately high for two—Hospital Administrators (11.1%) and Nursing Director/Executive (14.6%). This was in contrast to the reported and estimated vacancy rates for Administrator/Director/CEO/Manager (3.0% sample, 2.7% statewide estimate). The highest number of estimated vacancies (33.5) was for Administrator/ Director/CEO/Manager.

Information/Reimbursement

- Among a wide range of “front office” and “back office” occupations responsible for ancillary, non-medical services (but necessary for functioning health-care organizations), vacancy numbers and rates were generally low in both the sample and the statewide estimates. The highest vacancy rates were for Records Clerk/Technician (6.5% sample) and (5.9% estimated).

Paramedic

- For an assessment of Paramedic occupations, we expanded the organization types beyond health-care organizations and included paid and volunteer fire departments and emergency services (military, borough, and municipal), air medevac services, and airports. We also expanded the occupations to include Firefighters with Emergency Medical Services training. Paramedics had a statewide estimated vacancy rate of 44.4% for 4 estimated vacant positions among health-care organizations. Firefighters with Emergency Medicare Service Training had

the highest number of estimated positions at 1,114.1 and estimated vacancies of 32.1 resulting in a statewide estimated vacancy rate of 2.9%.

We asked respondents two questions on the hiring of new graduates (e.g., recent nursing school graduates, MDs completing residencies, or H.S. or AA graduates for positions with on-the-job training). First, “Do you hire new graduates in this occupation?” Second, “How many of your current vacancies could you fill with new graduates?” The intent of both questions was to gauge the ability of the job market to absorb new graduates/trainees in order to plan training expansions and/or recruitment campaigns.

The top three occupations by estimated positions that could be filled with new graduates were Billing Clerk/Technician with 324.0 estimated vacancies, Health Dental Assistant with 218.0 estimated vacancies, and Administrator/Director/CEO/Manager with 218.0 estimated vacancies. We asked respondents to tell us the length of the longest current vacancy, expressed in months. Upon analysis we found there were 12 occupations with a mean estimated vacancy length of one year or greater. These were General Internist, Hospital Administrator, Coding Clerk/Technician, MRI/CT Technician, Nuclear Medicine Technician, Emergency Physician, Nutritionist, Psychiatric Aide/Technician, Social Worker MSW, Echocardiography Technician, Health Educator, and Compliance/Auditor. This illustrates the deficit “supply side” of numerous health occupations, the recruitment of which is impeded by the reasons for vacancies highlighted by our respondents.

The top three most frequently reported reasons for vacancies were inadequate pool of qualified workers, insufficient compensation package, and rural isolation.

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I. Problem and Rationale

A. Background

Alaska continues to experience health professional shortages. The state has long had a deficient “supply side” characterized by insufficient numbers of key health workers whose recruitment, retention, and training have been impeded by Alaska’s remoteness, harsh climate, rural isolation, low population density, and scarce training resources. Alaska is the only state without a pharmacy school and lacks its own dental and physical therapy schools.

“There are few industries in Alaska as large or that have grown as much as health care. It has a presence nearly everywhere in the state and includes a broad spectrum of occupations, ranging from surgeons to home health aides. The industry employs more people in Alaska than the federal government, state government, oil industry, or most other industries. The industry had at least 29,000 jobs in 2007, and its payroll was about \$1.2 billion...Nearly as impressive as the sheer size of the state’s health care industry is the lightning speed at which it grows. The number of wage and salary jobs in the industry increased 40 percent between 2000 and 2007, from 20,700 jobs to 29,000...The state’s health care employment has grown more than three times as fast as all other industries since 2000—health care’s 40 percent versus 13 percent for all other industries.”¹

Now, exacerbating this already difficult situation is a burgeoning “demand side” for increased health services for a steadily growing and aging population. Leading this demand for health services is a dramatically aging population.

“Demographics have been and will continue to be a major contributor to the growth of Alaska’s health care employment, particularly as Alaska’s population continues to age. Although only 6.8 percent of Alaskans are older than 65 (compared to the nation’s 12.4 percent), the state’s 65-plus population grew by 50 percent between 1996 and 2006²...the number of Alaskans over 65 is growing fast—it’s expected to double in the next 15 years.³...Because Alaska’s senior population is growing faster than their national cohorts, Alaska’s health care employment is also growing faster and may continue to do so in the future.”⁴

But despite this dramatic employment growth, supply has not kept up with need or demand. Vast portions of Alaska have been designated either a Health Professional Shortage Area (HPSA) or Medically Underserved Area (MUA) (Table 1).

These shortages can be addressed through expansion of existing training programs, initiation of new training programs, and effective recruitment/retention campaigns. But the strategic planning and the execution of such programs require valid and precise data. Though abundant anecdotal evidence testifies to the scope of these shortages, they have not always been broadly or systematically quantified.

¹ Fried, Neal, *Alaska’s Health Industry*, Alaska Economic Trends, February 2008, Volume 28, No. 2, pp 4-5.

² Ibid.

³ ISER Medicare Report, March 2009

⁴ Fried, Neal, op.cit., p 7.

Table 1. HPSA and MUA/MUP Listing, March 2009⁵

Health Professional Shortage Area (HPSA) and Medically Underserved Areas and Populations (MUA/MUP) Listing 3/2009					
<i>(Listing does not include the automatic Primary Care HPSAs for Alaska Native Tribal Populations, which are available to meet designation requirements)</i>					
Census Area/Borough	Primary Care HPSA	Dental HPSA	Mental Health HPSA	MUA (Medically Underserved Area)	MUP (Medically Underserved Population per Governor's Request)
013 - Aleutians East Borough	yes	yes	yes	y	
016 - Aleutians West Census Area	yes	yes	yes	y	
020 - Anchorage Borough	CHC	CHC	CHC		y (North)
050 - Bethel Census Area	yes	CHC (applied for geographic DHPHA)	yes	y	
060 - Bristol Bay Borough	CHC	yes	applied/CHC	y	
068 - Denali Borough	yes	applied; CHC site	yes		y
070 - Dillingham Census Area	only AN; CHC shortly	yes	applied for geographic; CHC		y
090 - Fairbanks North Star Borough	Low income	CHC; applying for low income	CHC		y
100 - Haines Borough	CHC	--	yes		y
110 - Juneau Borough	--	--	--	--	--
122 - Kenai Peninsula Borough	CHC	CHC	CHC; Seward subarea is MHPHA		y
130 - Ketchikan Gateway Borough	--	--	--	--	--
150 - Kodiak Island Borough	CHC	CHC	CHC		y
164 - Lake and Peninsula Borough	yes	yes	yes	y	
170 - Matanuska-Susitna Borough	yes (north); 2 CHCs	yes (north); 2 CHCs	2 CHCs		y
180 - Nome Census Area	yes	yes	yes	y	
185 - North Slope Borough	yes	yes	yes	y	
188 - Northwest Arctic Borough	yes	yes	yes	y	
201 - Prince of Wales-Outer Ketchikan Census Area	CHC (lost geo)	CHC	CHC	y	
220 - Sitka Borough	--	--	--	--	--
232 - Skagway-Hoonah-Angoon Census Area	yes	yes	yes	y	
240 - Southeast Fairbanks Census Area	yes	--	--		y
261 - Valdez-Cordova Census Area	Cordova geo (and CHC); CHC Copper Valley	2 CHCs	2 CHCs	y part (Copper Valley)	y part (Cordova; Whittier)
270 - Wade Hampton Census Area	yes	yes	yes	y	
280 - Wrangell-Petersburg Census Area	CHC	CHC	yes		y
282 - Yakutat Borough	yes	yes	CHC	y	
290 - Yukon-Koyukuk Census Area	yes	yes	yes	y	

data from www.hrsa.gov March 3, 2009

<http://www.hpsafind.hrsa.gov/HPSASearch.aspx>

Health Professional Shortage Areas (HPSAs) are designated by HRSA as having shortages of primary medical care, dental or mental health providers and may be geographic (a county or service area), demographic (low income population) or institutional (comprehensive health center, federally qualified health center or other public facility).

Medically Underserved Areas/Populations are areas or populations designated by HRSA as having: too few primary care providers, high infant mortality, high poverty and/or high elderly population.

USDHHS HRSA: [More about shortage areas](#)

Alaska Primary Care Office information: http://www.hss.state.ak.us/dph/healthplanning/primarycare/PC_Home.htm

"Yes" in HPSA columns means there is a "geographic" HPSA designation approved by HRSA Office of Shortage Designation, for all or part of the census area or borough.

"CHC" indicates there is at least one Community Health Center with automatic HPSA designation. Where geographic HPSAs exist, the geographic area score is generally higher than the CHC score. Most of the areas with geographic designations also have CHCs in one or more sites within the census area or borough.

Prepared by Health Planning and Systems Development Section, Health Care Services, Alaska Department of Health and Social Services 3/19/2009

B. Previous Studies

A 2000 study by the National Center for Health Workforce Analysis of the Health Resources and Services Administration (HRSA) provided estimates of the numbers of several key health professionals in Alaska—including physicians, registered nurses, dentists, pharmacists, and psychiatrists—and calculated health provider to population ratios.⁶ Nationally, Alaska ranked 40 in the ratio of physicians to population, 50 for licensed practical nurses, 49 for pharmacists, and

⁵ State of Alaska | Alaska Primary Care Programs

http://www.hss.state.ak.us/dph/healthplanning/primarycare/assets/HPSA_MUA.pdf. Assessed July 28, 2009.

⁶ National Center for Health Workforce Analysis. "The Alaska Health Workforce: Highlights from the Health Workforce Profile." Health Resources and Services Administration.

<http://bhpr.hrsa.gov/healthworkforce/reports/statesummaries/alaska.htm>

50 for pharmacy assistants. Another 2000 study by the Bureau of Health Professions of HRSA projected an RN shortage of 58% in Alaska by 2020.⁷ However, neither study quantified actual current shortages.

A precursor of and close model for our investigation was a 2001 study coordinated by the Alaska Center for Rural Health–Alaska’s AHEC (ACRH) to determine the current and projected training needs of the state’s allied health workforce.⁸ From a representative sample of 369 health organizations of all types and from all regions of the state, the study presented data showing the total numbers of persons currently employed, total vacancies, and estimated annual turnover for 74 allied health occupations. In addition, responding organizations were asked to indicate if they expected to increase hiring in the next 3-5 years as well as the level of and primary reasons for any difficulties they experienced in recruiting. The following recommendations were based on the findings (1) expansion of pharmacy technician training at University of Alaska Fairbanks (UAF); (2) development of a radiologic technology training program; (3) further study of behavioral health professions; (4) development of both training and recruitment programs for rehabilitation staff; (5) increased use of distance education for the training of allied health professionals; and (6) the creation of allied health coordinator positions for each Major Academic Unit (MAU) of the state’s public university system.

In 2004, the Western Interstate Commission for Higher Education (WICHE) Mental Health Program released its Status Report on Alaska’s Behavioral Health Workforce in which it summarized workforce data from many sources.⁹ It predicted that by 2010 there will be a 47% increase from 2000 levels in the need for behavioral health professions, including an 81% increase in the demand for social workers, a 79% increase for mental health counselors, and a 76% increase for behavioral-disorder counselors.

In 2005, the Alaska Department of Labor and Workforce Development released its “Alaska Occupational Forecast to 2014.”¹⁰ Based on surveys of 4,500 employers of all types, done longitudinally to project trends, the report quantified the number of persons employed in 2004 for selected occupations and projected net 10-year increases in employment for 2014, factoring in both growth and attrition. The report estimated 4,902 RNs employed statewide in 2004, growing to 6,432 by 2014—an increase of 1,530 (31%). Other health occupations expected to increase substantially include EMTs (38%), Home Health Aides (60%), Dental Assistants (35%), and Medical Assistants (36%). While the study was extremely useful for macro-level planning, and quantified the estimated 10-year increases, it did not quantify how much of the current need was not being met; nor did it estimate current numbers of vacancies, vacancy rates, or the annual capacity of the job market to absorb new graduates.

⁷ Bureau of Health Professions, National Center for Health Workforce Analysis. “Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020.” Washington, DC: Health Resources and Services Administration, 2002.

⁸ Alaska Center for Rural Health. “Alaska’s Allied Health Workforce: A Statewide Assessment.” Anchorage: University of Alaska Anchorage, 2001.

⁹ Western Interstate Commission for Higher Education Mental Health Program. “The Behavioral Health Workforce in Alaska: A Status Report.” Anchorage, Fairbanks, Juneau: University of Alaska, 2004.

¹⁰ Alaska Department of Labor and Workforce Development, Research and Analysis Section. “Alaska Occupational Forecast to 2014.” <http://146.63.75.50/research/iodata/occproj.htm#healthp>

The Status of Recruitment Resources and Strategies (SORRAS) studies of 2003-2004 and 2005-2006, led by ACRH and funded by the State of Alaska Office of Health Planning, quantified the monetary cost of recruiting health professionals for vacant positions in Alaska.^{11,12} The 80 hospitals, long-term care facilities, community health centers, and mental health clinics surveyed spent \$24 million annually to recruit for the twelve key health occupations targeted by the study. Fifty-four percent of that cost covered the hiring of locums to fill persistently vacant positions. The three main barriers to recruitment identified were (1) locating qualified candidates (in short supply in Alaska); (2) Alaska's geographic isolation and harsh climate; and (3) the need to satisfy the lifestyle and employment needs of spouses and other family members. Although SORRAS dramatically highlighted the pervasiveness of vacancies and the high financial costs of filling them (or even just attempting to fill them), it was not designed to quantify the numbers and rates of those vacancies.

The 2005 Alaska Physician Task Force Report cited a survey done by the Alaska Family Medical Residency (AFMR) program that found a 16% vacancy rate for rural physician positions in Alaska, as well as several specialties in "serious shortage."¹³ The Task Force also used data from the Alaska Division of Occupational Licensing, the Alaska State Medical Association (ASMA), and the American Medical Association (AMA) to estimate a statewide shortage of 375 physicians based on physician-to-population ratio. The Task Force estimated that Alaska would need to add 59 new physicians per year (it now nets 38 new physicians per year). Its report quantified the uneven distribution of Alaska's physicians, showing the shortage was concentrated in rural areas. While this study also shed light on many of the underlying causes of the shortage, it did not quantify actual, current, or unmet needs in terms of numbers of actual physician vacancies.

The Alaska Department of Labor "Quarterly Census of Employment & Wages" updates data quarterly for overall employment levels for classes of health-related employers (e.g., General Medical-Surgical Hospitals, Offices of Physicians).¹⁴ This yields data useful for tracking industry-wide macro trends but not data for specific occupations.

The dramatic and rapid expansion of the RN program in the School of Nursing at the University of Alaska Anchorage (SON-UAA) is one of Alaska's health workforce development success stories. To guide this expansion, the University began a biannual cross-sectional study to gauge the annual unmet need for nurses (quantified by the number of vacant positions and vacancy rates), and to gauge the ability of the job market to absorb new graduates of the expanding nursing program. The 2002-2003 study surveyed 47 organizations—including hospitals, tribal health organizations, nursing homes, large school districts, and large clinics—that reported 3,522 nursing positions with 275 of them vacant, for an 8% vacancy rate. Forty of those organizations

¹¹ Alaska Center for Rural Health. "Status of Recruitment Resources and Strategies (SORRAS): 2003-2004." http://nursing.uaa.alaska.edu/acrh/projects/report_sorras-04-05.pdf

¹² Alaska Center for Rural Health. "Status of Recruitment Resources and Strategies (SORRAS): 2005-2006." http://nursing.uaa.alaska.edu/acrh/projects/report_sorras-05-06.pdf

¹³ Alaska Physician Supply Task Force. "Securing an Adequate Number of Physicians for Alaska's Needs." Juneau: Alaska Department of Health and Social Services, 2006.

¹⁴ Alaska Department of Labor and Workforce Development, Research and Analysis Section. "Quarterly Census of Employment and Wages." 2nd Quarter, 2006. Revised 1/18/2007. <http://www.labor.state.ak.us/research/ee/ee20062.pdf>

hired new graduates and indicated that they could absorb 68 new nursing graduates while filling those 275 vacancies.¹⁵

This biannual study was expanded in scope in 2003-2004 and again in 2005-2006, targeting over 200 health and health-related occupations. The studies surveyed almost 300 health organizations of all types—including hospitals and nursing homes, community health centers, dental clinics, physician-practice clinics, and behavioral health organizations—representing a substantial proportion of total statewide health professional employment. Data collected included number of positions and number of vacancies (from which vacancy rates were calculated), percentage of responding organizations that hire new graduates, and the number of vacant positions that could be filled by new graduates. The 2005-2006 study found that responding organizations had an overall physician vacancy rate of 11%, varying widely from 8% in Anchorage to 23% in the rural North/West region. Substantial vacancy rates were reported for Physical Therapy Assistant (25%), Psychologist (27%), Psychiatrist (20%), Emergency Medical Technician (26%), and Coding Specialist (28%). Substantial numbers of vacancies were reported for Certified Medical Assistant (38), Personal-Care Attendant (84), Physical Therapist (33), Certified Nursing Assistant (143), Licensed Practical Nurse (53), Community Health Aide/Practitioner (57), and Registered Nurse (272).¹⁶

Though its sample was by convenience and not representative of the state, the 2005-2006 study turned out to be an excellent model, yielding data extremely useful for strategic health workforce planning. As a result, the office of Karen Perdue, Associate VP for Health at the University of Alaska, and the Alaska Mental Health Trust Authority decided to fund the Alaska Center for Rural Health-Alaska's AHEC (ACRH) to expand, refine, and execute a similar study.

The 2007 study confirmed and quantified trends cited in recent studies and accumulated anecdotal evidence—despite the recent progress in training and deploying health personnel (such as Registered Nurses), critical shortages persist.

The situation for key primary-care occupations—Family Physician, General Internist, Nurse Practitioner, and Physician Assistant—was troubling, particularly in the rural areas with numerous estimated vacancies and high estimated state vacancy rates between 15% and 20%. Though their vacancies were not numerous, Psychiatrists were particularly in demand (19.0% estimated vacancy rate) and difficult to recruit (mean vacancy length of 34.5 months). The national Pharmacist shortage apparently has hit Alaska hard, with high estimated vacancies (98) and an estimated vacancy rate of 23.7% affecting every region of the state. Therapists of all kinds—Physical, Occupational, Speech, and Speech-Language Pathologists—were in short supply (estimated vacancy rates ranging from 15.6% to 29.3%). No part of the state escaped the shortages, which were most acute in rural areas in terms of vacancy rate, but numerically high in the Anchorage/Mat-Su region. High numbers of vacancies and high vacancy rates were reported for key specialized nursing occupations, particularly for Nurse Case Manager, Nurse Practitioner, and Critical Care Nurse. These appeared to be the current areas of most critical

¹⁵ School of Nursing, University of Alaska Anchorage. "Telephone Survey Re: Registered Nurse Vacancies/New Grads – 2003." Unpublished report.

¹⁶ School of Nursing, University of Alaska Anchorage. "Vacancy Rates – Health Professions – 2005 Survey." Unpublished report.

shortage in nursing. The estimated Registered Nurse vacancy rate was moderate (8.0%), but this masked 10% rates in hospitals and tribal health organizations and an estimated rural rate of 16.1%. While the estimated Dentist vacancy rate was 10.3%, this masked a 15.3% estimated rural rate and the very high rate reported by tribal health organizations (42.0%), which had 39% of estimated Dentist vacancies. In the Behavioral Health occupational group, the most acute shortages—with both extremely high vacancy numbers and high vacancy rates—appeared to be among the occupations that fell under Human Services Worker. In addition, overall estimated Behavioral Health occupation vacancies were extremely numerous (1,033), approximately 29% of all estimated vacancies—more than any other occupational group. In Allied Health occupations, high vacancy rates were affecting employers of Physical Therapy Assistants and Respiratory Therapists. Sonographer vacancies were difficult to fill and reported Surgical Technician vacancies, though not numerous, were averaging 3-to-4 years in length. One hundred (100) vacancies and a vacancy rate of 18.1% were reported for Community Health Aide/Practitioners (CHA/Ps). Among “front office” and “back office” occupations, Coding Specialist and Certified Coder had 11% estimated vacancy rates and very long mean vacancy lengths. The managerial occupations for which high vacancy rates were reported were specifically health care related: Behavioral Health Supervisor, Clinical Department Manager, Health Information Manager, Medical Director, Nurse Manager, and Practice Manager. Behavioral health organizations had the most estimated managerial vacancies.

Looking at respondent types, tribal health organizations reported the highest overall vacancy...But every respondent type was a locus for acute shortages in key occupations, such as clinics/offices of physicians for PAs, hospitals/nursing homes for RNs, pharmacies for Pharmacists, behavioral health organizations for Human Services Workers, and school districts for Speech-Language Pathologists. Higher vacancy rates were generally found in the rural respondents, particularly in the North/West and Southwest regions, which reported double digit vacancy rates for nearly all occupational groups, and overall vacancy rates around 20%.¹⁷

The key questions the current study sought to answer were the same as those in the 2007 study:

- What health occupations were, at this time, most critically affected by shortages?
- Exactly how many vacancies currently remained unfilled? Where were these vacancies regionally and in what organization types?
- What did employers perceive to be the major underlying causes of their vacancies?
- How many new trainees/graduates could the job market actually absorb annually, and how many organizations could absorb them?

¹⁷ Alaska Center for Rural Health. “2007 Alaska Health Workforce Vacancy Study.” Executive Summary, July 2007.

II. Methodology

A. Background

1. Advisory Group

This study was designed in consultation with an advisory group (see acknowledgements) that included the Alaska Mental Health Trust Authority (AMHTA), Alaskans for Access to Health Care (ACCESS), and the University of Alaska Anchorage (UAA). The advisory group provided input and guidance for (1) selecting targeted occupations, (2) reviewing the study instrument, and (3) providing comments and revisions for this report.

2. Unit of Analysis

The unit of analysis was the employment site by organization type, which allowed for the allocation of positions and vacancies by geographic region. For each employer, we identified the staff person most knowledgeable about hiring and vacancies. In large organizations this meant that one employer might provide information about multiple sites and organization types; smaller employers were responsible for only a single site.

3. Study Questions

The study targeted 93 health occupations selected in consultation with the advisory group described above (see Table 14 or Appendix A).

For the 93 targeted occupations, the following study questions included:

- (1) ***How many budgeted positions, either full- or part-time, existed in organizations providing health services in Alaska?*** We asked respondents for the number of budgeted staff positions, not relief/temporary/locums/travelers/contract positions; unless these latter positions were used to temporarily fill budgeted (but currently vacant) staff positions. Respondents included part time positions which resulted in our counting full time equivalent (FTE) rather than individuals (“bodies”). In situations where a position was divided among more than one occupation (e.g., Dental Assistant and Billing Clerk), the respondent asked to count the position under what they considered the position’s “primary occupation.”
- (2) ***How many of these budgeted positions were currently vacant?*** This was a point-in-time cross-sectional study. Recently filled vacancies or imminent vacancies were not counted. Positions filled by relief/temporary/locum/contract health workers were counted as vacancies only if these workers were temporarily filling a currently vacant budgeted position.
- (3) ***What was the vacancy rate?*** This was derived from the proportion of budgeted positions [denominator] that were currently vacant [numerator], expressed as a percentage.
- (4) ***How many of the organizations that employ these occupations hired new graduates of training programs?***

- (5) *How many of the currently vacant budgeted positions (#2) could be filled by new graduates of training programs?*
- (6) *What were the mean and maximum length of time, expressed in months, that the vacancies have existed?*

Another question applied to each respondent organization, not to specific occupations:

- (7) *What were the principal underlying causes of vacancies?* Respondents were asked to cite what they believed to be the top two underlying causes for vacancies opening or remaining unfilled.

B. Methods

1. Population

All identified health service-providing organizations (public, tribal, private non-profit, and private for-profit) were included in the population. Satellite facilities managed by a parent organization, regardless of their type, were counted as individual employment sites (e.g., behavioral health facilities, hospitals of tribal health organizations, and satellite laboratories of hospitals).

The population for 10 of the organization types was duplicated from the 2007 Alaska Health Workforce Vacancy Study. The final two organization types, Paramedics and State and Municipal health, were added after data collection had begun at the request of UAA Allied Health Programs and the Vice Provost of Health Programs. Paramedics in non-health organizations and the Municipality of Anchorage had not been in the 2007 study. To capture Paramedics, we included non-health services employers: fire department/emergency services (military, borough, municipality—paid and volunteer), air medevac services, and airports. We also include firefighters with emergency medical services training. We used a list of paramedic employers compiled in 2007 by the paramedic faculty of the University system (Fire and Emergency Services Program in Allied Health) with consultation from the State Emergency Medical Services office. We created the population listing for the 12th type, State and Municipal (employers of public health nurses), which includes just two employers - the State of Alaska, Department of Health and Social Services, Division of Public Health, Public Health Nursing (with 23 sites) and the Municipality of Anchorage, Department of Health and Human Services, Community Health Services Division (with one site). We completed our employer-site list with the assistance of the Chief of Public Health Nursing for the State of Alaska Department of Health and Social Services and the manager of Municipality of Anchorage, Department of Health and Human Services, Community Health Services Division.

Twelve organization types were defined and a sampling frame created, consisting of every organization in the state of Alaska identified for each defined type. Figure 1 and Table 2 present the population, listing the organization types and the number of employment sites identified for each type. Due to time and budget constraints we were not able to update the 2007 (2 year old) population lists.

Figure 1. Statewide Population of Employment Sites by Organization Type

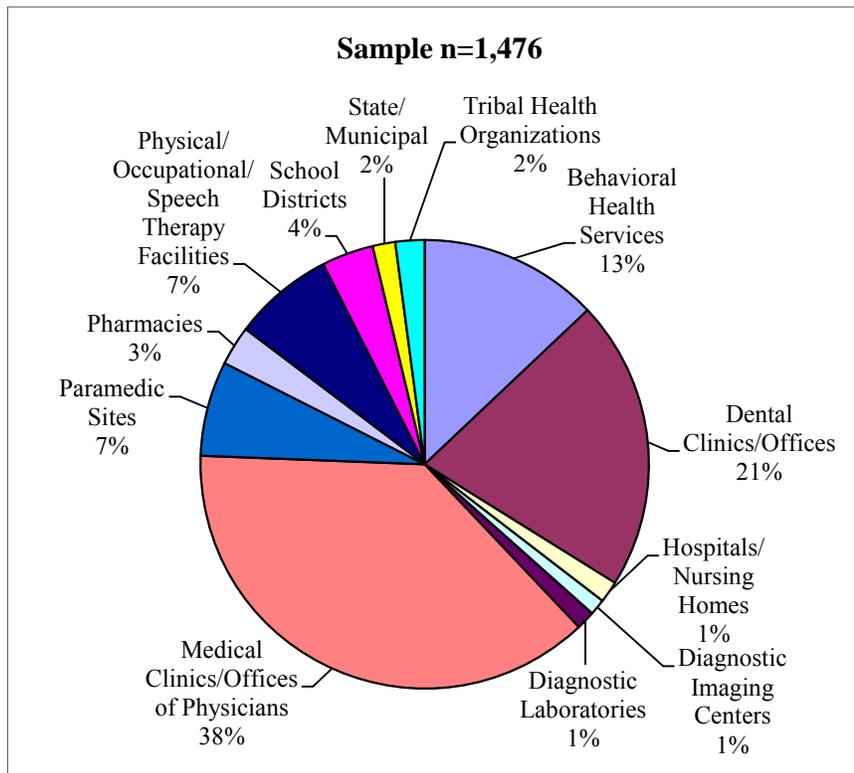


Table 2. Number and Percentage of 2009 Statewide Population of Employment Sites by Organization Type

Organization Type	2009 Statewide Population of Employment Sites	Percentage
Behavioral Health Services ^{e,g,h}	191	12.9%
Dental Clinics/Offices ^{d,h}	309	20.9%
Hospitals/Nursing Homes ⁱ	23	1.6%
Diagnostic Imaging Centers ^h	17	1.2%
Diagnostic Laboratories	20	1.4%
Medical Clinics/Offices of Physicians ^{b,c,h}	556	37.7%
Paramedic Sites ^j	101	6.8%
Pharmacies ^{f,h}	42	2.8%
Physical/Occupational/Speech Therapy Facilities ^{g,h}	107	7.2%
School Districts	55	3.7%
State/Municipal ^k	24	1.6%
Tribal Health Organizations ^a	31	2.1%
Total	1,476	100.0%

- (a) As defined by and under contract with the Indian Health Service
- (b) Includes SOA Public Health Nursing, Alaska VA System, and boroughs providing health services
- (c) Includes single-provider shops with non-provider staff
- (d) Both multi-provider clinics and single-provider shops with non-provider staff
- (e) Includes organizations providing mental health services, substance abuse/chemical dependency counseling and treatment services, disability services, child development services, at-risk youth services, and senior independent and assisted living services
- (f) Multi-facility chains with a centralized human resources department were counted as one organization
- (g) Excluding self-employed providers (i.e., single-provider shops without non-provider staff); includes chiropractic offices that employ Physical and Occupational Therapists
- (h) Does not include satellites/departments of other organization types
- (i) Includes only civilian employees of military hospitals; includes psychiatric hospitals and in-patient psychiatric facilities; includes only large (10+ bed) nursing homes; does not include hospitals managed by tribal health organizations
- (j) Includes Fire department/emergency services (military, borough, municipality – paid and volunteer), air medevac services, and airports
- (k) Includes State of Alaska, Department of Health and Social Services, Division of Public Health, Public Health Nursing and the Municipality of Anchorage, Department of Health and Human Services, Community Health Services Division.

2. Sample

We conducted a census of seven of the organization types, and sampled from the population of the other five (Table 3).

A full census was attempted for diagnostic imaging centers, hospitals and nursing homes, diagnostic laboratories, pharmacies, school districts, and tribal health organizations in order to (1) capture complete statewide data set for these health service organizations for the benefit of study stakeholders and (2) efficiently capture, in these large organizations, a majority of the statewide employment for many of the key targeted occupations.

For the remaining organization types, sampling was done by type of health organization in order to derive a representative sample, and to generate findings that could be generalized to the entire state. We used a sample size calculator by Raosoft (www.ezsurvey.comsamplesize.html) to determine our target sample size for Behavioral Health Services, Dental Clinics, Medical Clinics, Paramedic Sites, and Physical/Occupational/Speech Therapy Facilities organization types. We used a confidence level of 95% with a margin of error of 5% to calculate the recommended sample sizes.

A random sample was generated by placing the list of organizations by type in Excel spreadsheets. Using Excel we generated a random number for each organization. We selected the sample based on the order of the randomly generated number.

Table 3. Census or Target Sample Size by Organization Type

	Type of Organization	Number
Census	Diagnostic Imaging Centers	17
	Hospitals/Nursing Homes	23*
	Diagnostic Laboratories	20
	Pharmacies	42
	School Districts	55
	State/Municipal	24
	Tribal Health Organizations	31*
Target Sample Size	Behavioral Health Services	128
	Dental Clinics/Offices	172
	Medical Clinics/Offices of Physicians	227
	Paramedic Sites	81
	Physical/Occupational/Speech Therapy Facilities	84
	Total	904

*For hospitals and Tribal Health Organizations, one organization in each of these groups chose not to participate.

3. The Study Instrument

The Study Instruments (see Appendix B) were adapted from the instrument successfully used in the 2005 Workforce/Vacancy Study conducted by the University of Alaska Anchorage School of Nursing, and the 2007 Alaska Health Workforce Vacancy Study conducted by ACRH. An introductory page explained the purpose of the study, listed options for conveying the completed survey, provided the study questions, and clarifications and definitions of key terms, such as “position” and “vacancy.” The body of the instrument was a simple matrix/grid, with questions as the horizontal axis and the targeted occupations as the vertical axis—the latter organized by occupational groups. Space at the end was provided for respondents to add occupations not listed in the instrument. The instrument concluded with the final question regarding principal underlying causes of vacancies as well as a space to provide comments and suggestions.

For ease of use and to increase response rate, the instrument was tailored to each organization type by eliminating occupations it did not typically employ. Large organizations (e.g., hospitals) received instruments with the complete list of occupations.

C. Data Collection

The data collection plan consisted of (1) a mail-out of a hard copy of the survey instrument to all sampled organizations, followed by (2) telephone calls from trained interviewers who provided clarification, guidance, and options for returning the completed survey, which included mail, fax, and e-mail.

Organizations chosen for sampling were mailed a hard copy of their tailored survey instrument, accompanied by a letter (see Appendix C) explaining the purpose of the study, and a self-addressed, stamped envelope for returning the survey.

Interviewers received intensive training in the purpose and methodology of the study and were provided scripts to guide their communications. Their understanding and communication skills were developed and tested via role-playing; subsequent monitoring of their work provided ongoing quality assurance. Interviewers contacted organizations in order to confirm receipt of the mail-out, provide clarification and guidance, and offer the options of returning the completed survey form by mail, fax, or e-mail, or by responding to the interviewer over the phone. Contacts were documented on each survey. Surveys were reviewed daily by the survey supervisor. Every sampled organization received at least one follow-up call from an interviewer (unless they promptly returned the survey via mail before receiving a call). Organizations were re-contacted as needed until they either completed the survey or declined to respond.

To acquire the target sample size of completed surveys we replaced organizations with the next on the randomized listing when we determined there was no current practice; phone disconnected; duplicate organization; organization did not fit the study criteria; unable to locate; post office returned mail; or we had an incorrect telephone number. Since the unit of analysis was employment by organization site, total sample organizations increased as satellite employment sites were separated from the parent organization. The revised sample is displayed in (Figure 2 and Table 4).

Figure 2. Revised Sample by Organization Type

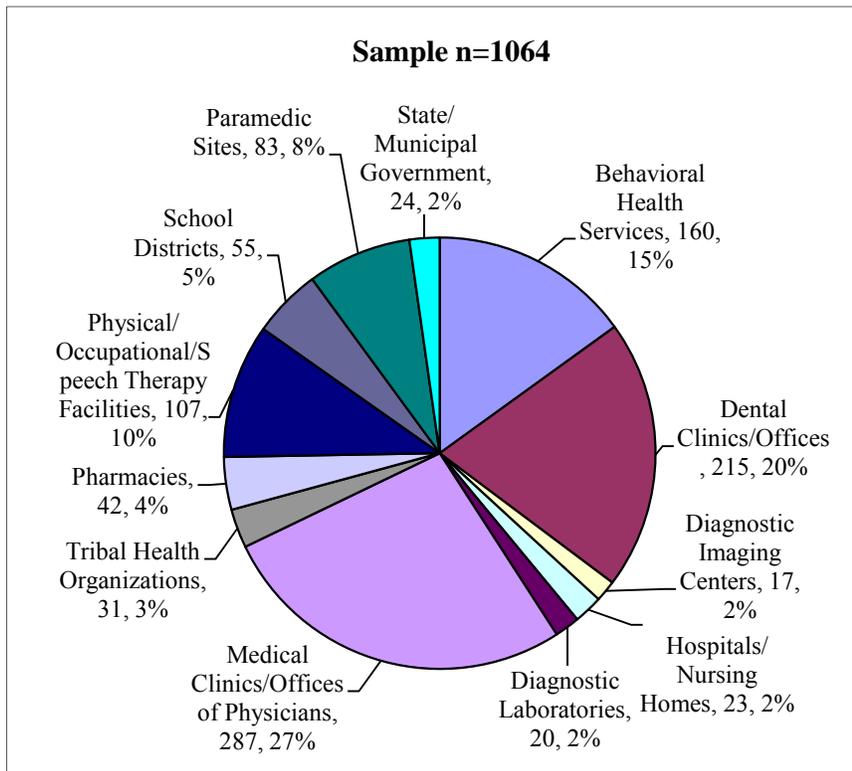


Table 4. Revised Sample Size by Organization Type

	Number	Percent
Behavioral Health Services	160	15%
Dental Clinics/Offices	215	20%
Diagnostic Imaging Centers	17	2%
Hospitals/Nursing Homes	23	2%
Diagnostic Laboratories	20	2%
Medical Clinics/Offices of Physicians	287	27%
Tribal Health Organizations	31	3%
Pharmacies	42	4%
Physical/Occupational/Speech Therapy Facilities	107	10%
School Districts	55	5%
Paramedic Sites	83	8%
State/Municipal Government	24	2%
Total	1064	100%

All surveys received were reviewed for completeness and internal consistency. When necessary, incomplete or inconsistent surveys were returned to interviewers for resolution with the respondent organization.

Data collection commenced on March 9, 2009, and concluded on June 26, 2009. Additional data was collected in October 2009 for was on public health nurses by state and municipal government.

D. Data Analysis

1. Response Rates

Table 5 shows the response rate for each organization type and for the overall study. Response rates are calculated by dividing the number of completed surveys (column A) by the number of valid sampled organizations (column C minus column D)– that is, the sample minus organizations that are no longer in service; do not fit the study criteria, etc.

As Table 5 shows, response rates varied between organization types. Not surprisingly, the highest response rates were in those categories for which we had chosen to conduct a census, ranging from 92.9% to 100%. Other organization types still had high response rates, from 82.8% to 98.4%, and the overall response rate for the study is just under 95%. This high response rate gives us confidence that the results are not likely affected by response bias.

Table 5. Response Rates by Organization Type

Organization Type	A	B	C	D	C - D	A/(C-D)
	Complete Surveys	Refusal	Revised Sample	No Longer in Service, etc.	Valid Sampled Org-sites	Response Rates
Diagnostic Imaging Centers	16	0	17	1	16	100.0%
Paramedic Sites	77	0	83	6	77	100.0%
Pharmacies	36	0	42	6	36	100.0%
School Districts	53	0	55	2	53	100.0%
State/Municipal	24	0	24	0	24	100.0%
Tribal Health Organizations	29	1	31	1	30	96.7%
Hospitals/Nursing Homes	22	1	23	0	23	95.7%
Diagnostic Laboratories	14	0	20	6	14	92.9%
Behavioral Health Services	84	11	160	65	95	88.4%
Medical Clinics/Offices of Physicians	187	31	287	69	218	85.8%
Physical/Occupational/Speech Therapy Facilities	68	12	107	27	80	85.0%
Dental Clinics/Offices	154	32	215	29	186	82.8%
Total	764	88	1064	212	852	89.7%

2. Weighting—Statewide Estimates and Aggregation by Organization Type

Statewide estimates for positions and vacancies were derived by weighting the sample to the total population from which the sample was drawn. For this study, the population was employment sites (employer sites) of health care workers in the state of Alaska. We stratified the sample by 12 organizational types. As described in B.1. Population (above) we used the population list developed by ACRH for a 2007 study for 10 types; a list compiled 2007 by the paramedic faculty of the University system for paramedics, and developed a new list for State and Municipal (employers of public health nurses). We updated the 2007 population lists as information emerged during interviews, deleting employers who were no longer in business, correcting information where clinics or offices had changed ownership and adding sites where a single employer had multiple employment sites. Table 6, below, shows the total number of organizations in each type, the number in the sample, the number of completed interviews and the resulting population weight.

Table 6. Weight, Completed Surveys, Original Population Listing, and Census or Sample by Organization Type

Organization Type	Census or Sample	Original Population Listing	Population corrected for out of business, etc	Completed Surveys	Weight
Diagnostic Imaging	Census	17	16	16	1.00
Hospitals/Nursing Homes	Census	23	23	22	1.00*
Diagnostic Laboratories	Census	20	14	14	1.00
School Districts	Census	55	53	53	1.00
Tribal Health Organizations	Census	31	30	29	1.00*
State/Municipal	Census	24	24	24	1.00
Pharmacies	Census	42	36	36	1.00
Phys/Occ/Speech Therapists	Sample	107	80	68	1.18
Paramedic	Sample	101	95	77	1.23
Behavioral Health	Sample	191	126	84	1.50
Dental Clinics	Sample	309	280	154	1.82
Med Clinics/Dr Offices	Sample	556	487	187	2.60
Total		1476	1264	764	

* Hospitals/Nursing Homes and Tribal Health Organizations are treated as if all those sampled had responded; see below.

We attempted to interview all employers in seven organization types, and achieved a census for Diagnostic Imaging, Laboratories, Pharmacies, School Districts, and the State of Alaska/ Municipality of Anchorage organization types. For hospitals and Tribal Health Organizations, one organization in each of these groups chose not to participate. They are a small hospital and a tribal health center in southeast Alaska. Each of these organizations is much smaller than the average size of others in their respective groups. We chose to settle for a slight under count in these two groups rather than an over count and are weighting each these groups at 1.0.

3. Quantitative Data

Quantitative survey data were entered directly into SPSS (Statistical Package for the Social Sciences version 15). After cleaning, data were analyzed utilizing this software and Statistical Analysis Software (SAS).

The principal outcomes of analysis for each occupation studied were defined as (1) total number of positions reported in the sample; (2) total number of vacancies reported in the sample; (3) vacancy rate of the sample computed with #2 as numerator and #1 as denominator; (4) proportion of responding organizations in the sample that employ the occupation (denominator) and that indicated they hired new graduates (numerator), expressed as a percentage; (5) total number of vacancies in the sample for which new graduates would be considered; (6) mean length of vacancies in the sample, expressed in months; and, (7) aggregated principal reasons cited for vacancies as reported in the sample.

In addition, population estimates were generated for the variables 1 to 3, 5, and 6, listed above. Ninety-five percent (95%) confidence intervals at $\alpha=.05$ were generated for variables 1, 2, 5, and 6 and are reported in Appendix D. Details on our procedure for generating the confidence intervals are also described in Appendix D.

4. Qualitative Data

For the survey question about the top two underlying causes of vacancies, respondents were given the option of writing in reasons not listed. Similar write-in reasons were grouped into categories which were then added to the analysis. The frequency distribution of all cited reasons was then calculated using SPSS.

Occupations not listed in the study instruments that were provided by the respondents and the comments/suggestions section of the survey were recorded in Excel. The frequency distributions of the added occupations were calculated in Excel. The comments and suggestions were analyzed using conceptual/thematic descriptions of the data based on open coding.

5. Geographic Regions

We assigned the organizations an urban or rural and labor market designation based the 2007 study for comparability with the 2007 data.

a. Urban and Rural

We analyzed data for urban and rural employment sites. Respondents were classified “urban” if they were located in one of the following urban or suburban/”bedroom” communities: Anchorage, Eagle River/Chugiak, Fairbanks, North Pole, or Juneau. All other communities were classified as “rural.” (see Table 7). Every organization was assigned to its appropriate urban or rural geographic region. In addition, within each region, each organization was identified by community.

**Table 7. Urban/Rural Geographic Regions
Defined with Component Boroughs and Census Areas**

Urban or Rural	Region	Component Boroughs and Census Areas for Urban Rural Data Analysis
Urban	Anchorage	Municipality of Anchorage
Urban	Fairbanks	Fairbanks North Star Borough
Urban	Juneau	Juneau Borough
Rural	Southeast	Haines Borough, Ketchikan Gateway Borough; Sitka Borough; Skagway-Hoonah-Angoon Census Area; Wrangell-Petersburg Census Area; Prince of Wales–Outer Ketchikan Census Area; Yakutat Borough
Rural	Southcentral	Valdez-Cordova Census Area; Matanuska-Susitna Borough; Kenai Peninsula Borough; Kodiak Island Borough
Rural	Southwest	Aleutians East Borough; Aleutians West Census Area; Bethel Census Area; Bristol Bay Borough; Dillingham Census Area; Lake and Peninsula Borough; Wade-Hampton Census Area
Rural	Interior	Denali Borough; Southeast Fairbanks Census Area; Yukon-Koyukuk Census Area
Rural	North	Nome Census Area; North Slope Borough; Northwest Arctic Borough

b. Labor Market Regions

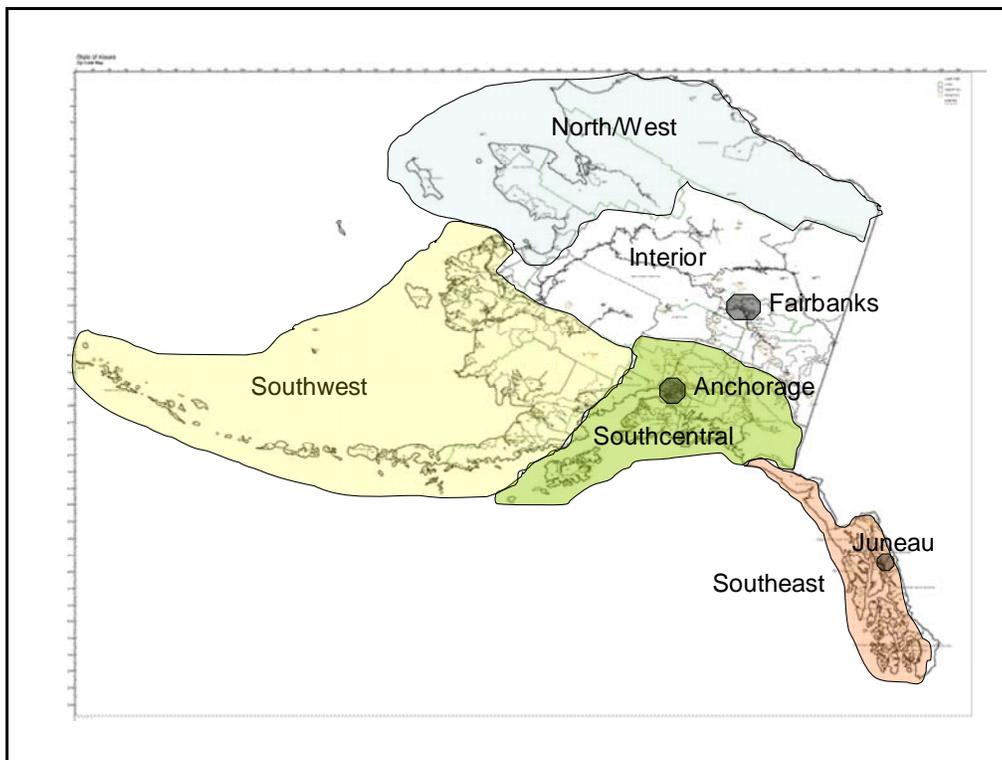
We also analyzed the data regionally, using the State of Alaska Department of Labor and Workforce Development’s Labor Market Areas, (see Table 8 and Figure 3). Occupations within organizations operating statewide or in multiple regions were assigned among the geographic regions by community.

We report our results by labor market region as well as for the state as a whole. We did not stratify by region, but included region as a variable in the analysis. The large size of our sample relative to the population meant that we were confident that the sample distribution of organizational types in each region would be well represented. We further checked to ensure that sampled organizations not included in completed surveys—*No current practice; phone disconnected; duplicate organization; organization does not fit criteria; organization does not fit study criteria; unable to locate; post office returned mail; wrong number,*—were not systematically distributed differently than completed surveys. This is the case, and so we believe that our study provides a reasonable assessment of health care positions and vacancies in each region, as well as statewide.

Table 8. Labor Market Areas and Component Boroughs/Census Areas

Region	Component Boroughs and Census Areas
Southeast	Juneau Borough; Haines Borough; Ketchikan Gateway Borough; Sitka Borough; Skagway-Hoonah-Angoon Census Area; Wrangell-Petersburg Census Area; Prince of Wales–Outer Ketchikan Census Area; Yakutat Borough
Anchorage/Mat-Su	Municipality of Anchorage; Matanuska-Susitna Borough
Gulf Coast	Valdez-Cordova Census Area; Kenai Peninsula Borough; Kodiak Island Borough
Southwest	Aleutians East Borough; Aleutians West Census Area; Bethel Census Area; Bristol Bay Borough; Dillingham Census Area; Lake and Peninsula Borough; Wade-Hampton Census Area
Interior	Fairbanks North Star Borough; Denali Borough; Southeast Fairbanks Census Area; Yukon-Koyukuk Census Area
North	Nome Census Area; North Slope Borough; Northwest Arctic Borough

Figure 3. Responding Organizations by Geographic Region



III. Limitations of Study

A study of this magnitude and complexity inevitably carries numerous limitations and the reader is cautioned to keep these limitations in mind.

Population

We were not able to update the 2007 population listing before data collection due to time and budget constraints. This may result in an under count of new organizations that have opened in the last two years.

During data collection we corrected contact information. We deleted organizations that had no current practice; phone disconnected; duplicate organization; organization does not fit study criteria; unable to locate; post office returned mail; and wrong number. We added organization sites as we were able to separate satellite locations from their parent organization. Since we did not go back to the unsampled part of the population listing this may result in an over count in the total population organizations.

The 2007 population was 1476 minus the 212 organizations that were excluded resulted in a revised 2009 population of 1264.

Data Collection

There may be issues of reliability of responses between organizations. For example, occupational titles are often respondent-specific or an artifact of organizational personnel systems; two organizations may have different job titles for what is effectively the same job. In addition, when respondents were asked to count employees wearing multiple job “hats” under what they considered their “primary” occupation, the respondents may not have used consistent criteria for making this determination. Lastly, interviewers sometimes found that respondents did not count vacancies when they provided the total number of positions. This error if not caught would inflate the vacancy rate. While the large majority of respondents spoke to interviewers who verified that “positions” included currently vacancies (vacant positions), there was not enough time or resources to verify this with 223 organizations that responded only by mail.

Non-responses for number of “new grad vacancies” were counted as “0.” This may have resulted in under-estimation of numbers of new graduate vacancies.

Also, the study was not designed to capture positions in one-person shops or the entire state universe of many occupations, including Certified Nursing Assistant, Home Health Aide, Personal Care Attendant, EMT/ETT, Massage Therapist, Optical/Eye-Care Technician, Optician, Optometrist, Dietician, Nutritionist, and various non-health-care-specific managerial occupations (e.g., Human Resources Manager, Business Manager).

The study was not designed to capture the universe of contract health workers; however, 44 organizations reported no health-related positions but had contract health workers. They are included in the study analysis. Their breakdown is shown in Table 9.

Table 9. Organizations with Contract Health Workers

Organization Type	Number	Percent
Behavioral Health Services	5	11.4%
School Districts	37	84.1%
Paramedic Sites	2	4.5%
Total	44	100.0%

Estimates and Confidence Intervals

Limitations of the confidence intervals are discussed in Appendix D.

IV. Findings

The sample of 1,064 employment sites is 72.1% of the statewide population (1064/1476). The 764 completed responses is 51.8% of the statewide population (764/1476), and 71.8% of the sample population (764/1064).

Figure 4 and Table 10 break out the 764 responding employment sites by organization type. Figure 5 shows the sample by rural and urban areas. Tables 11 and 12 provide detail on responding organization types by urban and rural regions. In addition, Figure 6 gives information on the responding organizations by geographic regions of the state with Tables 12 and 13 showing detail of organization type by geographic region.

Figure 4. Responding Organizations by Organization Type

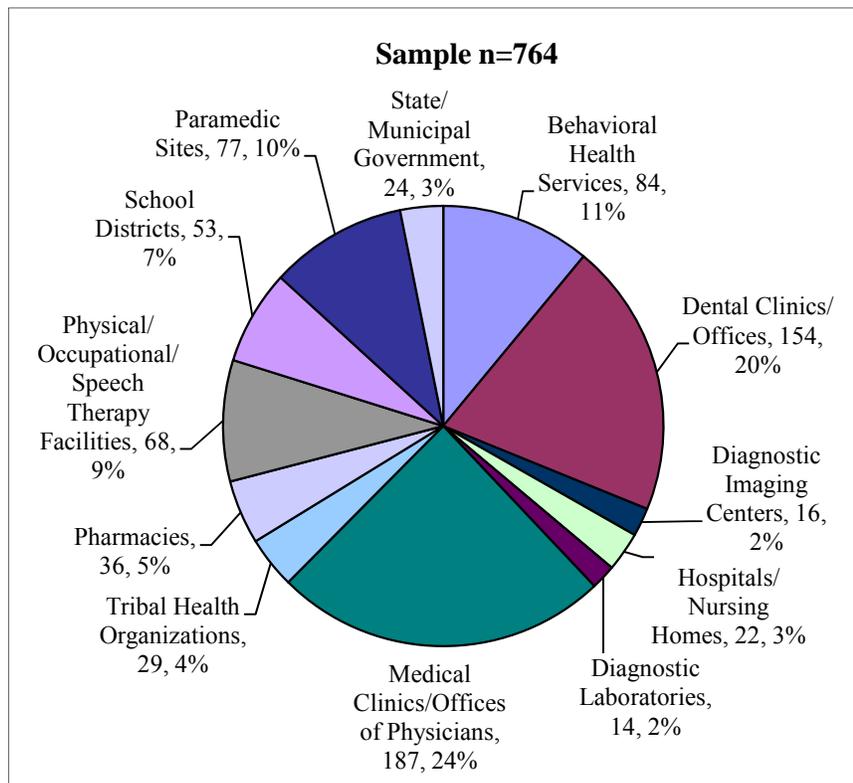


Table 10. Responding Organizations by Organization Type

Organization Type	Respondents	
	Number	Percent
Behavioral Health Services	84	11.0%
Dental Clinics/Offices	154	20.2%
Diagnostic Imaging Centers	16	2.1%
Hospitals/Nursing Homes	22	2.9%
Diagnostic Laboratories	14	1.8%
Medical Clinics/Offices of Physicians	187	24.5%
Tribal Health Organizations	29	3.8%
Pharmacies	36	4.7%
Physical/Occupational/Speech Therapy Facilities	68	8.9%
School Districts	53	6.9%
Paramedic Sites	77	10.1%
State/Municipal Government	24	3.1%
Total	764	100.0%

Figure 5. Responding Organizations by Urban vs. Rural

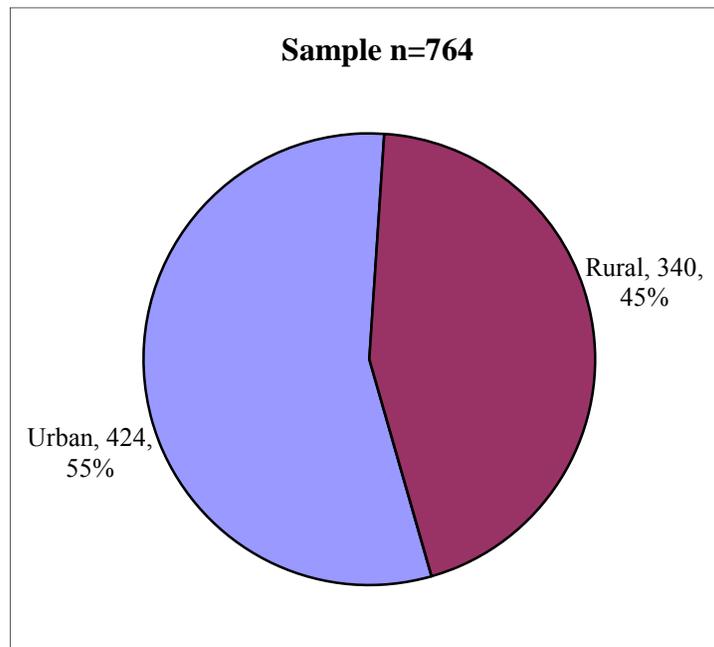


Table 11. Percent within Urban/Rural by Responding Organization Type

Organization Type	Percent within Urban vs. Rural Designation					
	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
Behavioral Health Services	44	10%	40	12%	84	11%
Dental Clinics/Offices	109	26%	45	13%	154	20%
Diagnostic Imaging Centers	12	3%	4	1%	16	2%
Hospitals/Nursing Homes	10	2%	12	4%	22	3%
Diagnostic Laboratories	9	2%	5	1%	14	2%
Medical Clinics/Offices of Physicians	135	32%	52	15%	187	24%
Tribal Health Organizations	8	2%	21	6%	29	4%
Pharmacies	20	5%	16	5%	36	5%
Physical/Occupational/Speech Therapy Facilities	47	11%	21	6%	68	9%
School Districts	6	1%	47	14%	53	7%
Paramedic Sites	21	5%	56	16%	77	10%
State/Municipal Government	3	1%	21	6%	24	3%
Total	424	100%	340	100%	764	100%

Table 12. Percent Urban/Rural Designation by Responding Organization Type

Organization Type	Percent Urban vs. Rural by Organization Type					
	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
Behavioral Health Services	44	52%	40	48%	84	100%
Dental Clinics/Offices	109	71%	45	29%	154	100%
Diagnostic Imaging Centers	12	75%	4	25%	16	100%
Hospitals/Nursing Homes	10	45%	12	55%	22	100%
Diagnostic Laboratories	9	64%	5	36%	14	100%
Medical Clinics/Offices of Physicians	135	72%	52	28%	187	100%
Tribal Health Organizations	8	28%	21	72%	29	100%
Pharmacies	20	56%	16	44%	36	100%
Physical/Occupational/Speech Therapy Facilities	47	69%	21	31%	68	100%
School Districts	6	11%	47	89%	53	100%
Paramedic Sites	21	27%	56	73%	77	100%
State/Municipal Government	3	13%	21	88%	24	100%
Total	424	55%	340	45%	764	100%

Figure 6. Responding Organizations by Geographic Region

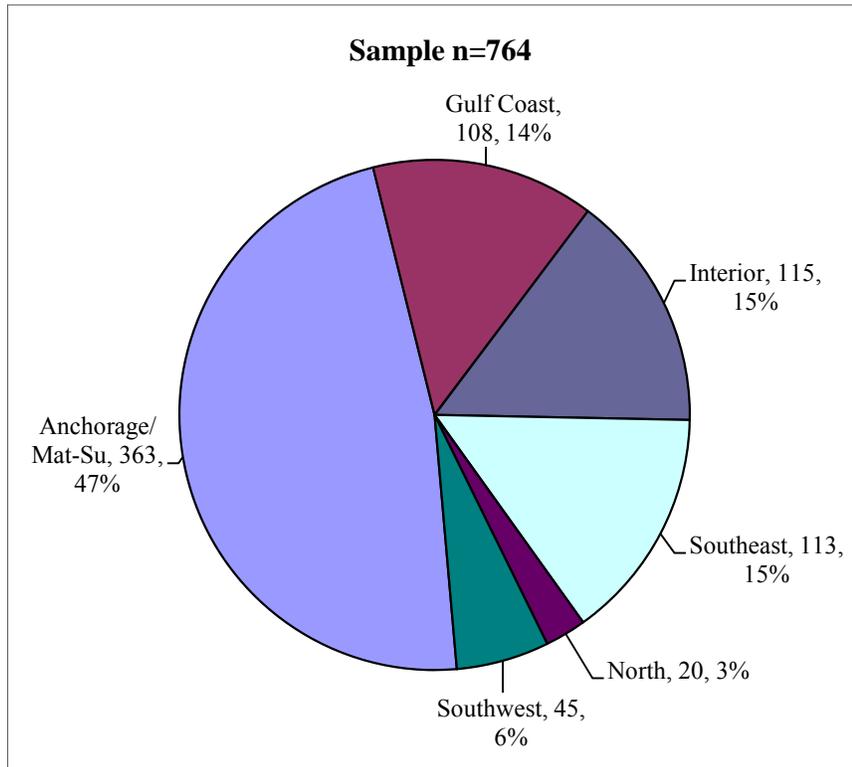


Table 13. Percent within Geographic Region by Responding Organization Type

Organization Type		Anchorage/ Mat-Su	Gulf Coast	Interior	Southeast	North	Southwest	Total
Behavioral Health Services	Number	39	13	11	17	2	2	84
	Percent	11%	12%	10%	15%	10%	4%	11%
Dental Clinics/Offices	Number	92	21	21	15	1	4	154
	Percent	25%	19%	18%	13%	5%	9%	20%
Diagnostic Imaging Centers	Number	11	2	2	1	0	0	16
	Percent	3%	2%	2%	1%	0%	0%	2%
Hospitals/Nursing Homes	Number	7	7	2	6	0	0	22
	Percent	2%	6%	2%	5%	0%	0%	3%
Diagnostic Laboratories	Number	10	1	2	1	0	0	14
	Percent	3%	1%	2%	1%	0%	0%	2%
Medical Clinics/Offices of Physicians	Number	119	15	28	20	0	5	187
	Percent	33%	14%	24%	18%	0%	11%	24%
Tribal Health Organizations	Number	6	10	3	4	2	4	29
	Percent	2%	9%	3%	4%	10%	9%	4%
Pharmacies	Number	15	7	4	10	0	0	36
	Percent	4%	6%	3%	9%	0%	0%	5%
Physical/Occupational/Speech Therapy Facilities	Number	42	10	12	4	0	0	68
	Percent	12%	9%	10%	4%	0%	0%	9%
School Districts	Number	4	4	10	18	4	13	53
	Percent	1%	4%	9%	16%	20%	29%	7%
Paramedic Sites	Number	15	12	15	10	11	14	77
	Percent	4%	11%	13%	9%	55%	31%	10%
State/Municipal Government	Number	3	6	5	7	0	3	24
	Percent	1%	6%	4%	6%	0%	7%	3%
Total	Number	363	108	115	113	20	45	764
	Percent	100%	100%	100%	100%	100%	100%	100%

Table 14. Percent in Geographic Region by Responding Organization Type

Organization Type		Anchorage/ Mat-Su	Gulf Coast	Interior	Southeast	North	Southwest	Total
Behavioral Health Services	Number	39	13	11	17	2	2	84
	Percent	46%	15%	13%	20%	2%	2%	100%
Dental Clinics/Offices	Number	92	21	21	15	1	4	154
	Percent	60%	14%	14%	10%	1%	3%	100%
Diagnostic Imaging Centers	Number	11	2	2	1	0	0	16
	Percent	69%	13%	13%	6%	0%	0%	100%
Hospitals/Nursing Homes	Number	7	7	2	6	0	0	22
	Percent	32%	32%	9%	27%	0%	0%	100%
Diagnostic Laboratories	Number	10	1	2	1	0	0	14
	Percent	71%	7%	14%	7%	0%	0%	100%
Medical Clinics/Offices of Physicians	Number	119	15	28	20	0	5	187
	Percent	64%	8%	15%	11%	0%	3%	100%
Tribal Health Organizations	Number	6	10	3	4	2	4	29
	Percent	21%	34%	10%	14%	7%	14%	100%
Pharmacies	Number	15	7	4	10	0	0	36
	Percent	42%	19%	11%	28%	0%	0%	100%
Physical/Occupational/Speech Therapy Facilities	Number	42	10	12	4	0	0	68
	Percent	62%	15%	18%	6%	0%	0%	100%
School Districts	Number	4	4	10	18	4	13	53
	Percent	8%	8%	19%	34%	8%	25%	100%
Paramedic Sites	Number	15	12	15	10	11	14	77
	Percent	19%	16%	19%	13%	14%	18%	100%
State/Municipal Government	Number	3	6	5	7	0	3	24
	Percent	13%	25%	21%	29%	0%	13%	100%
Total	Number	363	108	115	113	20	45	764
	Percent	48%	14%	15%	15%	3%	6%	100%

To assist with the interpretation of the estimated vacancy rates we have used the following scale in our textual description of the numeric data in the tables.

Vacancy Rate	Descriptor
0% to 5%	Low
6% to 10%	Moderate
11% to 20%	Substantial
21% to 30%	High
Over 30%	Very High

Highlights of the findings are presented in section IV of this report. More detailed information is printed in Appendices E-F. Note: position, vacancies, and vacancy rates are rounded to one decimal place.

A. Quantitative Data

1. General Distribution of Positions and Vacancies

Table 15 lists the 93 identified occupations categorized by specific occupational groups.

Table 15. Categorization of Occupations

Physicians	34. Chemical Dependency/ Substance-Abuse Counselor	69. Community Wellness Advocate
1. Emergency Physician	35. Case Mgr/Care Coordinator	70. Dietitian
2. Family Physician	36. Human Services Worker/HS	71. Health Educator
3. General Internist	37. Human Services Worker/AA	72. Nutritionist
4. Psychiatrist	38. Marital/Family Therapist	73. Village Health Educator
5. Radiation Oncologist	39. Licensed Professional Counselor	74. Community Health Aide/Practitioner (CHA/P)
6. Radiologist	40. Psychiatric Aide/Technician	Managers/Administrators
Professional Nurses	41. Psychologist/Psych Associate	75. Behavioral Health Supervisor—examples:
7. Case Manager/Nurse Case Manager	42. Clinical Psychologist (PhD)	a. Chief Clinical Officer
8. Critical Care/Emergency Room/Intensive Care Unit Nurse	43. Social Worker—BSW, MSW, LCSW	b. Clinical Coordinator
9. Family Nurse Practitioner	Allied Health	c. Clinical Program Coordinators
10. Nurse Anesthetist	44. Clinical Lab Assistant	d. Director of Behavioral Health
11. Nurse Consultant	45. Dental Assistant	e. Village Clinical Supervisor
12. Nurse Educator	46. Dental Health Aide Therapist	76. Health Information Administrator/Director/ Manager
13. Nurse-Midwife	47. Dental Hygienist	77. Hospital Administrator
14. Pediatric Nurse-Practitioner	48. Echocardiography Technician	78. Human Resources Director
15. Psychiatric Nurse	49. EEG Technician	79. Medical Director
16. Psychiatric Nurse- Practitioner	50. EKG Technician	80. Nurse Executive/Director of Nursing
17. Public Health Nurse	51. EMT/ETT	81. Administrator/Director/ CEO/ Manager
18. Registered Nurse	52. Mammographer	Information/Reimbursement
19. Women’s Health Care Nurse Practitioner	53. Massage Therapist	82. Billing Clerk and Technician
20. Nurse Manager	54. Medical Assistant	83. Billing Supervisor
Other Nursing Staff	55. Medical Lab Technician	84. Compliance Officer/Auditor
21. Certified Nursing Assistant	56. Medical Technologist	85. Medical Records Clerk and Technician
22. Home Health Aide	57. MRI/CT Technician	86. Transcriptionist
23. Licensed Practical Nurse	58. Nuclear Medicine Technician	87. Coding Clerk and Technician
24. Personal Care Attendant	59. Paramedic	88. Certified Coder
Other Clinicians/Therapists	60. Pharmacy Technician	89. Coding Specialist
25. Physician Assistant	61. Phlebotomist	Paramedics
26. Dentist	62. Physical Therapy Assistant	90. Paramedic
27. Occupational Therapist	63. Radiologic Technician	91. Emergency Medical
28. Pharmacist	64. Respiratory Therapist	92. Technician I, II, III
29. Physical Therapist	65. Sonographer	93. Firefighter w/EMT Training
30. Speech Therapist	66. Sterile Processing Technician	
31. Speech-Language Pathologist	67. Surgical Technician/ Surgical Technologist	
Behavioral Health	Health Education/Community Wellness	
32. Behavioral Health Aide/Village Counselor	68. Community Health Representative	
33. Behavioral Health Clinician		

The highest estimated vacancy rates were found in Physicians with a 12% vacancy rate and an estimated statewide vacancy of 10.2%; Professional Nurses, an 11.2% vacancy rate and a statewide estimate of 11.6%; Other Clinicians/Therapists, an 11.3% vacancy rate and a statewide estimate of 10.0%; Behavioral Health Services, a 10.2% vacancy rate and 10.1% estimated vacancy rate; and Community Wellness occupations, a vacancy rate of 10.2% and a statewide estimate of 10.7% (see Table 16).

Table 16. Positions, Vacancies, and Vacancy Rates by Occupational Group, Sample and Statewide Estimates

Occupational Group	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Physicians	559.8	67.0	12.0%	964.9	98.5	10.2%
Professional Nurses	3835.8	429.0	11.2%	4638.1	539.8	11.6%
Other Nursing Staff	2160.0	179.5	8.3%	2687.4	232.2	8.6%
Other Clinicians/Therapists	1479.0	167.0	11.3%	1946.0	194.8	10.0%
Behavioral Health	2908.3	295.5	10.2%	3914.2	394.5	10.1%
Allied Health	3542.8	179.5	5.1%	4860.7	265.9	5.5%
Community/Wellness	608.5	62.0	10.2%	643.9	68.9	10.7%
Managers/Administration	1300.0	56.0	4.3%	1905.7	82.9	4.3%
Information/Reimbursement	1824.0	89.5	4.9%	2850.7	127.4	4.5%
Paramedics	1137.0	32.0	2.8%	1402.8	39.5	2.8%

Looking at an urban/rural disaggregation of vacancies from the sample, smaller vacancy numbers (but much higher vacancy rates) were recorded for the rural respondents (Table 17). In the **URBAN** areas, Professional Nurses (10.9% in the sample and 11.0% statewide estimated vacancy rates) and Community Wellness occupations (13.4% sample and 13.3% estimated statewide vacancy rates) remained substantial; however, Physicians dropped (7.2% sample vacancy rate and 6.3% estimated statewide vacancy rate) compared to the overall rates. In the **RURAL** areas, vacancies for Professional Nurses (11.9% vacancy rate, 13.5% statewide estimated vacancy rates) remained high along with Physicians (23.0% sample vacancy rate, 20.5% estimated statewide vacancy rate). In the rural areas, Other Clinicians and Therapists occupations had a 21.0% sample vacancy rate and an 19.0% estimated statewide vacancy rate and Behavioral Health occupations had a vacancy rate of 10.7% and an estimated vacancy rate of 9.4%.

The estimated rural vacancy rate was around three times the urban rate for Physicians (6.3% urban, 20.5% rural), and twice as much for Allied Health occupations (4.1% urban, 9.2% rural). The estimated urban vacancy rate for Health Education/Community Wellness occupations was about one-third higher than the rural rate (8.4% rural, 13.3% urban). Estimated vacancies for urban Paramedics were four times the rural rate (0.8% rural, 3.9% urban).

Table 17. Positions, Vacancies, and Vacancy Rates by Occupational Group and Urban vs. Rural, Sample and Statewide Estimates

Urban	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	390.5	28.0	7.2%	702.4	44.5	6.3%
Professional Nurses	2739.0	298.5	10.9%	3426.6	376.0	11.0%
Other Nursing Staff	1525.5	120.0	7.9%	1852.5	152.1	8.2%
Other Clinicians/Therapists	1021.5	71.0	7.0%	1371.7	85.4	6.2%
Behavioral Health	1759.0	172.0	9.8%	2329.1	245.1	10.5%
Allied Health	2610.0	101.0	3.9%	3560.5	146.3	4.1%
Community/Wellness	291.0	39.0	13.4%	306.1	40.6	13.3%
Managers/Administration	827.0	35.0	4.2%	1282.8	51.3	4.0%
Information/Reimbursement	1273.5	56.0	4.4%	2059.6	85.2	4.1%
Paramedics	737.0	29.0	3.9%	909.3	35.8	3.9%

Rural	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	169.3	39.0	23.0%	262.5	53.9	20.5%
Professional Nurses	1096.8	130.5	11.9%	1211.5	163.8	13.5%
Other Nursing Staff	634.5	59.5	9.4%	834.9	80.1	9.6%
Other Clinicians/Therapists	457.5	96.0	21.0%	574.4	109.4	19.0%
Behavioral Health	1149.3	123.5	10.7%	1585.1	149.4	9.4%
Allied Health	932.8	78.5	8.4%	1300.2	119.6	9.2%
Community/Wellness	317.5	23.0	7.2%	337.8	28.3	8.4%
Managers/Administration	473.0	21.0	4.4%	622.8	31.6	5.1%
Information/Reimbursement	550.5	33.5	6.1%	791.1	42.2	5.3%
Paramedics	400.0	3.0	0.8%	493.5	3.7	0.8%

Table 18 looks at vacancy rates in the sample and statewide estimates across geographic regions. Though their vacancy numbers tend to be much lower than those of more populous regions, the entire rural North and Southwest regions had by far the highest range of vacancy rates and estimated vacancy rates (68.2% and 21.5%, respectively), and reported double-digit rates for several occupational groups.

**Table 18. Positions, Vacancies, and Vacancy Rates
by Occupational Group and Labor Region, Sample and Statewide Estimates**

Anchorage/Mat-Su	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Sum	Vacancies	Vacancy Rate
Physicians	313.0	26.0	8.3%	570.9	42.5	7.5%
Professional Nurses	2224.0	216.5	9.7%	2787.6	264.7	9.5%
Other Nursing Staff	944.5	64.0	6.8%	1258.7	85.9	6.8%
Other Clinicians/Therapists	852.5	64.0	7.5%	1115.3	74.4	6.7%
Behavioral Health	1677.0	137.0	8.2%	2310.0	199.2	8.6%
Allied Health	2272.0	78.5	3.5%	3110.2	111.5	3.6%
Community/Wellness	184.0	15.0	8.2%	197.9	15.0	7.6%
Managers/Administration	678.5	27.0	4.0%	1084.6	40.7	3.8%
Information/Reimbursement	1065.5	43.0	4.0%	1789.7	60.0	3.4%
Paramedics	589.0	8.0	1.4%	726.7	9.9	1.4%

Gulf Coast	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	50.0	7.0	14.0%	82.6	13.4	16.2%
Professional Nurses	405.5	48.5	12.0%	450.6	65.7	14.6%
Other Nursing Staff	273.0	33.0	12.1%	333.8	43.1	12.9%
Other Clinicians/Therapists	134.0	27.5	20.5%	171.3	32.5	19.0%
Behavioral Health	260.0	16.0	6.2%	438.8	23.9	5.5%
Allied Health	298.8	26.0	8.7%	416.0	45.5	10.9%
Community/Wellness	44.0	4.0	9.1%	53.6	5.6	10.5%
Managers/Administration	155.3	4.0	2.6%	207.1	7.7	3.7%
Information/Reimbursement	173.0	9.0	5.2%	257.8	14.2	5.5%
Paramedics	201.0	0.0	0.0%	248.0	0.0	0.0%

Interior	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	49.5	5.5	11.1%	117.3	12.7	10.8%
Professional Nurses	464.5	66.0	14.2%	579.3	94.8	16.4%
Other Nursing Staff	278.0	47.0	16.9%	330.9	58.1	17.6%
Other Clinicians/Therapists	254.0	19.5	7.7%	373.9	26.0	7.0%
Behavioral Health	283.0	36.0	12.7%	370.8	48.9	13.2%
Allied Health	444.0	22.0	5.0%	634.7	33.2	5.2%
Community/Wellness	81.0	19.0	23.5%	89.2	20.6	23.1%
Managers/Administration	108.0	5.0	4.6%	182.3	7.3	4.0%
Information/Reimbursement	243.5	12.0	4.9%	362.5	21.7	6.0%
Paramedics	165.0	20.0	12.1%	203.6	24.7	12.1%

**Table 18. Positions, Vacancies, and Vacancy Rates
by Occupational Group and Labor Region, Sample and Statewide Estimates (continued)**

Southeast	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	95.0	6.0	6.3%	133.4	6.5	4.9%
Professional Nurses	471.0	34.0	7.2%	534.3	40.9	7.7%
Other Nursing Staff	582.5	24.0	4.1%	663.3	29.5	4.4%
Other Clinicians/Therapists	149.5	25.0	16.7%	186.7	28.5	15.2%
Behavioral Health	273.5	33.5	12.2%	355.8	46.3	13.0%
Allied Health	304.0	28.0	9.2%	430.1	41.1	9.6%
Community/Wellness	64.5	6.0	9.3%	64.5	6.0	9.3%
Managers/Administration	238.0	14.0	5.9%	297.2	17.1	5.8%
Information/Reimbursement	219.0	9.0	4.1%	297.2	12.7	4.3%
Paramedics	83.0	1.0	1.2%	102.4	1.2	1.2%

North	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	22.0	15.0	68.2%	22.0	15.0	68.2%
Professional Nurses	63.0	28.0	44.4%	63.0	28.0	44.4%
Other Nursing Staff	23.0	6.0	26.1%	23.5	6.0	25.5%
Other Clinicians/Therapists	28.0	11.0	39.3%	28.8	11.8	41.0%
Behavioral Health	103.5	15.0	14.5%	103.5	15.0	14.5%
Allied Health	58.0	12.0	20.7%	60.5	12.8	21.2%
Community/Wellness	57.0	4.0	7.0%	57.0	4.0	7.0%
Managers/Administration	41.0	4.0	9.8%	42.3	4.8	11.4%
Information/Reimbursement	45.0	5.0	11.1%	46.3	5.0	10.8%
Paramedics	74.0	3.0	4.1%	91.3	3.7	4.1%

Southwest	Sample			Estimate		
Occupational Group	Positions	Vacancies	Vacancy Rate	Positions	Vacancies	Vacancy Rate
Physicians	30.3	7.5	24.8%	38.7	8.3	21.5%
Professional Nurses	207.8	36.0	17.3%	223.4	45.6	20.4%
Other Nursing Staff	59.0	5.5	9.3%	77.1	9.5	12.3%
Other Clinicians/Therapists	61.0	20.0	32.8%	69.9	21.6	30.9%
Behavioral Health	311.3	58.0	18.6%	335.4	61.2	18.2%
Allied Health	166.0	13.0	7.8%	209.1	21.9	10.5%
Community/Wellness	178.0	14.0	7.9%	181.7	17.7	9.7%
Managers/Administration	79.3	2.0	2.5%	92.2	5.2	5.6%
Information/Reimbursement	82	12	14.0%	108	14	13.1%
Paramedics	25	0	0.0%	31	0	0.0%

Physician estimated vacancy rates were highest in the North region at 68.2% with the Southwest region a distance second, yet high, at 21.5%, followed by the Gulf Coast (16.2%). Professional Nurses had its highest estimated vacancy rate in the North region at 44.4% along with other Nursing staff occupations at 25.5% and Other Clinicians and Therapists at 41.0%. Interior had the highest estimated vacancy rates for Health Education/Community Wellness positions at 20.6%, Health Information occupations at 6.0%, and Paramedic positions at 12.1%. The Southeast region had the highest estimated vacancy rate for Manger positions at 5.8%.

2. Occupational Highlights

a. Occupations with Most Estimated Positions

Table 19 presents health occupations with at least 1,000 estimated positions including vacancies. These 6 occupations represented 9,276.4 estimated positions—approximately 36.27% of the estimated positions statewide (see Appendix F for all Occupations Sorted by Estimated Positions).

Table 19. Positions, Vacancies, and Vacancy Rates for Occupations with 1,000 or more Estimated Positions, Sample and Statewide Estimates*

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Registered Nurse	2,680.8	273.5	10.2%	3176.0	321.6	10.1%
Certified Nurse Asst	1,245.5	102.0	8.2%	1,444.9	120.0	8.3%
Administrator/Director/CEO/Manager	837.0	25.0	3.0%	1,246.4	33.5	2.7%
Behavioral Health Human Services Worker–HS	804.0	104.0	12.9%	1,198.9	146.4	12.2%
Firefighter with Emergency Medical Service	903.0	26.0	2.9%	1,114.1	32.1	2.9%
Billing Clerk/Technician	689.5	37.0	5.4%	1,096.1	58.6	5.3%

*See Appendix F for a list of occupations sorted by estimated positions

Registered Nurse and Certified Nurse Assistant were the most numerous primary health-care occupations, with 3,176.0 and 1,444.9 estimated positions, respectively. Managerial occupations had 1,246.4 estimated positions. Human Services Worker-HS (1,198.9) includes Activity Therapist, Crisis Center Advocate, Direct Care Provider, Direct Support Personnel, Family Services Worker, Family Services Caseworker, Family Advocate, Individual Services Provider, Life Coach/Life Skills Specialist, Mental Health Associate, and Residential Aide. Completing the list were Firefighter with Emergency Medical Service (1,114.1), and Billing Clerk/Technician (1,096.1).

Occupations with fewer than 1,000 but at least 500 estimated statewide positions are shown in Table 20.

Table 20. Positions, Vacancies, and Vacancy Rates for Occupations with < 1,000 and > 500 Estimated Positions, Sample and Statewide Estimates*

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Dental Assistant	574.0	34.0	5.9%	968.3	61.7	6.4%
Behavioral Health Case Manager	774.5	23.0	3.0%	819.9	27.8	3.4%
Medical Assistant	620.5	33.0	5.3%	810.2	48.7	6.0%
Family Physician	357.0	13.5	3.8%	706.7	30.3	4.3%
Records Clerk/Technician	438.5	28.5	6.5%	629.1	37.2	5.9%
Personal Care Attendant	315.8	43.0	13.6%	615.4	67.1	10.9%
Licensed Practical Nurse	463.5	22.0	4.7%	590.8	32.5	5.5%
Dentist	393.0	44.5	11.3%	578.6	68.2	11.8%
Dental Hygienist	318.0	12.0	3.8%	551.3	14.5	2.6%

*See Appendix F for a list of occupations sorted by estimated positions

Figuring prominently were Dental Assistant, Behavioral Health Case Manager, and Medical Assistant with the key primary-care occupation of Family Physician. The remaining key dental occupations, Dentist and Dental Hygienist, were also present. The “back office” occupations—Records Clerk/Technician—were numerous. Rounding out the list of occupations with at least 500 estimated positions is Personal Care Attendant.

b. Occupations with Most Estimated Vacancies

Table 21 shows the occupations with at least 100 estimated vacancies statewide. These are composed entirely of nursing and behavioral-health occupations: Registered Nurse, Behavioral Health Human Services Worker–HS, and Certified Nurse Assistant. They represent occupations with the largest unmet employer demand: 588.1 estimated vacancies and approximately 28.8% of total estimated health-occupation vacancies (see Appendix F all occupations sorted by estimated vacancies).

Table 21. Occupations with Most Estimated Statewide Vacancies (at least 100), Sample and Statewide Estimates*

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Registered Nurse	2680.8	273.5	10.2%	3176.0	321.6	10.1%
Human Services Worker–HS	804.0	104.0	12.9%	1198.9	146.4	12.2%
Certified Nurse Assistant	1245.5	102.0	8.2%	1444.9	120.0	8.3%

*See Appendix F for a list of occupations sorted by estimated vacancies

Occupations with fewer than 100 but at least 50 estimated vacancies statewide are presented in Table 22. Two key primary-care occupations (Family Physician and Family Nurse Practitioner) are listed. Dental Assistant, Billing Clerk/Technician, and Licensed Practical Nurse also had over 50 estimated vacancies.

Table 22. Occupations with 50-99 Estimated Statewide Vacancies, Sample and Statewide Estimates*

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Licensed Practical Nurse	393.0	44.5	11.3%	578.6	68.2	11.8%
Family Physician	315.8	43.0	13.6%	615.4	67.1	10.9%
Dental Assistant	574.0	34.0	5.9%	968.3	61.7	6.4%
Billing Clerk/Technician	689.5	37.0	5.4%	1096.1	58.6	5.3%
Family Nurse Practitioner	193.0	36.5	18.9%	337.3	58.2	17.2%

*See Appendix F for a list of occupations sorted by estimated vacancies

c. Occupations with Highest Estimated Vacancy Rates

Table 23 presents occupations with estimated vacancy rates of 20% and higher (see Table 27 for all occupations sorted by estimated vacancy rates). These represent the occupations with the highest percentages of unmet employer demand. Among those with at least 20% estimated vacancy rates were Radiation Oncologist, Allied Health Paramedic, Pediatric Nurse Practitioner, Physical Therapy Assistant, Nurse Midwife, Dietitian, Occupational Therapist, Women's Health Care Nurse Practitioner, and Psychiatric Nurse Practitioner.

Table 23. Occupations with Highest Vacancy Rates*, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Radiation Oncologist	5.0	3.0	60.0%	5.0	3.0	60.0%
Allied Health Paramedic	9.0	4.0	44.4%	9.0	4.0	44.4%
Pediatric Nurse Practitioner	15.0	4.0	26.7%	27.8	10.4	37.4%
Physical Therapy Assistant	53.0	16.0	30.2%	62.3	17.8	28.5%
Nurse Midwife	25.0	4.0	16.0%	41.0	10.4	25.4%
Dietitian	36.5	9.0	24.7%	37.2	9.0	24.2%
Occupational Therapist	115.0	26.0	22.6%	128.5	29.3	22.8%
Women's Health-Care Nurse Practitioner	23.0	5.0	21.7%	51.9	11.4	22.0%
Psychiatric Nurse Practitioner	25.0	6.0	24.0%	41.9	8.6	20.5%

*See Appendix F for a list of occupations sorted by estimated vacancy rates

Four additional occupations had at least 20 estimated vacancies and an estimated vacancy rate of at least 15% (Table 24):

- Family Nurse Practitioner—estimated vacancies, 58.2; estimated vacancy rate, 17.2%
- Physical Therapist—estimated vacancies, 46.2; estimated vacancy rate, 15.8%
- Chemical/Substance Counselor—estimated vacancies, 48; estimated vacancy rate, 15.4%
- Critical Care/Emergency Room/Intensive Care Unit Nurse—estimated vacancies, 44.8; estimated vacancy rate, 15.0%

Table 24. Positions, Vacancies, and Vacancy Rates for Occupations with at Least 20 Estimated Vacancies (and an estimated vacancy rate of at least 15%), Sample and Statewide Estimates*

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Family Nurse Practitioner	193.0	36.5	18.9%	337.3	58.2	17.2%
Physical Therapist	245.0	40.5	16.5%	292.5	46.2	15.8%
Home Health Aide	58.0	11.0	19.0%	73.2	11.5	15.7%
Speech Therapist	56.5	8.5	15.0%	63.4	9.9	15.5%
Chemical Substance Counselor	225.0	37.0	16.4%	311.0	48.0	15.4%
Nurse Consultant	5.0	1.0	20.0%	6.6	1.0	15.1%
Critical Care/Emergency Room/Intensive Care Unit Nurse	264.0	40.0	15.2%	299.3	44.8	15.0%

*See Appendix F for a list of occupations sorted by estimated vacancy rates

d. Occupations with Most Estimated Vacancies for New Graduates

Respondents were asked to indicate how many of their current vacancies they would consider filling with “new graduates” (e.g., recent nursing school graduates, MDs completing residencies, or HS or AA graduates for positions with on-the-job training). The intention was to gauge the ability of the job market to absorb new graduates/trainees in order to plan training expansions and/or recruitment campaigns. Table 25 lists those occupations with at least 20 estimated vacancies that respondents said they would consider filling these with “new graduates.”

**Table 25. Sample and Estimated Vacancies for Occupations with at least 20
Estimated Vacancies Willing to Hire New Graduates**

	Occupation	Sample	Estimate
		Current Vacancies Could Fill with New Graduates	Current Vacancies Could Fill with New Graduates
Behavioral Health	Human Services Worker-HS	79	121
Other Nursing Staff	Certified Nurse Assistant	89	102
Professional Nurses	Registered Nurse	64	96
Other Nursing Staff	Licensed Practical Nurse	33	48
Allied Health	Dental Assistant	25	44
Professional Nurses	Family Nurse Practitioner	23	43
Physicians	Family Physician	27	42
Behavioral Health	Case Manger	28	42
Information and Reimbursement	Billing Clerk/Technician	25	39
Allied Health	Dental Hygienist	21	39
Behavioral Health	Clinician	28	38
Other Clinicians/Therapists	Physical Therapist	32	37
Behavioral Health	Chemical and Substance Counselor	23	32
Other Nursing Staff	Personal Care Attendant	21	32
Other Clinicians/Therapists	Physician Assistant	17	30
Behavioral Health	Human Services Worker Degree	20	29
Other Clinicians/Therapists	Occupational Therapist	24	27
Allied Health	Medical Assistant	12	27
Information and Reimbursement	Records Clerk/Technician	21	26
Health Education and Community Wellness	Community Health Aide/ Practitioner	24	26
Other Clinicians/Therapists	Pharmacist	23	24

3. Highlighted Occupations

In this section, emphasis is placed on estimated vacancies and vacancy rates. See Appendix E for sample and statewide estimated positions, vacancies, and vacancy rates for each occupation presented by organization type, urban versus rural areas, and geographic regions.

a. Physicians

Table 26 presents the sample and statewide estimates for positions, vacancies, and vacancy rates for physicians. The category of “physician” includes Surgeons and Doctors of Osteopathic Medicine (DOs) but does not include Naturopaths, Chiropractors, or Podiatrists.

**Table 26. Physician Positions, Vacancies, and Vacancy Rates,
Sample and Statewide Estimates**

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Emergency Physician	43.5	2.0	4.6%	59.8	2.0	3.3%
Family Physician	315.8	43.0	13.6%	615.4	67.1	10.9%
General Internist	93.5	5.0	5.3%	147.2	11.4	7.8%
Psychiatrist	61.0	10.0	16.4%	86.9	11.0	12.7%
Radiation Oncologist	5.0	3.0	60.0%	5.0	3.0	60.0%
Radiologist	41.0	4.0	9.8%	50.6	4.0	7.9%

Substantial numbers of positions were reported in the sample and statewide estimates for Family Physician (315.8 sample; 615.4 statewide estimate) and for Psychiatrist (61.0 sample; 86.9 statewide estimate). These occupations had estimated vacancy rates of 10.9% and 12.7%, respectively. Lower numbers of vacancies and vacancy rates (in both the sample and statewide estimates) were reported for Emergency Physician (2.0, 4.6% sample; 2.0, 3.3% statewide estimate). Vacancies and vacancy rates were estimated for three specialists—General Internist (11.4, 7.8%), Radiation Oncologist (3.0, 60.0%), and Radiologist (4.0, 7.9%). The very high vacancy rates for both sample and statewide estimates for Radiation Oncologist should be considered with caution because four of the five are located in Anchorage and represent only two of the three vacancies.

Most of the physicians were concentrated among Medical Clinics/Offices of Physicians, Hospitals/Nursing Homes, and Tribal Health Organizations (Table 27). Four of the organization types did not have these physicians—School Districts; Pharmacies; Diagnostic Laboratories; and Physical, Occupational, and Speech Therapy facilities.

Table 27. Physician Vacancies by Organization Type

Occupation	Medical Clinics/ Offices of Physicians		Hospitals/Nursing Homes		Tribal Health Organizations	
	Vacancies	Vacancy Rates	Vacancies	Vacancy Rates	Vacancies	Vacancy Rates
Emergency Physician	0.0	0.0%	0.0	0.0%	2.0	10.5%
Family Physician	39.1	8.1%	2.0	14.8%	26.0	22.6%
General Internist	10.4	11.9%	1.0	2.2%	0.0	0.0%
Psychiatrist	0.0	0.0%	5.0	18.5%	3.0	27.3%
Radiation Oncologist		NP		NP	1.0	50.0%
Radiologist	0.0	0.0%	0.0	0.0%	4.0	21.1%

NP=No Positions Reported

Each of the remaining organizational types reported one or two types of physician. Table 28 shows their estimated vacancies and vacancy rates.

Table 28. Organization Types that Include Only 1 or 2 Physician Occupations, Estimated Vacancies and Vacancy Rates for Physician Occupations

Organization Type	Occupation	Estimated Vacancies	Estimated Vacancy Rates
Behavioral Health Services	Psychiatrist	3.0	20.0%
Paramedic	Emergency Physician	0.0	0.0%
Dental Clinics	Family Physician	0.0	0.0%
Diagnostic Imaging	Radiation Oncologist	2.0	66.7%
	Radiologist	0.0	0.0%

The estimated vacancy rate for Emergency Physicians in urban Alaska was 0.0% compared to 8.0% in rural areas (Table 29). Similarly, Radiologists had a 0.0% urban vacancy rate compared to 33.3% in rural Alaska. The urban rate for Family Physicians was 5.9%, and the rural rate was 23.5%. The estimated urban rate for General Internists was 6.6%, and the rural rate was 12.9%.

Table 29. Positions, Vacancies, and Vacancy Rates for Physician Occupations in Urban and Rural Areas

Occupation	Urban Areas Sample			Urban Areas Estimate			Rural Areas Sample			Rural Areas Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Emergency Physician	20.0	0.0	0.0%	34.7	0.0	0.0%	23.5	2.0	8.5%	25.1	2.0	8.0%
Family Physician	218.0	15.0	6.9%	441.8	26.2	5.9%	97.8	28.0	28.6%	173.6	40.8	23.5%
General Internist	73.5	3.0	4.1%	119.2	7.8	6.6%	20.0	2.0	10.0%	28.0	3.6	12.9%
Psychiatrist	46.0	8.0	17.4%	64.0	8.5	13.3%	15.0	2.0	13.3%	22.8	2.5	11.0%
Radiation Oncologist	4.0	2.0	50.0%	4.0	2.0	50.0%	1.0	1.0	100.0%	1.0	1.0	100.0%
Radiologist	29.0	0.0	0.0%	38.6	0.0	0.0%	12.0	4.0	33.3%	12.0	4.0	33.3%

Looking at physicians by region, we noted the following statewide estimates (see Table 30):

Emergency Physician. Positions reported in all but one (North) of the six labor-market regions. Only the Southwest Region reported vacancies (2 vacancies; 20% vacancy rate for the sample and statewide estimates).

Family Physician. Vacant positions reported in each region, with the lowest estimated rates in Southeast (3.0 vacancies, 3.5% vacancy rate) and the highest in the North region (10.0, 58.8%). The large percentage difference was due to the greater total number of family practice physicians in the Southeast region than in the North. Estimates in the remaining regions were Anchorage (21.6, 5.9%), Gulf Coast (13.4, 25.4%); Interior (12.7, 19.0%); and Southwest (6.3, 25.5%).

General Internist. No positions reported in the North or Southwest regions, and no vacancies reported in the Gulf Coast or Interior regions. Anchorage had the highest estimated number of vacancies (10.4), and a vacancy rate of 12.5%; the Southeast region had 1 estimated vacancy and a vacancy rate of 4.8%.

Psychiatrist. Positions reported in all six labor-market regions; however, only three regions reported vacancies: North (1, 100%); Southeast (2.5, 20.0%); and Anchorage (7.5, 14.5%). The Gulf Coast, Interior, and Southwest regions reported no vacancies.

Radiation Oncologist. As noted earlier, all Radiation Oncologist positions were located in Anchorage, with the estimated number of vacancies at 3 and a vacancy rate of 60.0%.

Radiologist. The highest number of Radiologists were located in Anchorage. All regions, except the North, had estimates of zero vacancies and 0% vacancy rate. The North labor region had 4.0 vacancies and a 100% vacancy rate.

Table 30. Positions, Vacancies, and Vacancy Rates for Physician Occupations by Geographic Regions

Occupation	Anchorage Sample			Anchorage Estimate			Gulf Coast Sample			Gulf Coast Estimate			Interior Sample			Interior Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Emergency Physician	17.0	0.0	0.0%	29.8	0.0	0.0%	9.5	0.0	0.0%	11.1	0.0	0.0%	2.0	0.0	0.0%	2.2	0.0	0.0%
Family Physician	169.0	12.0	7.1%	368.8	21.6	5.9%	25.5	7.0	27.5%	52.8	13.4	25.4%	27.0	5.5	20.4%	67.1	12.7	19.0%
General Internist	61.0	4.0	6.6%	83.5	10.4	12.5%	7.0	0.0	0.0%	7.0	0.0	0.0%	14.5	0.0	0.0%	36.2	0.0	0.0%
Psychiatrist	37.0	7.0	18.9%	51.8	7.5	14.5%	5.0	0.0	0.0%	8.7	0.0	0.0%	5.0	0.0	0.0%	10.8	0.0	0.0%
Radiation Oncologist	5.0	3.0	60.0%	5.0	3.0	60.0%			NP			NP			NP			NP
Radiologist	24.0	0.0	0.0%	32.0	0.0	0.0%	3.0	0.0	0.0%	3.0	0.0	0.0%	1.0	0.0	0.0%	1.0	0.0	0.0%

Occupation	Southeast Sample			Southeast Estimate			North Sample			North Estimate			Southwest Sample			Southwest Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Emergency Physician	5.0	0.0	0.0%	6.6	0.0	0.0%			NP			NP	10.0	2.0	20.0%	10.0	2.0	20.0%
Family Physician	61.0	3.0	4.9%	85.1	3.0	3.5%	17.0	10.0	58.8%	17.0	10.0	58.8%	16.3	5.5	33.8%	24.7	6.3	25.5%
General Internist	11.0	1.0	9.1%	20.6	1.0	4.8%			NP			NP			NP			NP
Psychiatrist	11.0	2.0	18.2%	12.5	2.5	20.0%	1.0	1.0	100.0%	1.0	1.0	100.0%	2.0	0.0	0.0%	2.0	0.0	0.0%
Radiation Oncologist			NP			NP			NP			NP			NP			NP
Radiologist	7.0	0.0	0.0%	8.6	0.0	0.0%	4.0	4.0	100.0%	4.0	4.0	100.0%	2.0	0.0	0.0%	2.0	0.0	0.0%

NP=No Positions Reported

b. Professional Nurses

Table 31 presents the sample and statewide estimates for Professional Nursing occupations (Licensed Practical Nurses are included with Other Nursing Staff). Statewide estimates indicated high vacancy rates of more than 20% for some nurse specialties: Nurse Midwife (25.4%), Pediatric Nurse Practitioner (37.4%) Psychiatric Nurse Practitioner (20.5%), and Women’s Health-Care Nurse Practitioner (22.0%). The following nursing occupations showed high rates of vacancies in both the sample and statewide estimate: Nurse Case Manager (11.8%), Critical Care/Emergency Room/Intensive-Care-Unit Nurse (15.0%), and Family Nurse Practitioner (17.2%). Nurse Managers, Psychiatric Nurses, and Psychiatric Nurse Practitioners also had a significant number of estimated vacancies (16.3, 11.0, 8.6, respectively), with estimated vacancy rates of 11.0%, 12.9%, and 20.5%, respectively.

Table 31. Professional Nursing Occupations, Positions, Vacancies, and Vacancy Rates by Sample and Statewide Estimates

Occupations	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manger	218.0	22.0	10.1%	262.5	31.0	11.8%
Critical Care/Emergency Room/Intensive Care Unit Nurse	264.0	40.0	15.2%	299.3	44.8	15.0%
Family Nurse Practitioner	193.0	36.5	18.9%	337.3	58.2	17.2%
Nurse Anesthetist	27.0	0.0	0.0%	27.0	0.0	0.0%
Nurse Consultant	5.0	1.0	20.0%	6.6	1.0	15.1%
Nurse Educator	47.0	5.0	10.6%	53.4	5.0	9.4%
Nurse Manager	123.0	11.0	8.9%	149.0	16.3	11.0%
Nurse Midwife	25.0	4.0	16.0%	41.0	10.4	25.4%
Pediatric Nurse Practitioner	15.0	4.0	26.7%	27.8	10.4	37.4%
Psychiatric Nurse	82.0	11.0	13.4%	85.2	11.0	12.9%
Psychiatric Nurse Practitioner	25.0	6.0	24.0%	41.9	8.6	20.5%
Public Health Nurse	131.0	10.0	7.6%	131.0	10.0	7.6%
Registered Nurse	2,680.8	273.5	10.2%	3,176.0	321.6	10.1%
Women's Health-Care Nurse Practitioner	23.0	5.0	21.7%	51.9	11.4	22.0%

The estimated Registered Nurse vacancy rate was 10.1%, representing an estimated 321.6 vacancies, with 273.5 vacancies reported in the sample alone. Nurse Anesthetist was the only nurse occupation with 0 vacancies.

Public Health Nurses reported vacancies at 10.0 and a moderate vacancy rate of 7.6%.

No professional nursing occupations were reported from Pharmacies, Diagnostic Laboratories, PT/OT/ST facilities, or Paramedics. Dental Clinics and Diagnostic Imaging facilities had one or two positions in the sample or estimates (see Table 32). School Districts rely heavily on Registered Nurses and reported a low sample vacancy at 6.0, with a statewide estimated vacancy rate at 4.8%.

Each of the four organization types with the highest utilization of professional nurses had at least one nursing occupation with an estimated vacancy rate greater than 20% in various specialty areas:

Behavioral Health Services. Psychiatric Nurse Practitioner, estimated vacancy rate, 40.0%.

Tribal Health Facilities. Critical Care/Emergency Room/Intensive Care Unit, 26.7%; Family Nurse Practitioner, 25.0%; Nurse Educator, 20.0%; Psychiatric Nurse, 66.7%; Public Health Nurse, 100%; and Women’s Health Care Nurse Practitioner, 33.3%.

Hospitals and Nursing Homes. Nurse Consultant, 25.0%; Psychiatric Nurse Practitioner, 37.5%.

Medical Clinics and Offices of Physicians. Nurse Case Manager, 26.3%; Nurse Manager, 21.4%; Nurse Midwife, 40.0%; Pediatric Nurse Practitioner, 50.0%; and Women’s Health Care Nurse Practitioner, 22.2%.

Registered Nurses (RNs) showed substantial sample and estimated vacancy rates in Hospitals and Nursing Homes (10.2% in sample and estimate), Behavioral Health Services (12.5% in sample and estimate), and Tribal Health Organizations (11.4% in sample and estimate). Estimated vacancy rates for RNs in Medical Clinics and Offices of Physicians were slightly lower at 9.5%, and just 4.8% in School Districts. These RNs include all skill levels—novice to advanced—and do not correspond to a need for new nursing graduates.

Nurse Case Managers had the highest number of reported positions concentrated in Tribal Health Organizations (128.0 in both sample and statewide estimates) and estimated vacancy rates of 7.8%. Medical Clinics/Offices of Physicians had the highest estimated vacancy rate at 26.3%, with 13.0 estimated vacancies.

Hospitals/Nursing Homes had the highest number of Critical Care/Emergency Room/Intensive Care Unit Nurse positions (227.0). Tribal Health Organizations had the highest estimated vacancy rate at 26.7%, for 4.0 estimated vacancies.

Family Nurse Practitioners at Tribal Health Organizations, Hospitals/Nursing Homes, and Medical Clinics/Offices of Physicians had vacancies that exceeded 10% (25.0%, 15.0%, 15.2%, respectively).

**Table 32. Nursing Occupations Positions, Vacancies, and Vacancy Rates
by Organization Type, Sample and Statewide Estimates**

Occupation	Behavioral Health Services						Dental Clinics/Offices						Diagnostic Imaging Centers					
	Sample			Estimate			Sample			Estimate			Sample			Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manager	28.0	2.0	7.1%	42.0	3.0	7.1%			NP			NP			NP			NP
Critical Care/Emergency Room/Intensive Care Unit Nurse			NP			NP			NP			NP			NP			NP
Family Nurse Practitioner	1.0	0.0	0.0%	1.5	0.0	0.0%	1.0	0.0	0.0%	1.8	0.0	0.0%			NP			NP
Nurse Anesthetist			NP			NP			NP			NP			NP			NP
Nurse Consultant			NP			NP			NP			NP			NP			NP
Nurse Educator			NP			NP			NP			NP			NP			NP
Nurse Manager	7.0	1.0	14.3%	10.5	1.5	14.3%			NP			NP			NP			NP
Nurse Midwife			NP			NP			NP			NP			NP			NP
Pediatric Nurse Practitioner			NP			NP			NP			NP			NP			NP
Psychiatric Nurse			NP			NP			NP			NP			NP			NP
Psychiatric Nurse Practitioner	5.0	2.0	40.0%	7.5	3.0	40.0%			NP			NP			NP			NP
Public Health Nurse			NP			NP			NP			NP			NP			NP
Registered Nurse	64.0	8.0	12.5%	96.0	12.0	12.5%	1.0	0.0	0.0%	1.8	0.0	0.0%	2.0	1.0	50.0%	2.0	1.0	50.0%
Women's Health Care Nurse Practitioner			NP			NP			NP			NP			NP			NP

NP=No Positions Reported

Table 32. Nursing Occupations Positions, Vacancies, and Vacancy Rates by Organization Type, Sample and Statewide Estimates (continued)

Occupation	Hospitals/Nursing Homes						Medical Clinics/Offices of Physicians						Tribal Health Organizations					
	Sample			Estimate			Sample			Estimate			Sample			Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manager	43.0	5.0	11.6%	43.0	5.0	11.6%	19.0	5.0	26.3%	49.5	13.0	26.3%	128.0	10.0	7.8%	128.0	10.0	7.8%
Critical Care/Emergency Room/Intensive Care Unit Nurse	227.0	33.0	14.5%	227.0	33.0	14.5%	22.0	3.0	13.6%	57.3	7.8	13.6%	15.0	4.0	26.7%	15.0	4.0	26.7%
Family Nurse Practitioner	20.0	3.0	15.0%	20.0	3.0	15.0%	89.0	13.5	15.2%	231.8	35.2	15.2%	80.0	20.0	25.0%	80.0	20.0	25.0%
Nurse Anesthetist	6.0	0.0	0.0%	6.0	0.0	0.0%			NP			NP	21.0	0.0	0.0%	21.0	0.0	0.0%
Nurse Consultant	4.0	1.0	25.0%	4.0	1.0	25.0%	1.0	0.0	0.0%	2.6	0.0	0.0%			NP			NP
Nurse Educator	38.0	4.0	10.5%	38.0	4.0	10.5%	4.0	0.0	0.0%	10.4	0.0	0.0%	5.0	1.0	20.0%	5.0	1.0	20.0%
Nurse Manager	88.0	6.0	6.8%	88.0	6.0	6.8%	14.0	3.0	21.4%	36.5	7.8	21.4%	14.0	1.0	7.1%	14.0	1.0	7.1%
Nurse Midwife	3.0	0.0	0.0%	3.0	0.0	0.0%	10.0	4.0	40.0%	26.0	10.4	40.0%	12.0	0.0	0.0%	12.0	0.0	0.0%
Pediatric Nurse Practitioner	5.0	0.0	0.0%	5.0	0.0	0.0%	8.0	4.0	50.0%	20.8	10.4	50.0%	2.0	0.0	0.0%	2.0	0.0	0.0%
Psychiatric Nurse	77.0	9.0	11.7%	77.0	9.0	11.7%	2.0	0.0	0.0%	5.2	0.0	0.0%	3.0	2.0	66.7%	3.0	2.0	66.7%
Psychiatric Nurse Practitioner	8.0	3.0	37.5%	8.0	3.0	37.5%	9.0	1.0	11.1%	23.4	2.6	11.1%	3.0	0.0	0.0%	3.0	0.0	0.0%
Public Health Nurse	3.0	0.0	0.0%	3.0	0.0	0.0%			NP			NP	5.0	5.0	100.0%	5.0	5.0	100.0%
Registered Nurse	1,629.0	166.0	10.2%	1,629.0	166.0	10.2%	288.3	27.5	9.5%	750.7	71.6	9.5%	571.0	65.0	11.4%	571.0	65.0	11.4%
Women's Health Care Nurse Practitioner			NP			NP	18.0	4.0	22.2%	46.9	10.4	22.2%	3.0	1.0	33.3%	3.0	1.0	33.3%

NP=No Positions Reported

**Table 32. Nursing Occupations Positions, Vacancies, and Vacancy Rates
by Organization Type, Sample and Statewide Estimates (continued)**

Occupation	School Districts						Paramedic Sites					
	Sample			Estimates			Sample			Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manager			NP			NP			NP			NP
Critical Care/Emergency Room/Intensive Care Unit Nurse			NP			NP			NP			NP
Family Nurse Practitioner	1.0	0.0	0.0%	1.0	0.0	0.0%	1.0	0.0	0.0%	1.2	0.0	0.0%
Nurse Anesthetist			NP			NP			NP			NP
Nurse Consultant			NP			NP			NP			NP
Nurse Educator			NP			NP			NP			NP
Nurse Manager			NP			NP			NP			NP
Nurse Midwife			NP			NP			NP			NP
Pediatric Nurse Practitioner			NP			NP			NP			NP
Psychiatric Nurse			NP			NP			NP			NP
Psychiatric Nurse Practitioner			NP			NP			NP			NP
Public Health Nurse			NP			NP			NP			NP
Registered Nurse	125.5	6.0	4.8%	125.5	6.0	4.8%			NP			NP
Women's Health Care Nurse Practitioner	2.0	0.0	0.0%	2.0	0.0	0.0%			NP			NP

NP=No Positions Reported

Table 33 illustrates the many double-digit urban and rural estimated vacancy rates for professional nursing occupations.

Table 33. Professional Nursing Occupations, Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban Area Sample			Urban Area Estimate			Rural Area Sample			Rural Area Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manger	147.0	15.0	10.2%	178.5	18.7	10.5%	71.0	7.0	9.9%	84.0	12.3	14.7%
Critical Care/Emergency Room/Intensive Care Unit Nurse	183.0	32.0	17.5%	211.9	33.6	15.9%	81.0	8.0	9.9%	87.4	11.2	12.8%
Family Nurse Practitioner	143.0	22.0	15.4%	250.4	36.4	14.6%	50.0	14.5	29.0%	86.9	21.7	25.0%
Nurse Anesthetist	21.0	0.0	0.0%	21.0	0.0	0.0%	6.0	0.0	0.0%	6.0	0.0	0.0%
Nurse Consultant	5.0	1.0	20.0%	6.6	1.0	15.1%			NP			NP
Nurse Educator	37.0	4.0	10.8%	41.8	4.0	9.6%	10.0	1.0	10.0%	11.6	1.0	8.6%
Nurse Manager	83.0	7.0	8.4%	102.6	10.2	9.9%	40.0	4.0	10.0%	46.3	61	13.2%
Nurse Midwife	22.0	3.0	13.6%	36.4	7.8	21.4%	3.0	1.0	33.3%	4.6	2.6	56.6%
Pediatric Nurse Practitioner	13.0	3.0	23.1%	24.2	7.88	32.2%	2.0	1.0	50.0%	3.6	2.6	72.3%
Psychiatric Nurse	81.0	11.0	13.6%	84.2	11.0	13.1%	1.0	0.0	0.0%	1.0	0.0	0.0%
Psychiatric Nurse Practitioner	23.0	5.0	21.7%	36.7	6.0	16.3%	2.0	1.0	50.0%	5.2	2.6	50.0%
Public Health Nurse	54.0	2.0	3.7%	54.0	2.0	3.7%	77.0	8.0	10.4	77.0	8.0	10.4
Registered Nurse	1,927.0	190.5	9.9%	2,378.2	229.6	9.7%	753.8	83.0	11.0%	797.8	92.0	11.5%
Women's Health Care Nurse Practitioner	19.0	3.0	15.8%	46.3	7.8	16.9%	4.0	2.0	50.0%	5.6	3.6	64.3%

NP=No Positions Reported

As shown on Table 34, substantial to very high estimated vacancy rates appeared in the following key nursing specialties:

- **Nurse Case Managers**—North, 10.0%; Southwest, 12.4%; Interior, 30.7%; Southeast, 31.8%; and Gulf Coast, 41.1%
- **Family Nurse Practitioners**—Southeast, 12.3%; Anchorage, 12.4%; Southwest, 22.4%; Gulf Coast, 28.7%; Interior, 33.7%; and North, 100.0%
- **Critical Care/Emergency Room/Intensive Care Unit Nurse**—Southeast, 12.8%; Interior, 22.7%; and Southwest, 45.6%

Thus, the high vacancy rates for nursing specialties appeared to be widespread across many regions, including urban Anchorage areas. The North and Southwest regions had relatively high RN vacancy rates at 37.2% and 21.4%, respectively, while the Gulf Coast rate was only 10.5%, followed by Anchorage, 10.0%; Interior, 7.5%; and Southeast, 6.4%. Although the vacancy rates are high to very high, the actual vacancy numbers are quite small.

Table 34. Professional Nursing Occupations, Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage Sample			Anchorage Estimates			Gulf Coast Sample			Gulf Coast Estimate			Interior Sample			Interior Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manger	128.0	3.0	2.3%	148.6	3.0	2.0%	11.0	3.0	27.3%	16.3	6.7	41.1%	15.0	5.0	33.3%	28.3	8.7	30.7%
Critical Care/Emergency Room/Intensive Care Unit Nurse	111.0	4.0	3.6%	139.9	5.6	4.0%			NP			NP	122.0	28.0	23.0%	123.6	28.0	22.7%
Family Nurse Practitioner	109.0	15.0	13.8%	212.2	26.2	12.4%	15.5	5.5	35.5%	27.5	7.9	28.7%	19.0	6.0	31.6%	32.1	10.8	33.7%
Nurse Anesthetist	16.0	0.0	0.0%	16.0	0.0	0.0%	4.0	0.0	0.0%	4.0	0.0	0.0	2.0	0.0	0.0%	2.0	0.0	0.0%
Nurse Consultant	2.0	0.0	0.0%	2.0	0.0	0.0%			NP			NP	2.0	0.0	0.0%	3.6	0.0	0.0%
Nurse Educator	30.0	4.0	13.3%	31.6	4.0	12.7%	4.0	1.0	25.0%	5.6	1.0	17.8%	11.0	0.0	0.0%	14.2	0.0	0.0%
Nurse Manager	75.0	5.0	6.7%	94.1	6.6	7.0%	15.0	3.0	20.0%	17.6	5.1	29.0%	13.0	2.0	15.4%	15.1	3.6	23.9%
Nurse Midwife	17.0	0.0	0.0%	25.0	0.0	0.0%	1.0	1.0	100.0%	2.6	2.6	100.0%	4.0	3.0	75.0%	8.8	7.8	88.7%
Pediatric Nurse Practitioner	10.0	3.0	30.0%	16.4	7.8	47.6%			NP			NP	3.0	1.0	33.3%	7.8	2.6	33.3%
Psychiatric Nurse	81.0	11.0	13.6%	84.2	11.0	13.1%			NP			NP			NP			NP
Psychiatric Nurse Practitioner	20.0	3.0	15.0%	33.3	3.0	9.0%	1.0	1.0	100.0%	2.6	2.6	100.0%	4.0	2.0	50.0%	6.0	3.0	50.0%
Public Health Nurse	28.0	0.0	0.0	28.0	0.0	0.0	19.0	0.0	0.0	19.0	0.0	0.0	30.0	2.00	6.7%	30.0	2.0	6.7%
Registered Nurse	1597.0	167.5	10.5%	1956.1	194.9	10.0%	335.0	33.0	9.9%	355.3	37.2	10.5%	239.5	15.0	6.3%	307.8	23.0	7.5%
Women's Health Care Nurse Practitioner	15.0	1.0	6.7%	35.9	2.6	7.3%	1.0	1.0	100.0%	2.6	2.6	100.0%	4.0	2.0	50.0%	10.4	5.2	50.0%

NP=No Positions Reported

Table 34. Professional Nursing Occupations, Vacancies, and Vacancy Rates by Labor Market Region (continued)

Occupation	Southeast Sample			Southeast Estimate			North Sample			North Estimate			Southwest Sample			Southwest Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Nurse Case Manger	20.0	7.0	35.0%	22.0	7.0	31.8%	10.0	1.0	10.0%	10.0	1.0	10.0%	34.0	3.0	8.8%	37.2	4.6	12.4%
Critical Care/Emergency Room/Intensive Care Unit Nurse	14.0	2.0	14.3%	15.6	2.0	12.8%			NP			NP	17.0	6.0	35.3%	20.2	9.2	45.6%
Family Nurse Practitioner	35.0	4.0	11.4%	45.4	5.6	12.3%	4.0	4.0	100.0%	4.0	4.0	100.0%	10.5	2.0	19.0%	16.1	3.6	22.4%
Nurse Anesthetist	3.0	0.0	0.0%	3.0	0.0	0.0%			NP			NP	2.0	0.0	0.0%	2.0	0.0	0.0%
Nurse Consultant	1.0	1.0	100.0%	1.0	1.0	100.0%			NP			NP			NP			NP
Nurse Educator	1.0	0.0	0.0%	1.0	0.0	0.0%			NP			NP	1.0	0.0	0.0%	1.0	0.0	0.0%
Nurse Manager	16.0	0.0	0.0%	18.1	0.0	0.0%	1.0	1.0	100.0%	1.0	1.0	100.0%	3.0	0.0	0.0%	3.0	0.0	0.0%
Nurse Midwife	3.0	0.0	0.0%	4.6	0.0	0.0%			NP			NP			NP			NP
Pediatric Nurse Practitioner	1.0	0.0	0.0%	2.6	0.0	0.0%			NP			NP	1.0	0.0	0.0%	1.0	0.0	0.0%
Psychiatric Nurse			NP			NP			NP			NP	1.0	0.0	0.0%	1.0	0.0	0.0%
Psychiatric Nurse Practitioner			NP			NP			NP			NP			NP			NP
Public Health Nurse	25.0	0.0	0.0%	25.0	0.0	0.0%	5.0	5.0	100.0%	5.0	5.0	100.0%	24.0	3.0	12.5%	24.0	3.0	12.5%
Registered Nurse	352.0	20.0	5.7%	395.9	25.3	6.4%	43.0	16.0	37.2%	43.0	16.0	37.2%	114.3	22.0	19.3%	117.9	25.2	21.4%
Women's Health Care Nurse Practitioner			NP			NP	1.0	1.0	100.0%	1.0	1.0	100.0%	2.0	0.0	0.0%	2.0	0.0	0.0%

NP=No Positions Reported

c. Pharmacists and Pharmacy Technicians

Table 35 reveals modest numbers of vacancies and vacancy rates for Pharmacists in both the sample and statewide estimates relative to the number of positions statewide. Estimated vacancies and vacancy rates for Pharmacy Technicians appeared to be low.

Table 35. Pharmacists and Pharmacy Technicians, Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupations	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Pharmacist	413.0	35.0	8.5%	437.6	37.1	8.5%
Pharmacy Technician	774.5	23.0	3.0%	819.9	27.8	3.4%

Pharmacies had the greatest number of Pharmacist positions, followed by Tribal Health Organizations (Table 36). The estimated vacancy rate was the highest for Behavioral Health Services at 100.0%. The remaining estimated vacancy rates ranged from 8.2% to 5.8%. Following Pharmacies, Hospitals/Nursing Homes had the second highest number of technician positions. Estimated vacancy rates were low for this occupation, with the exception of Medical Clinics which had 7.8 estimated vacancies for a vacancy rate of 10.7%.

Table 36. Pharmacy Occupations Positions, Vacancies, and Vacancy Rates by Organization Type, Sample and Statewide Estimates

Occupation	Behavioral Health Services						Hospitals/Nursing Homes						Medical Clinics/Offices of Physicians					
	Sample			Estimate			Sample			Estimate			Sample			Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Pharmacist	1.0	1.0	100.0%	1.5	1.5	100.0%	86.0	5.0	5.8%	86.0	5.0	5.8%	15.0	1.0	6.7%	39.1	2.6	6.7%
Pharmacy Technician	1.0	0.0	0.0%	1.5	0.0	0.0%	97.0	3.0	3.1%	97.0	3.0	3.1%	28.0	3.0	10.7%	72.9	7.8	10.7%

Occupation	Tribal Health Organizations						Pharmacies						Physical/Occupational/Speech Therapy					
	Sample			Estimate			Sample			Estimate			Sample			Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Pharmacist	92.0	10.0	10.9%	92.0	10.0	10.9%	219.0	18.0	8.2%	219.0	18.0	8.2%			NP			NP
Pharmacy Technician	77.0	3.0	3.9%	77.0	3.0	3.9%	571.5	14.0	2.4%	571.5	14.0	2.4%			NP			NP

NP=No Positions Reported

Urban areas have the higher number of sample and estimated positions for Pharmacists and Pharmacy Technicians. Rural areas had higher sample and estimated vacancy rates for both occupations (Table 37).

Table 37. Pharmacy Occupations Positions, Vacancies, and Vacancy Rates, Urban and Rural Areas, Sample and Statewide Estimates

Occupation	Urban						Rural					
	Sample			Estimate			Sample			Estimate		
	Positions	Vacancies	Vacancy Rates									
Pharmacist	324.5	24.0	7.4%	348.6	25.6	7.3%	88.5	11.0	12.4%	89.0	11.5	12.9%
Pharmacy Technician	651.5	18.0	2.8%	686.8	21.2	3.1%	123.0	5.0	4.1%	133.1	6.6	5.0%

Looking at the breakdown by geographic regions (Table 38), the North had the highest sample and estimated vacancy rate for Pharmacists (75.0% for sample and estimated vacancy rate), followed by the Interior (18.2% sample, 17.8% estimated vacancy rates), and Southwest (15.0% sample and estimated vacancy rates). The highest sample and estimated vacancy rates for the Pharmacy Technician were also in the North region at 25.0%, followed by the Southwest region with a sample vacancy rate of 5.3% and an estimated vacancy rate of 12.6%.

Table 38. Pharmacy Occupations Positions, Vacancies, and Vacancy Rates by Geographic Region, Sample and Statewide Estimates

Geographic Region	Occupation	Sample			Estimate		
		Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Anchorage	Pharmacist	269.5	15.0	5.6%	282.3	15.0	5.3%
	Pharmacy Technician	602.5	14.0	2.3%	621.8	14.0	2.3%
Gulf Coast	Pharmacist	26.0	2.0	7.7%	26.5	2.5	9.4%
	Pharmacy Technician	34.0	0.0	0.0%	36.1	0.0	0.0%
Interior	Pharmacist	33.0	6.0	18.2%	42.6	7.6	17.8%
	Pharmacy Technician	46.0	4.0	8.7%	66.9	7.2	10.8%
Southeast	Pharmacist	60.5	6.0	9.9%	62.1	6.0	9.7%
	Pharmacy Technician	65.0	2.0	3.1%	66.6	2.0	3.0%
North	Pharmacist	4.0	3.0	75.0%	4.0	3.0	75.0%
	Pharmacy Technician	8.0	2.0	25.0%	8.0	2.0	25.0%
Southwest	Pharmacist	20.0	3.0	15.0%	20.0	3.0	15.0%
	Pharmacy Technician	19.0	1.0	5.3%	20.6	2.6	12.6%

d. Behavioral Health Occupations

Behavioral Health occupations provide a very wide range of services to beneficiaries who include substance abusers, the disabled, at-risk youth, special-needs children, the homeless, the elderly, and individuals and families with mental/behavioral health problems. Table 39 shows the large numbers of Behavioral Health positions needed to provide these comprehensive services.

Table 39. Behavioral Health Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Aide/Village Counselor	227.0	32.0	14.1%	254.0	37.8	14.9%
Clinician	410.3	39.0	9.5%	491.3	46.6	9.5%
Chemical/Substance Counselor	225.0	37.0	16.4%	311.0	48.0	15.4%
Case Manager	620.5	33.0	5.3%	810.2	48.7	6.0%
Human Services Worker-HS	804.0	104.0	12.9%	1,198.9	146.4	12.2%
Human Services Worker-AA Degree	165.5	19.5	11.8%	248.6	29.3	11.8%
Marital/Family Therapist	27.0	3.0	11.1%	44.7	4.5	10.1%
Professional Counselor	126.0	9.0	7.1%	161.1	9.0	5.6%
Psychiatric Aide/Technician	48.0	2.0	4.2%	51.1	2.0	3.9%
Psychologist/Psychological Associate	69.0	8.0	11.6%	88.9	9.0	10.1%
Clinical Psychologist	38.0	6.0	15.8%	58.0	8.6	14.8%
Social Worker BSW	49.0	0.0	0.0%	65.1	0.0	0.0%
Social Worker MSW	72.0	2.0	2.8%	94.3	2.0	2.1%
Health Social Worker LCSW	27.0	1.0	3.7%	36.8	2.6	7.1%

Vacancy rates in these occupations ranged from low to substantial. Psychiatric Aide/Technician, Social Worker BSW, and Social Worker MSW were the only occupations with estimated vacancy rates less than 5%. Chemical/Substance Counselor had the highest estimated vacancy rate at 15.4%.

Human Services Worker-HS had the highest estimated vacancies at 146.4. The next highest demand, based on estimated vacancies, was for Aide/Village Counselor, Clinician, Chemical/Substance Counselor, and Case Manager, with estimated statewide vacancies at 37.8, 46.6, 48.0, and 48.7, respectively.

Psychiatrist, Psychiatric Nurse Practitioner, and Psychiatric Nurse occupations have already been discussed in the Physicians and the Professional Nurses sections. All had high vacancy rates, although relatively low vacancy numbers.

Behavioral Health occupations with relatively few estimated vacancies but substantial estimated vacancy rates were Human Services Worker/Degree (29.3 estimated vacancies, 11.8% estimated vacancy rate); Marital/Family Therapist (4.5 estimated vacancies, 10.1% estimated vacancy rate); Psychologist/Psychological Associate (9.0 estimated vacancies, 10.1% estimated vacancy rate); and Clinical Psychologist (8.6 estimated vacancies, 14.8% estimated vacancy rate).

While the estimated vacancy rates for Chemical/Substance Counselors (17.3%), Marital/Family Therapists (23.1%), Psychologist/Psychological Associates (18.2%), and Clinical Psychologists (25.0%) were heavily concentrated in Behavioral Health Organizations, high estimated vacancies appeared to be concentrated in other organization types as well (Table 40):

Tribal Health Organizations—Behavioral Health Clinician, 16.9% (23.0 estimated vacancies); Human Services Worker–HS, 22.9% (28.0 estimated vacancies); Professional Counselor, 100.0% (6.0 estimated vacancies); Clinical Psychologist, 22.2% (2.0 estimated vacancies); and Social Worker MSW, 20.0% (2.0 estimated vacancies).

Hospitals/Nursing Homes—Chemical/Substance Counselor, 26.1% (6.0 estimated vacancies).

School Districts—Professional Counselor, 15.0% (3.0 estimated vacancies) and Psychologist/Psychological Associate, 13.6% (6.0 estimated vacancies).

Medical Clinics/Offices of Physicians—Social Worker LCSW, 33.3% (2.6 estimated vacancies).

Table 40. Behavioral Health Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Behavioral Health Services		Hospitals/Nursing Homes		Tribal Health Organizations		Medical Clinics/ Offices of Physicians		School Districts	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Aide/Village Counselor	3.0	5.3%		NP	27.0	14.7%	7.8	60.0%		NP
Clinician	18.0	9.9%	3.0	7.2%	23.0	16.9%	2.6	7.8%	0	0.0%
Chemical/Substance Counselor	33.0	17.3%	6.0	26.1%	9.0	14.8%	0.0	0.0%		NP
Case Manager	37.5	8.6%	2.0	1.3%	4.0	2.6%	5.2	7.1%		NP
Human Services Worker–HS	108.0	11.6%	0.0	0.0%	28.0	22.9%	10.4	7.7%		NP
Human Services Worker–AA Degree	29.3	12.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%		NP
Marital/Family Therapist	4.5	23.1%	0.0	0.0%		NP	0.0	0.0%		NP
Professional Counselor	0.0	0.0%	0.0	0.0%	6.0	100.0%	0.0	0.0%	3.0	15.0%
Psych Aide/Tech	0.0	0.0%	0.0	0.0%	2.0	7.1%	0.0	0.0%		NP
Psychologist/Psych Associate	3.0	18.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	6.0	13.6%
Clinical Psychologist	3.0	25.0%	1.0	9.1%	2.0	22.2%	2.6	10.0%		NP
Social Worker BSW	0.0	0.0%	0.0	0.0%		NP	0.0	0.0%		NP
Social Worker MSW	0.0	0.0%	0.0	0.0%	2.0	20.0%	0.0	0.0%		NP
Social Worker LCSW	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.6	33.3%		NP

NP=No Positions Reported

Estimated vacancy rates for many occupations were high in all regions for at least one occupation, many with small numbers of positions (Table 41). Those that were greater than 20% are listed below:

- Aide/Village Counselor—Gulf Coast, 23.1%; Interior, 43.7%; North, 41.2%
- Clinician—Southwest, 36.0%
- Chemical/Substance Counselor—North, 100.0%; Interior, 26.9%
- Case Manager—Southwest, 25.5%
- Human Services Worker–HS—Southwest, 29.6%
- Human Services Worker-AA Degree—Interior, 35.3%
- Marital/Family Therapist—Southeast, 100.0%
- Professional Counselor—Southwest, 43.4%
- Psychologist/Psychological Associate—Southeast, 28.6%
- Clinical Psychologist—Interior, 33.3%; Southeast, 29.4%; North, 50.0%
- Social Worker MSW—Southwest, 22.2%
- Social Worker LCSW—Interior, 50.0%

Table 41. Behavioral Health-Specific Occupations, Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rates										
Aide/Village Counselor	3.0	5.2%	3.0	23.1%	11.8	43.7%		NP	7.0	41.2%	13.0	9.4%
Clinician	14.0	7.0%	3.0	14.5%	2.0	2.1%	8.0	11.3%	5.0	7.9%	14.6	36.0%
Chemical/Substance Counselor	20.5	14.9%	1.0	2.3%	13.5	26.9%	12.0	18.3%	1.0	100.0%	0.0	0.0%
Case Manager	36.6	6.1%	0.0	0.0%	4.0	7.5%	5.5	7.6%	0.0	0.0%	2.6	25.5%
Human Services Worker–HS	97.5	12.3%	10.4	5.7%	9.5	11.2%	4.0	8.6%	1.0	9.5%	24.0	29.6%
Human Services Worker–AA	16.5	9.5%	1.5	9.8%	3.0	35.3%	8.3	17.5%	0.0	0.0%	0.0	0.0%
Marital/Family Therapist	1.5	4.7%	0.0	0.0%	0.0	0.0%	3.0	100.0%		NP	0.0	0.0%
Professional Counselor	2.0	2.5%	3.0	6.3%	0.0	0.0%	0.0	0.0%		NP	4.0	43.4%
Psychiatric Aide/Technician	0.0	0.0%		NP	0.0	0.0%		NP		NP	2.0	7.1%
Psychologist/Psychological Assoc	3.0	5.7%	2.0	14.3%	1.0	12.5%	3.0	28.6%	0.0	0.0%		NP
Clinical Psychologist	3.6	12.0%	0.0	0.0%	1.5	33.3%	2.5	29.4%	1.0	50.0%	0.0	0.0%
Social Worker BSW	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%		NP		NP
Social Worker MSW	1.0	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%		NP	1.0	22.2%
Social Worker LCSW	0.0	0.0%	0.0	0.0%	2.6	50.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%

NP=No Positions Reported

Distinctly higher rural vacancy rates (vs. urban) were estimated for Behavioral Health Clinician (14.0% rural vs. 6.4% urban), Human Services Worker-AA degree (18.3% rural vs. 10.3% urban), Marital/Family Therapist (13.1% rural vs. 6.9% urban), Professional Counselor (9.2% rural vs. 2.3% urban), and Psychologist/Psychological Associate (18.6% rural vs. 2.2% urban) (Table 42).

On the other hand, higher urban rates were estimated for Behavioral Health Aide/Village Counselor (31.8% urban vs. 11.1% rural), Chemical/Substance-Abuse Counselor (19.8% urban vs. 9.3% rural), Case Manager/Care Coordinator (6.3% urban vs. 4.9% rural), Clinical Psychologist (15.8% urban vs. 12.9% rural), and Social Worker LCSW (12.6% urban vs. 0.0% rural).

The estimated vacancy rate for Human Services Worker–HS, which had by far the most numerous vacancies, was 15.1% for urban and 8.6% for rural respondents.

Table 42. Behavioral Health Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Aide/Village Counselor	14.8	31.8%	23.0	11.1%
Clinician	18.5	6.4%	28.1	14.0%
Chemical/Substance-Abuse Counselor	36.0	19.8%	12.0	9.3%
Case Manager/Care Coordinator	40.1	6.3%	8.6	4.9%
Human Services Worker–HS	100.5	15.1%	45.9	8.6%
Human Services Worker–AA	21.0	10.3%	8.3	18.3%
Licensed Marital/Family Therapist	1.5	6.9%	3.0	13.1%
Licensed Professional Counselor	2.0	2.3%	7.0	9.2%
Psychiatric Aide/Technician	0.0	0.0%	2.0	6.2%
Psychologist/Psychological Assoc.	1.0	2.2%	8.0	18.6%
Clinical Psychologist	6.1	15.8%	2.5	12.9%
Social Worker BSW	0.0	0.0%	0.0	0.0%
Social Worker MSW	1.0	1.7%	1.0	2.8%
Social Worker LCSW	2.6	12.6%	0.0	0.0%

e. Dental Occupations

“Dentist” includes Orthodontist and Dental/Oral Surgeon. (Dental Health Aide Therapist will be discussed in the Tribal Health Organization section of occupations). Table 43 shows that 12.0 vacancies were reported for Dentists in the sample, and 14.5 were estimated statewide; the estimated vacancy rate was 2.6% but was even higher in the sample (3.8%). Vacancies for Dental Hygienists were modest at 40.7 statewide estimates, and an estimated vacancy rate of 8.0%. Dental Assistants had more numerous estimated vacancies at 61.7, with a relatively modest estimated vacancy rate of 6.4%.

**Table 43. Dental Positions, Vacancies, and Vacancy Rates,
Sample and Statewide Estimates**

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Dentist	318.0	12.0	3.8%	551.3	14.5	2.6%
Dental Assistant	574.0	34.0	5.9%	968.3	61.7	6.4%
Dental Hygienist	285.5	21.5	7.5%	506.6	40.7	8.0%

These estimated Dentist vacancies were primarily in Dental Clinics/Offices and Tribal Health Organizations (Table 44). Tribal Health Organizations had a Dentist vacancy rate and estimated vacancy rate of 16.7%. The vacancy rate and estimated vacancy rate for Dental Clinics/Offices was much lower—only 1.2%. Medical Clinics/Offices of Physicians had 57.3 estimated positions but zero vacancies.

The distribution of the estimated Dental Assistant and Hygienist positions were more strongly concentrated in the Dental Clinics, followed by Tribal Health Organizations with a few in Medical Clinics/Offices of Physicians. Dental Assistant estimated vacancy rates were 10.3% in Medical Clinics (7.8 estimated vacancies) and 6.6% in Dental Clinics (50.9 estimated vacancies). The estimated vacancy rate for Dental Hygienists was highest in the Medical Clinics at 25.0% (5.2 estimated vacancies), followed by Dental Clinics at 7.7% (35.5 estimated vacancies).

Table 44. Dental Positions, Vacancies, and Vacancy Rates by Organization Type, Sample and Statewide Estimates

Occupation	Dental Clinics/Offices						Medical Clinics/Offices of Physicians						Tribal Health Organizations					
	Sample			Estimate			Sample			Estimate			Sample			Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Dentist	242.0	3.0	1.2%	440.0	5.5	1.2%	22.0	0.0	0.0%	57.3	0.0	0.0%	54.0	9.0	16.7%	54.0	9.0	16.7%
Dental Assistant	425.0	28.0	6.6%	772.7	50.9	6.6%	29.0	3.0	10.3%	75.5	7.8	10.3%	120.0	3.0	2.5%	120.0	3.0	2.5%
Dental Hygienist	254.5	19.5	7.7	462.7	35.5	7.7%	8.0	2.0	25.0%	20.8	5.2	25.0%	23.0	0.0	0.0%	23.0	0.0	0.0%

Table 45 shows that estimated vacancies for dental occupations were higher for Dentist in the rural areas, with an estimated rural vacancy rate of 7.1%. This was in part due to the high estimated vacancy numbers and rates for the Tribal Health Organizations, which are overwhelmingly rural.

Table 45. Dental Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Dentist	2.8	0.7%	11.6	7.1%
Dental Assistant	33.5	5.2%	28.2	8.7%
Dental Hygienist	16.4	4.6%	24.3	15.8%

Looking at the regional distribution of vacancies and estimated rates (see Table 46), Dentist vacancy rates were highest in the North (38.9%) and Southwest (15.8%), which was consistent with the strongly rural distribution of these vacancies. Dental Assistant estimated vacancy rates were highest in the Gulf Coast (10.3%), North (10.2%), and Southwest (11.9%). Dental Hygienist estimated vacancy rates were high in four regions: Gulf Coast (17.2%), Southeast (12.7%), North (100.0%), and Southwest (21.6%).

Table 46. Dental Occupations, Estimated Vacancies, and Vacancy Rates by Labor Market Regions

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Number	Estimated Vacancy Rate										
Dentist	2.8	0.9%	1.0	1.9%	0.0	0.0%	2.8	5.9%	3.8	38.9%	4.0	15.8%
Dental Assistant	30.9	6.0%	9.9	10.3%	6.2	3.4%	7.3	6.3%	2.0	10.2%	5.5	11.9%
Dental Hygienist	15.5	5.3%	11.7	17.2%	1.8	2.4%	7.3	12.7%	1.8	100.0%	2.6	21.6%

NP=No Positions Reported

f. Physical, Occupational, and Speech Therapist

This occupational group includes Physical Therapist, Occupational Therapist, Speech Therapist, Speech-Language Pathologist, and the Allied Health occupation Physical Therapy Assistant. In addition to therapy clinics and offices, these occupations are employed by a broad range of respondent types, including Hospitals/Nursing Homes, Tribal Health Organizations, Medical Clinics/Offices of Physicians, and School Districts (most of which, however, contract with private providers rather than hire therapists directly).

Table 47 shows that vacancy rates, both sample and statewide estimates, were substantial to very high for all of these occupations.

Table 47. Physical, Occupational, and Speech Therapist Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Physical Therapist	245.0	40.5	16.5%	292.5	46.2	15.8%
Occupational Therapist	115.0	26.0	22.6%	128.5	29.3	22.8%
Speech Therapist	56.5	8.5	15.0%	63.4	9.9	15.5%
Speech-language Pathologist	151.5	15.5	10.2%	157.7	16.4	10.4%
Physical Therapy Assistant	53.0	16.0	30.2%	62.3	17.8	28.5%

The estimated vacancy rate for Physical Therapist was 15.8%; for Speech Therapist, 15.5%. The rate was 28.5% for Physical Therapy Assistant. Sample vacancy rates ranged from 10.2% for Speech-language Pathologist to 30.2% for Physical Therapy Assistant.

Table 48 shows the distribution of estimated vacancies by organization type. There were high vacancy rates for many of the therapist occupations across each organization type. This is due, in part, to the low number of positions in which a small change in the vacancies resulted in a large percentage change. Estimated vacancies for Occupational Therapist were distributed across 4 of 6 organizational types. The highest estimated vacancy rates were in Behavioral Health Services (33.3%), Physical/Occupational/Speech Therapy facilities (23.8%), and School Districts (24.3%). The highest Physical Therapist estimated vacancies were in Hospitals/Nursing Homes (12.0 vacancies, 30.0% vacancy rate). There were substantial vacancy rates in the remaining organization types as well. Highest estimated vacancies for Speech Therapist were strongly concentrated in Physical/Occupational/Speech Therapy facilities (40.0%), while highest estimated vacancies for Speech-Language Pathologist were concentrated in Hospitals/Nursing Homes and Tribal Health Organizations (33.3%), and Physical/Occupational/Speech Therapy facilities (27.8%). The highest estimated vacancies for Physical Therapy Assistant were concentrated in Physical/Occupational/Speech Therapy facilities (11.8 vacancies, 38.5% vacancy rate), Hospitals/Nursing Homes (6.0 vacancies, 35.3% vacancy rate).

Table 48. Physical, Occupational, and Speech Therapist Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Behavioral Health Services		Hospital/Nursing Homes		Tribal Health Organizations		Medical Clinics/ Physician Offices		Physical/Occupational/Speech Therapy		School Districts	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Occupational Therapist	4.5	33.3%	4.0	16.0%	0.0	0.0%	0.0	0.0%	11.8	23.8%	9.0	24.3%
Physical Therapist	1.5	9.1%	12.0	30.0%	3.0	15.0%	2.6	10.0%	24.1	13.9%	3.0	17.6%
Speech Therapist	3.0	16.7%	0.5	11.1%	0.0	0.0%		NP	2.4	40.0%	4.0	12.1%
Speech-language Pathologist	0.0	0.0%	1.5	33.3%	1.0	33.3%		NP	5.9	27.8%	8.0	6.7%
Physical Therapy Assistant	0.0	0.0%	6.0	35.3%	0.0	0.0%	0.0	0.0%	11.8	38.5%	0.0	0.0%

NP=No Positions Reported

A comparison of urban and rural regions reflects the findings we discuss below in the labor market region comparison. All organizations had double-digit estimated vacancy rates, with the exception of Speech-language Pathologist in urban areas (Table 49).

Table 49. Physical, Occupational, and Speech Therapist Occupations, Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Occupational Therapist	11.0	12.2%	18.2	47.8%
Physical Therapist	18.2	10.4%	28.0	23.7%
Speech Therapist	4.4	28.3%	5.5	11.5%
Speech-language Pathologist	8.0	6.3%	8.4	28.0%
Physical Therapy Assistant	11.1	29.2%	6.7	27.4%

Regional comparisons were difficult to determine with this occupational group because some predominantly rural regions reported few, if any, positions for some or all of these occupations. But those regions that reported positions also had substantial to very high estimated vacancy rates of at least 10% for all occupations, with the highest in the Gulf and Southeast regions, the exception being Speech-language Pathologist in Anchorage and the Interior areas (Table 50).

Table 50. Physical, Occupational, and Speech Therapist Occupations, Vacancies, and Vacancy Rates by Labor Market Regions

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Number	Vacancy Rate	Number	Vacancy Rate	Number	Vacancy Rate	Number	Vacancy Rate	Number	Vacancy Rate	Number	Vacancy Rate
Occupational Therapist	14.4	16.8%	7.9	62.8%	2.4	9.9%	4.7	70.0%		NP		NP
Physical Therapist	16.7	11.8%	10.1	22.3%	6.5	12.8%	12.0	24.6%	1.0	100.0%	0.0	0.0%
Speech Therapist	8.9	17.6%	0.0	0.0%	0.0	0.0%	1.0	14.3%		NP	0.0	0.0%
Speech-language Pathologist	6.9	7.4%	6.2	48.1%	2.4	5.1%	1.0	17.6%		NP		NP
Physical Therapy Assistant	6.4	21.8%	5.5	35.1%	4.7	38.5%	1.2	22.7%		NP		NP

NP=No Positions Reported

g. Physician Assistant

The Physician Assistant (PA) is a unique health occupation that does not fit neatly into traditional health-care occupation categories but which, like Nurse Practitioner, is a critical mid-level primary-care provider.

Table 51 shows there were an estimated 315.1 positions statewide based on 180.0 reported in the sample. The estimated vacancy rate was 13.2%. The vacancy rates (both sample and state estimate) were high, as were the number of vacancies.

Table 51. Physician Assistant Positions, Vacancies, and Vacancy Rates by Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Physician Assistant	180.0	29.5	16.4%	315.1	41.5	13.2%

Table 52 shows that the estimated vacancies were highest in the Tribal Health Organizations (22.0 estimated vacancies, 27.8% estimated vacancy rate) and in Medical Clinics/Offices of Physicians—the primary employer of PAs (8.9% estimated vacancy rate). Hospitals/Nursing Homes and Physical, Occupational, and Speech Therapy facilities employed a few PAs but reported no vacancies.

Table 52. Physician Assistant Vacancies and Vacancy Rates by Type of Organization

Occupation	Hospital/Nursing Homes		Tribal Health Organizations		Medical Clinics/Physician Offices		Physical, Occupational, Speech Therapy	
	Vacancies	Vacancy Rate	Vacancies	Vacancy Rate	Vacancies	Vacancy Rate	Vacancies	Vacancy Rate
Physician Assistant	0.0	0.0%	22.0	27.8%	19.5	8.9%	0.0	0.0%

The estimated vacancies were disproportionately rural, with 26.1 estimated rural vacancies resulting in an estimated 29.9% rural vacancy rate. There were 15.4 estimated urban vacancies, with a 6.8% estimated urban vacancy rate (Table 53).

Table 53. Physician Assistant Vacancies and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Vacancies	Vacancy Rates	Vacancies	Vacancy Rates
Physician Assistant	15.4	6.8%	26.1	29.9%

Regionally, the estimated vacancy rates for Physician Assistants, as displayed in Table 54, varied widely from highest in the Southwest (78.5%) to lowest in the Anchorage/Matanuska-Susitna region (6.3%). Ranging between high and low were North (28.6%), Gulf Coast (25.8%), Southeast (10.9%), and Interior (7.3%).

Table 54. Physician Assistant Vacancies and Vacancy Rates by Labor Market Regions

Labor Market Regions	Physician Assistant Vacancies	Physician Assistant Vacancy Rates
Anchorage	9.8	6.3%
Gulf Coast	4.9	25.8%
Interior	7.2	7.3%
Southeast	1.0	10.9%
North	4.0	28.6%
Southwest	14.6	78.5%

h. Other Nursing Staff

The Other Nursing Staff category is comprised of health occupations which are ancillary to nursing services. Certified Nurse Assistant and Licensed Practical Nurse were among the most numerous health-care occupations in terms of both positions and vacancies (see Table 55).

Table 55. Other Nursing Staff Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Certified Nurse Assistant	1,245.5	102.0	8.2%	1,444.9	120.0	8.3%
Home Health Aide	58.0	11.0	19.0%	73.2	11.5	15.7%
Licensed Practical Nurse	393.0	44.5	11.3%	578.6	68.2	11.8%
Personal Care Attendant	463.5	22.0	4.7%	590.8	32.5	5.5%

The vacancy rate for Licensed Practical Nurse was fairly high, with 11.3% in the sample and 11.8% in the statewide estimate. The vacancy rate for Certified Nurse Assistant was lower (sample, 8.2%; statewide estimate, 8.3%), although vacancies were more numerous (sample, 102.0; statewide estimate, 120.0). Home Health Aide had a high estimated vacancy rate at 15.7% with 11.5 estimated vacancies. There were numerous Personal Care Attendant positions with a low estimated vacancy rate of 5.5%.

As shown in Table 56, Tribal Health Organizations had the highest estimated vacancy rates for Certified Nurse Assistants (23.7%), Home Health Aides (40.0%), and Licensed Practical Nurses (15.0%). Behavioral Health Services and Medical Clinics/Physician Offices had estimated vacancy rates for Licensed Practical Nurses at 12.9% and 12.7%, respectively. Medical Clinics also had a high vacancy rate for Certified Nurse Assistants at 10.5%.

Personal Care Attendants are often hired by individuals to provide home-based care and may have been under-represented in our sampled organizations.

Table 56. Other Nursing Staff Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Behavioral Health Services		Hospital/Nursing Homes		Tribal Health Organizations		Medical Clinics/Physician Offices	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Certified Nurse Assistant	6.0	4.3%	51.0	5.7%	37.0	23.7%	26.0	10.5%
Home Health Aide	1.5	4.2%	0.0	0.0%	10.0	40.0%	0.0	0.0%
Licensed Practical Nurse	6.0	12.9%	15.0	8.5%	12.0	15.0%	35.2	12.7%
Personal Care Attendant	31.5	8.3%	0.0	0.0%	1.0	6.7%		NP

NP=No Positions Reported

As Table 57 shows, estimated LPN vacancies appeared more acute among the rural respondents than among those in urban regions (16.1%, rural; 10.5%, urban). On the other hand, rural areas had a 0.0% estimated vacancy rate for Home Health Aides, while urban Alaska saw a rate of 27.6%.

Table 57. Other Nursing Staff Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Certified Nurse Assistant	79.6	7.8%	40.4	9.7%
Home Health Aide	11.5	27.6%	0.0	0.0%
Licensed Practical Nurse	46.4	10.5%	21.7	16.1%
Personal Care Attendant	14.5	4.3%	18.0	7.2%

As Table 58 shows, the highest estimated vacancy rates for Licensed Practical Nurses were reported by the North (33.3%) and Gulf Coast (34.5%) regions—all rural, consistent with the high rural LPN rate noted above. Vacancy rates for Certified Nurse Assistants were variable: Southeast, 3.1%; Anchorage, 7.1%; Southwest, 9.8%; Gulf Coast, 13.3%; Interior, 14.8%; and North, 23.1%.

Table 58. Other Nursing Staff Occupations, Estimated Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Certified Nurse Assistant	40.0	7.1%	31.3	13.3%	30.6	14.8%
Home Health Aide	1.5	5.4%	0.0	0.0%	10.0	53.8%
Licensed Practical Nurse	26.9	8.4%	11.8	34.5%	17.5	16.6%
Personal Care Attendant	17.5	5.0%	0.0	0.0%		NP

Occupation	Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Certified Nurse Assistant	12.5	3.1%	3.0	23.1%	2.6	9.8%
Home Health Aide	0.0	0.0%		NP	0.0	0.0%
Licensed Practical Nurse	2.0	2.6%	3.0	33.3%	6.9	20.3%
Personal Care Attendant	15.0	8.3%	0.0	0.0%	0.0	0.0%

NP=No Positions Reported

i. Tribal Health Organization–Specific Occupations

Some occupations are most likely to be found in Tribal Health Organizations (THOs), a product of the unique history, culture, and political status of Native Alaskan communities.

This section focuses on three occupations specifically found in Tribal Health Organizations: Dental Health Aide Therapist, Community Wellness Advocate, and Community Health Aide/Practitioner (CHA/P). By far, the most numerous of these occupations was the CHA/P, with 329.2 estimated positions and 42.6 vacancies, yielding a 12.9% estimated vacancy rate. Dental Health Aide Therapist remained a relatively new position analogous to CHA/Ps, but specifically for dental health. Tribal Health Organizations had the highest estimated vacancy rate for Dental Health Aide Therapist at 15.4% (2.0 estimated vacancies. Several Tribal Health Organizations were in the process of training new candidates for these positions. Table 59 presents the vacancy data for these occupations.

Table 59. Tribal Health Organization-Specific Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Dental Health Aide Therapist	31.0	2.0	6.5%	48.1	2.0	4.2%
Community Wellness Advocate	30.0	1.0	3.3%	36.4	2.6	7.2%
Community Health Aide/Practitioner (CHA/P)	326.0	41.0	12.6%	329.2	42.6	12.9%
Community Health Representative	47.0	5.0	10.6%	59.8	6.6	11.0%
Village Health Educator	17.0	2.0	11.8%	17.0	2.0	11.8%

These positions were found predominately in Tribal Health Organizations. There were a few in Medical Clinics/Offices of Physicians, shown by the estimated vacancies and vacancy rates in Table 60.

Table 60. Tribal Health Organization-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Tribal Health Organizations		Medical Clinics/Physician Offices	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Dental Health Aide Therapist	2.0	15.4%	0.0	0.0
Community Wellness Advocate	0.0	0.0%	2.6	25.0%
Community Health Aide/Practitioner (CHA/P)	40.0	12.3%	2.6	50.0%
Community Health Representative	4.0	11.4%	2.6	12.5%
Village Health Educator	2.0	11.8%		NP

NP=No Positions Reported

The majority of CHA/P vacancies were reported by Interior and Southwest health organizations (18.0 and 10.0 estimated vacancies, respectively). There were few estimated vacancies for the remaining positions. However, the 1.0 estimated vacancy for Dental Health Aide Therapist in Anchorage resulted in an estimated vacancy rate of 21.6%. Three Community Health Representative estimated vacancies in the Gulf Coast region created a 14.6% estimated vacancy rate. Similarly, 2.6 estimated vacancies in the Interior region resulted in a 13.0% estimated vacancy rate (Table 61).

Table 61. Tribal Health Organization-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Dental Health Aide Therapist	1.0	21.6%		NP	0.0	0.0%
Community Wellness Advocate	0.0	0.0%	0.0	0.0%	0.0	0.0
Community Health Aide/ Practitioner (CHA/P)	4.0	9.5%	2.6	14.3%	18.0	33.3%
Community Health Representative	1.0	8.2%	3.0	14.6%	2.6	13.0%
Village Health Educator	2.0	100.0%		NP		NP

Occupation	Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Dental Health Aide Therapist	0.0	0.0%	0.0	0.0%	1.0	6.6%
Community Wellness Advocate	0.0	0.0%		NP	2.6	20.7%
Community Health Aide/ Practitioner (CHA/P)	4.0	18.2%	4.0	7.7%	10.0	7.1%
Community Health Representative	0.0	0.0%	0.0	0.0%	0.0	0.0%
Village Health Educator		NP		NP	0.0	0.0%

NP=No Positions Reported

Estimated vacancies were highest in the urban areas for Community Health Aide Practitioner (CHA/P), with 26.0 estimated vacancies and an estimated vacancy rate of 25.5% (Table 62).

Table 62. Tribal Health Organization-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Dental Health Aide Therapist	1.0	12.5%	1.0	2.5%
Community Wellness Advocate	0.0	0.0%	2.6	14.6%
Community Health Aide/Practitioner (CHA/P)	26.0	25.5%	16.6	7.3%
Community Health Representative	3.6	11.5%	3.0	10.5%
Village Health Educator	2.0	100.0%	0.0	0.0%

As noted in Table 63, highest estimated vacancy rates were concentrated in the Anchorage region for Dental Health Aide Therapist at 22.6%; in the Interior and Southeast regions for the Community Health Aide/Practitioner at 33.3% and 18.2%, respectively. The highest estimate vacancy rate for the Community Wellness Advocate was in the Southwest region at 20.7%.

Table 63. Tribal Health Organization-Specific Positions, Vacancies, and Vacancy Rates by Geographic Region

	Anchorage						Gulf Coast						Interior					
	Sample			Estimate			Sample			Estimate			Sample			Estimate		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Dental Health Aide Therapist	3.0	1.0	33.3%	4.6	1.0	22.6%			NP			NP	2.0	0.0	0.0%	5.2	0.0	0.0%
Community Wellness Advocate	11.0	0.0	0.0%	15	0	0.0%	2.0	0.0	0.0%	5.2	0.0	0.0%	2.0	0.0	0.0%	2.0	0.0	0.0%
Community Health Aide/Practitioner (CHA/P)	42.0	4.0	9.5%	42.0	4.0	9.5%	15.0	1.0	6.7%	18.2	2.6	14.3%	54.0	18.0	33.3%	54.0	18.0	33.3%
Community Health Representative	9.0	1.0	11.1%	12.2	1.0	8.2%	19.0	3.0	15.8%	20.6	3.0	14.6%	12.0	1.0	8.3%	20.0	2.6	13.0%
Village Health Educator	2.0	2.0	100.0%	2.0	2.0	100.0%			NP			NP			NP			NP

	Southeast						North						Southwest					
	Sample			Estimate			Sample			Estimate			Sample			Estimate		
	Positions	Vacancies	Vacancy Rates															
Dental Health Aide Therapist	12.0	0.0	0.0%	20.2	0.0	0.0%	3.0	0.0	0.0%	3.0	0.0	0.0%	11.0	1.0	9.1%	15.1	1.0	6.6%
Community Wellness Advocate	4.0	0.0	0.0%	4.0	0.0	0.0%			NP			NP	11.0	1.0	9.1%	12.6	2.6	20.7%
Community Health Aide/Practitioner (CHA/P)	22.0	4.0	18.2%	22.0	4.0	18.2%	52.0	4.0	7.7%	52.0	4.0	7.7%	141.0	10.0	7.1%	141.0	10.0	7.1%
Community Health Representative	1.0	0.0	0.0%	1.0	0.0	0.0%	2.0	0.0	0.0%	2.0	0.0	0.0%	4.0	0.0	0.0%	4.0	0.0	0.0%
Village Health Educator			NP			NP			NP			NP	15.0	0.0	0.0%	15.0	0.0	0.0%

NP=No Positions Reported

j. Allied Health

Allied Health occupations were too numerous to address in detail in the context of this report. Tables for Allied Health occupations not detailed in this report are located at the end of this section of the report. Those occupations include Mammographer, MRI/CT Technician, Nuclear Medicine Technician, Sterile Processing Technician, Surgical Technician, Echocardiograph Technician, EEG Technician, EKG Technician, and Massage Therapist.

We will focus on eight key Allied Health occupations not already listed: Clinical Lab Assistant, Medical Lab Technician, Phlebotomist, Radiology Technician, Sonographer, Medical Assistant, Medical Technician, and Respiratory Therapist. Other Allied Health occupations—Dental Assistant, Dental Hygienist, Dental Health Aide/Therapist, Pharmacy Technician, Physical Therapy Assistant, Paramedic, and EMT/ETT—are discussed in other parts of this report.

Except for Sonographer, vacancy rates were generally low to moderate for these occupations, between 2.3% and 5.9% in the sample and between 3.5% and 6.6% for the statewide estimates. With the exception of Medical Assistant (with 30.3 estimated statewide vacancies) and Medical Technician (with 14.8 estimated vacancies statewide), the statewide vacancies were relatively low in number. The sample Sonographer vacancy rate was substantial (13.6%), with 8.0 reported vacancies and 9.6 estimated vacancies, resulting in a 13.7% estimated vacancy rate (Table 64).

Table 64. Allied Health-Specific Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Clinical Lab Assistant	87.0	2.0	2.3%	114.3	5.2	4.6%
Medical Lab Technician	97.0	3.5	3.6%	141.1	5.9	4.2%
Phlebotomist	155.8	8.0	5.1%	187.1	9.6	5.1%
Radiology Technician	178.5	6.0	3.4%	219.4	7.6	3.5%
Sonographer	59.0	8.0	13.6%	70.2	9.6	13.7%
Medical Assistant	357.0	13.5	3.8%	706.7	30.3	4.3%
Medical Technician	197.5	10.0	5.1%	224.8	14.8	6.6%
Respiratory Therapist	68.0	4.0	5.9%	68.0	4.0	5.9%

Table 65 shows that, among the lab occupations, Diagnostic Laboratories and Medical Clinics/Offices of Physicians had the highest estimated vacancy rates: Clinical Lab Assistant (11.8%) and Medical Lab Technician (18.2%). Radiology Technicians had relatively low estimated vacancy rates. In contrast, Sonographers had higher vacancy rates in Hospitals and Medical Clinics (21.4% and 14.3%, respectively). Medical Technician had an estimated vacancy rate of 17.6% in Medical Clinics. Respiratory Therapist had an estimated rate of 9.4% in Tribal Health Organizations.

Table 65. Allied Health-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Diagnostic Imaging		Hospital/Nursing Homes		Diagnostic Laboratories		Tribal Health Organizations		Medical Clinics/ Offices of Physicians	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Clinical Lab Assistant		NP	0.0	0.0%	0.0	0.0%	0.0	0.0%	5.2	11.8%
Medical Lab Technician		NP	0.0	0.0%	1.0	18.2%	1.0	8.3%	3.9	5.5%
Phlebotomist		NP	3.0	3.8%	3.0	6.2%	1.0	12.5%	2.6	5.2%
Radiology Technician	1.0	2.1%	2.0	2.4%		NP	2.0	10.0%	2.6	3.9%
Sonographer	0.0	0.0%	6.0	21.4%		NP	1.0	11.1%	2.6	14.3%
Medical Assistant	0.0	0.0%	2.0	5.9%		NP	1.0	1.0%	27.3	4.8%
Medical Technician	0.0	0.0%	3.0	2.8%	0.0	0.0%	4.0	6.3%	7.8	17.6%
Respiratory Therapist		NP	1.0	2.8%		NP	3.0	9.4%		NP

NP=No Positions Reported

Estimated vacancy rates for Sonographer positions were far higher for the rural respondents (20.0% vs. 12.0%, urban). Clinical Lab Assistant also had a high estimated vacancy rate at 11.9% in rural regions (Table 66).

Medical Assistant estimated vacancy rates were higher among rural organizations (10.0% vs. 3.2% urban), although the estimated rural vacancies were 11.7 compared to 18.6 in urban Alaska.

Table 66. Allied Health-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Urban And Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Clinical Lab Assistant	0.0	0.0%	5.2	11.9%
Medical Lab Technician	3.6	3.7%	2.3	5.2%
Phlebotomist	5.0	4.1%	4.6	7.0%
Radiology Technician	5.6	3.8%	2.0	2.7%
Sonographer	6.6	12.0%	3.0	20.0%
Medical Assistant	18.6	3.2%	11.7	10.0%
Medical Technician	8.2	5.5%	6.6	8.7%
Respiratory Therapist	3.0	8.1%	1.0	3.2%

The following are occupations with rates of at least 10% for some regions. Numbers in each region are small, and the vacancy rates vary widely between region (see Table 67).

- Clinical Lab Assistant—Gulf Coast, 18.6%; Southeast, 27.1%
- Medical Lab Technician—Southeast, 28.1%; Southwest, 30.3%
- Phlebotomist—Gulf Coast, 12.2%; Southeast, 15.1%; Southwest, 33.3%
- Radiology Technician—Southeast, 10.4%; Southwest, 10.8%
- Sonographer—Anchorage, 11.9%; Interior, 11.1%; Southeast, 75.0%
- Medical Assistant—Gulf Coast, 15.8%; Southwest, 21.7%
- Medical Technician—Interior, 10.0%; Southeast, 20.2%; North, 25.0%
- Respiratory Therapist—North, 100%

Table 67. Allied Health-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Geographic Region

Occupation	Anchorage		Gulf Coast		Interior	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Clinical Lab Assistant	0.0	0.0%	2.6	18.6%	0.0	0.0%
Medical Lab Technician	0.0	0.0%	1.0	6.6%	0.0	0.0%
Phlebotomist	2.0	2.0%	2.6	12.2%	3.0	5.6%
Radiology Technician	3.6	2.9%	0.0	0.0%	0.0	0.0%
Sonographer	5.6	11.9%	0.0	0.0%	1.0	11.1%
Medical Assistant	15.0	2.7%	7.8	15.8%	2.6	4.5%
Medical Technician	1.0	1.0%	0.0	0.0%	3.6	10.0%
Respiratory Therapist	3.0	7.9%	0.0	0.0%	0.0	0.0%

Occupation	Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate	Estimated Vacancies	Estimated Vacancy Rate
Clinical Lab Assistant	2.6	27.1%		NP	0.0	0.0%
Medical Lab Technician	3.6	28.1%		NP	1.3	30.3%
Phlebotomist	1.0	15.1%	0.0	0.0%	1.0	33.3%
Radiology Technician	3.0	10.4%	0.0	0.0%	1.0	10.8%
Sonographer	3.0	75.0%	0.0	0.0%	0.0	0.0%
Medical Assistant	1.0	4.2%		NP	3.9	21.7%
Medical Technician	7.2	20.2%	2.0	25.0%	1.0	4.2%
Respiratory Therapist	0.0	0.0%	1.0	100.0%	0.0	0.0%

NP=No Positions Reported

Table 68. Additional Allied Health-Specific Occupations, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Mammographer	43.0	2.0	4.7%	51.0	2.0	3.9%
MRI/CT Technician	56.0	2.0	3.6%	56.0	2.0	3.6%
Nuclear Medicine Technician	10.0	1.0	10.0%	10.0	1.0	10.0%
Sterile Processing Technician	83.0	6.0	7.2%	97.4	6.0	6.2%
Surgical Technician	64.0	6.0	9.4%	64.0	6.0	9.4%
Echocardiography Technician	14.0	1.0	7.1%	14.0	1.0	7.1%
EEG Technician	10.0	0.0	0.0%	10.0	0.0	0.0%
EKG Technician	33.0	0.0	0.0%	50.6	0.0	0.0%
Massage Therapist	60.0	3.0	5.0%	75.2	3.4	4.5%

Table 69. Additional Allied Health-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Diagnostic Imaging		Hospital/Nursing Homes		Diagnostic Laboratories		Tribal Health Organizations		Medical Clinics/Physician Offices	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Mammographer	0.0	0.0%	1.0	4.2%		NP	1.0	14.3%	0.0	0.0%
MRI/CT Technician	0.0	0.0%	1.0	3.8%		NP	1.0	6.7%		NP
Nuclear Med Technician	1.0	20.0%	0.0	0.0%		NP		NP		NP
Sterile Processing Technician		NP	5.0	8.9%		NP	1.0	5.6%	0.0	0.0%
Surgical Technician		NP	6.0	13.0%		NP	0.0	0.0%		NP
Echocardiography Technician	0.0	0.0%	1.0	14.3%		NP	0.0	0.0%		NP
EEG Technician		NP	0.0	0.0%		NP	0.0	0.0%		NP
EKG Technician		NP	0.0	0.0%		NP	0.0	0.0%	0.0	0.0%

NP=No Positions Reported

Occupation	Tribal Health		Medical Clinics/Physician Offices		Physical, Occupation, and Speech Therapist	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Massage Therapist	1.0	33.3%	0.0	0.0%	2.4	4.0%

Table 70. Additional Allied Health-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Mammographer	1.0	2.9%	1.0	5.9%
MRI/CT Technician	1.0	2.9%	1.0	4.8%
Nuclear Med Technician	1.0	14.3%	0.0	0.0%
Sterile Processing Technician	3.0	4.0%	3.0	13.5%
Surgical Technician	1.0	2.1%	5.0	29.4%
Echocardiography Technician	1.0	9.1%	0.0	0.0%
EEG Technician	0.0	0.0%	0.0	0.0%
EKG Technician	0.0	0.0%	0.0	0.0%
Massage Therapist	1.0	1.8%	2.4	12.3%

NP=No Positions Reported

Table 71. Additional Allied Health-Specific Occupations, Estimated Vacancies, and Vacancy Rates by Geographic Region

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rate										
Mammographer	1.0	4.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.0	33.3%
MRI/CT Technician	0.0	0.0%	0.0	0.0%	1.0	6.7%	0.0	0.0%		NP	1.0	33.3%
Nuclear Med Technician	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.0	100.0%		NP		NP
Echocardiography Technician	0.0	0.0%	0.0	0.0%	1.0	20.0%		NP		NP		NP
EEG Technician	0.0	0.0%		NP								
EKG Technician	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%		NP		NP
Sterile Processing Technician	5.0	7.2%	0.0	0.0%	0.0	0.0%	1.0	33.3%	0.0	0.0%	0.0	0.0%
Surgical Technician	3.0	6.5%	2.0	33.3%	1.0	12.5%	0.0	0.0%		NP		NP
Massage Therapist	1.0	2.0%	2.4	34.2%	0.0	0.0%	0.0	0.0%		NP		NP

NP=No Positions Reported

k. Community Education and Wellness Occupations

Health Educator, Dietitian, and Nutritionist were not numerous but do play an important role in prevention and treatment efforts. Health Educators made up the largest portion of these occupations. They were thinly distributed across the state, primarily in Tribal Health Organizations, Hospitals/Nursing Homes, and Medical Clinics/Offices of Physicians. There were few vacancies in either the sample or the statewide estimate.

Dietitians had the highest vacancies and rates: sample (9.0, 24.7%) and statewide estimate (9.0, 24.2%) (Table 72).

Table 72. Community Education and Wellness Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Health Educator	132.0	3.0	2.3%	136.8	4.6	3.4%
Dietitian	36.5	9.0	24.7%	37.2	9.0	24.2%
Nutritionist	20.0	1.0	5.0%	27.5	1.5	5.5%

Diagnostic Imaging facilities and Tribal Health Organizations had the highest estimated vacancy rates for Dietitians (100.0% and 50.0%, respectively). Health Educators had an estimated vacancy rate of 33.3% for Medical Clinics/Offices of Physicians (Table 73).

Table 73. Community Education and Wellness Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Behavioral Health		Diagnostic Imaging		Hospitals/Nursing Homes		Tribal Health Organizations		Medical Clinics/Physician Offices		Physical/Occupational, Speech Therapy		School Districts	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Health Educator		NP		NP	0.0	0.0%	2.0	4.8%	2.6	33.3%		NP	0.0	0.0%
Dietitian	0.0	0.0%	2.0	100.0%	0.0	0.0%	7.0	50.0%		NP	0.0	0.0%		NP
Nutritionist	1.5	6.7%		NP	0.0	0.0%	0.0	0.0%		NP		NP		NP

NP=No Positions Reported

The estimated highest vacancy rate for Dietitian was in Anchorage at 51.9% (7.0 estimated vacancies). Southwest had a single estimated vacancy for Dietitian, resulting in a 33.3% estimate vacancy rate. Health Educator had an estimated vacancy rate of 72.3% in Southwest, and Nutritionist had an estimated vacancy rate of 60.0% for the same region (Table 74).

Table 74. Community Education and Wellness Occupations, Estimated Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rates										
Health Educator	1.0	1.1%	0.0	0.0%	0.0	0.0%	1.0	3.3%	0.0	0.0%	2.6	72.3%
Dietitian	7.0	51.9%	0.0	0.0%	0.0	0.0%	1.0	13.3%	0.0	0.0%	1.0	33.3%
Nutritionist	0.0	0.0%		NP	0.0	0.0%		NP	0.0	0.0%	1.5	60.0%

NP=No Positions Reported

The high estimated vacancy rates in rural regions for these Education and Wellness occupations were consistent with the high rates in Tribal Health Organizations, which were predominately located in rural Alaska (Table 75).

Table 75. Community Education and Wellness Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Vacancies	Vacancy Rates	Vacancies	Vacancy Rates
Health Educator	2.0	1.6%	2.6	23.2%
Dietitian	7.0	29.6%	2.0	14.8%
Nutritionist	0.0	0.0%	1.5	6.1%

I. Managers and Administrators

This section focuses on seven key managerial occupations that are specific to health care: Administrator/Director/CEO/Manager, Behavioral Health Supervisor, Health Information Administrator/Manager, Hospital Administrator, Human Resources Director, Medical Director, and Nursing Director/Executive. Not discussed here are non-health care-specific (“generic”) managerial occupations (i.e., those not employed exclusively by health-care-providing organizations, such as CEO, CFO, Office Manager, or Business Manager).

Sample and estimated vacancy numbers were generally low for those seven occupations, while estimated vacancy rates were moderately high for two—Hospital Administrators (11.1%) and Nursing Director/Executive (14.6%) (Table 76). This was in contrast to the reported and estimated vacancy rates for Administrator/Director/CEO/Manager (3.0% sample, 2.7% statewide estimate). The highest number of estimated vacancies (33.5) was for Administrator/Director/CEO/Manager.

Table 76. Managerial and Administrative Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Administrator/Director/CEO/Manager	837.0	25.0	3.0%	1,246.4	33.5	2.7%
Behavioral Health Supervisor	154.0	8.0	5.2%	219.1	12.6	5.8%
Health Information Administrator/Manager	65.0	4.0	6.2%	95.1	5.6	5.9%
Hospital Administrator	9.0	1.0	11.1%	9.0	1.0	11.1%
Human Resources Director	89.5	6.0	6.7%	132.0	9.1	6.9%
Medical Director	91.5	6.0	6.6%	130.0	10.2	7.9%
Nursing Director/ Executive	54.0	6.0	11.1%	74.1	10.8	14.6%

Table 77 shows estimated vacancies for Health Information Manager were concentrated in Tribal Health Organizations (7.7%), Medical Clinics (6.7%), and Pharmacies (25.0%). Estimated vacancies for Medical Director were distributed among three organizational groups: Behavioral Health (25.0% vacancy rate), Medical Clinics/Offices of Physicians (9.3%, and Tribal Health Organizations, 3.8%). Vacancies for Nurse Executive/Director of Nursing were reported by Hospitals/Nursing Homes (4.2% vacancy rate), Tribal Health Organizations (16.7%), and Medical Clinics/Offices of Physicians (27.3%). Nurse Manager is found in professional nurses.

Table 77. Managerial and Administrative Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupation	Administrator/ Director/ CEO/Manager		Behavioral Health Supervisor		Health Information Administrator/ Manager		Hospital Administrator		Human Resources Director		Medical Director		Nursing Director/ Executive	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Behavioral Health	7.5	2.6%	9.0	7.3%	0.0	0.0%		NP	4.5	9.8%	3.0	25.0%	0.0	0.0%
Dental Clinics/Offices	5.5	2.7%		NP		NP		NP		NP		NP		NP
Diagnostic Imaging	0.0	0.0%		NP	0.0	0.0%		NP	0.0	0.0%		NP		NP
Hospitals/Nursing Homes	5.0	4.8%	0.0	0.0%	0.0	0.0%	1.0	16.7%	1.0	5.6%	0.0	0.0%	1.0	4.2%
Diagnostic Laboratories	0.0	0.0%		NP		NP		NP	0.0	0.0%		NP		NP
Tribal Health Organizations	8.0	4.3%	1.0	2.2%	1.0	7.7%	0.0	0.0%	1.0	7.1%	2.0	3.8%	2.0	16.7%
Medical Clinics/Physician Offices	5.2	1.5%	2.6	6.7%	2.6	6.7%		NP	2.6	5.9%	5.2	9.3%	7.8	27.3%
Pharmacies	0.0	0.0%		NP	2.0	25.0%		NP	0.0	0.0%		NP		NP
Physical/ Occupational/ Speech Therapy	2.4	2.7%		NP		NP		NP		NP		NP		NP
School Districts		NP		NP	0.0	0.0%		NP		NP		NP	0.0	0.0%
Paramedics		NP		NP		NP		NP		NP		NP		NP

NP=No Positions Reported

Hospital Administrator and Human Resources Director had moderate estimated vacancy rates in rural areas (20.0% and 12.2%, respectively); however, the highest vacancy rate was for Nursing Director/Executive at 26.0% (Table 78). Vacancy rates for these managerial and administrative occupations were relatively low in urban Alaska, with the exception of Medical Directors with an estimated vacancy rate of 8.1%.

Table 78. Managerial and Administrative Occupations, Estimated Vacancies, and Vacancy Rates by Urban And Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Administrator/Director/CEO/Manager	23.9	2.8%	9.6	2.4%
Behavioral Health Supervisor	11.1	6.7%	1.5	2.8%
Health Information Administrator/Manager	2.6	4.5%	3.0	8.0%
Hospital Administrator	0.0	0.0%	1.0	20.0%
Human Resources Director	3.5	4.1%	5.6	12.2%
Medical Director	6.6	8.1%	3.6	7.5%
Nursing Director/Executive	3.6	7.8%	7.2	26.0%

Regionally high estimated vacancy rates (though low vacancy numbers) were noted (Table 79) for the following:

- Behavioral Health Supervisor—Gulf Coast, 11.4%
- Health Information Administrator/Manager—Southeast, 29.5%; North, 50.0%
- Hospital Administrator—Southeast, 100.0%
- Human Resources Director—Gulf Coast, 12.9%
- Medical Director—Interior, 14.0%; Southwest, 10.9%
- Nursing Director/Executive—Anchorage, 10.2%; Gulf Coast, 20.7%; North, 50.0%; Southwest, 56.6%

Table 79. Managerial and Administrative Occupations, Estimated Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rate										
Administrator/Director/ CEO/Manager	19.5	2.7%	0.0	0.0%	2.2	2.1%	9.0	4.1%	2.8	9.6%	0.0	0.0%
Behavioral Health Supervisor	8.5	5.8%	1.5	11.4%	2.6	9.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Health Information Administrator/Manager	0.0	0.0%	0.0	0.0%	0.0	0.0%	4.6	29.5%	1.0	50.0%	0.0	0.0%
Hospital Administrator	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.0	100.0%	0.0	0.0%	0.0	0.0%
Human Resources Director	4.0	5.6%	2.6	12.9%	1.0	5.6%	1.5	8.0%	0.0	0.0%	0.0	0.0%
Medical Director	5.1	7.4%	1.0	7.5%	1.5	14.0%	0.0	0.0%	0.0	0.0%	2.6	10.9%
Nursing Director/Executive	3.6	10.2%	2.6	20.7%	0.0	0.0%	1.0	8.0%	1.0	50.0%	2.6	56.6%

NP=No Positions Reported

m. Information and Reimbursement—Coding, Billing, and Health Information Occupations

These occupations include a wide range of “front office” and “back office” ancillary non-medical services necessary for the functioning of health-care organizations. The occupations of focus here specifically involve coding, billing, and health information processing. Some may have overlapping job functions and skills (e.g., Billing Clerk/Technician and Billing Specialist), while others combine dual sets of skills (e.g., Billing/Coding Clerk).

Vacancy numbers and rates were generally low for these occupations in both the sample and the statewide estimates (Table 80). The highest vacancy rates were Records Clerk/Technician (6.5% sample) and (5.9% estimated).

Table 80. Information and Reimbursement Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupation	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Billing Clerk/Technician	689.5	37.0	5.4%	1,096.1	58.6	5.3%
Billing Supervisor	173.0	4.0	2.3%	299.0	6.3	2.1%
Compliance/Auditor	54.0	2.0	3.7%	92.1	3.6	3.9%
Records Clerk/Technician	438.5	28.5	6.5%	629.1	37.2	5.9%
Transcriptionist	99.0	1.0	1.0%	143.7	1.5	1.0%
Coding Clerk/Technician	191.0	7.0	3.7%	269.3	7.0	2.6%
Certified Coder	117.0	7.0	6.0%	233.0	10.2	4.4%
Coding Specialist	62.0	3.0	4.8%	88.6	3.0	3.4%

Looking at the urban/rural distribution of estimated vacancies, vacancy rates tended to be about the same between the two areas, with the exception of Certified Coder which had the highest estimated vacancy rate at 15.8% in rural areas (Table 81).

Table 81. Information and Reimbursement Occupations, Estimated Vacancies, and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Billing Clerk/Technician	38.4	5.0%	20.2	6.1%
Billing Supervisor	1.2	0.6%	5.1	4.8%
Compliance/Auditor	3.6	5.1%	0.0	0.0%
Records Clerk/Technician	30.9	6.5%	6.3	4.1%
Transcriptionist	1.5	1.4%	0.0	0.0%
Coding Clerk/Technician	5.0	2.5%	2.0	2.9%
Certified Coder	2.6	1.4%	7.6	15.8%
Coding Specialist	2.0	3.1%	1.0	4.1%

As presented in Table 82, the highest estimated vacancy rates for Certified Coder and Coding Specialist were reported by Tribal Health Organizations (28.6% and 16.7%, respectively). Medical Clinics/Physician Offices and Hospitals/Nursing Homes reported low estimated rates for Certified Coder at 2.8% and 4.2%, respectively. Estimated vacancy rates for Records Clerk/Technician were distributed principally between Behavioral Health Services (12.0%) and Tribal Health Organizations (12.8%). Lastly, estimated vacancy rates for Transcriptionist were concentrated in Behavioral Health Services (16.7%).

Table 82. Information and Reimbursement Occupations, Estimated Vacancies, and Vacancy Rates by Organization Type

Occupations	Billing Clerk/Technician		Billing Supervisor		Compliance/Auditor		Records Clerk/Technician		Transcription		Coding Clerk/Technician		Certified Coder		Coding Specialist	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Behavioral Health Services	4.5	4.3%	1.5	4.8%	0.0	0.0%	4.5	12.0%	1.5	16.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Dental Clinics/Offices	0.0	0.0%	0.0	0.0%		NP	0.0	0.0%		NP	0.0	0.0%		NP		NP
Diagnostic Imaging	0.0	0.0%	0.0	0.0%		NP	0.0	0.0%	0.0	0.0%		NP		NP	0.0	0.0%
Hospitals/Nursing Homes	5.0	4.2%	0.0	0.0%	0.0	0.0%	3.0	2.6%	0.0	0.0%	0.0	0.0%	1.0	4.2%	0.0	0.0%
Diagnostic Laboratories	0.0	0.0%	0.0	0.0%		NP	0.0	0.0%		NP	0.0	0.0%		NP		NP
Tribal Health Organizations	9.0	7.4%	1.0	5.9%	1.0	8.3%	18.0	12.8%	0.0	0.0%	7.0	7.1%	4.0	28.6%	2.0	16.7%
Medical Clinics/Physician Offices	31.3	6.3%	2.6	1.8%	2.6	5.0%	11.7	4.7%	0.0	0.0%	0.0	0.0%	5.2	2.8%	0.0	0.0%
Pharmacies	3.0	8.1%	0.0	0.0%		NP	0.0	0.0%		NP	0.0	0.0%		NP	1.0	25.0%
Physical/Occupational/ Speech Therapy	5.9	9.6%	1.2	4.0%		NP	0.0	0.0%		NP	0.0	0.0%	0.0	0.0%		NP
School Districts		NP		NP	0.0	0.0%		NP		NP		NP		NP		NP
Paramedics		NP		NP		NP		NP		NP		NP		NP		NP

NP=No Positions Reported

We found concentrations of unfilled positions in the following specific regional “pockets” by estimated vacancy rates (Table 83):

- Billing Clerk/Technician—Southwest, 13.1%; North, 12.9%
- Compliance/Auditor—Interior 23.0%
- Certified Coder—Southeast, 9.6%; Southwest, 44.5%
- Coding Specialist—Southeast, 15.1%

Table 83. Information and Reimbursement Occupations, Estimated Vacancies, and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rates										
Billing Clerk/Technician	25.0	3.7%	8.6	8.1%	8.4	6.1%	9.7	7.8%	3.0	12.9%	4.0	13.1%
Billing Supervisor	2.7	1.5%	2.6	7.6%	1.0	2.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Compliance/Auditor	1.0	1.7%	0.0	0.0%	2.6	23.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Records Clerk/Technician	25.3	6.1%	2.0	4.5%	5.6	7.1%	0.0	0.0%	1.0	9.1%	3.3	9.8%
Transcriptionist	0.0	0.0%	0.0	0.0%	1.5	5.5%	0.0	0.0%		NP		NP
Coding Clerk/Technician	4.0	2.5%	0.0	0.0%	0.0	0.0%	1.0	2.0%	1.0	20.0%	1.0	7.8%
Certified Coder	0.0	0.0%	1.0	5.8%	2.6	8.3%	1.0	9.6%	0.0	0.0%	5.6	44.5%
Coding Specialist	2.0	3.6%	0.0	0.0%	0.0	0.0%	1.0	15.1%		NP		NP

NP=No Positions Reported

n. Paramedic

Due to Alaska's vast and diverse geography, first responders to emergencies are also diverse. The survey for paramedic positions was augmented shortly after data collection started. We expanded the organization types beyond health-care organizations and included fire department/emergency services (military, borough, and municipality), paid and volunteer, air medevac services, and airports. We also expanded the occupations to include firefighters with emergency medical services training. Paramedic occupations had a significant number of volunteer positions due to the numerous volunteer fire departments throughout Alaska.

The augmented sample that includes fire department/emergency services (military, borough, and municipality), paid and volunteer, air medevac services, and airports shows that this is where most paramedic/EMT positions are located. Also of note is the importance of volunteers in these occupations, as noted by 43.0 volunteer emergency staff which include volunteer paramedics, EMTs, and firefighters with EMT training that were in the health-care organization sample (Table 84).

Table 84. Paramedic Positions, Vacancies, and Vacancy Rates, Sample and Statewide Estimates

Occupations	Sample			Statewide Estimates		
	Positions	Vacancies	Vacancy Rates	Positions	Vacancies	Vacancy Rates
Health-Care Organizations Sample						
Allied Health Paramedic	9.0	4.0	44.4%	9.0	4.0	44.4%
Allied Health EMT/ETT	23.0	0.0	0.0%	27.7	0.0	0.0%
Augmented Sample						
Paramedic	234.0	6.0	2.6%	288.7	7.4	2.6%
Firefighter with Emergency Medical Service	903.0	26.0	2.9%	1,114.1	32.1	2.9%
Health-Care Organization Sample—Other Occupations*						
Volunteer Emergency Staff	43.0					
EMT I, II, III	14.0					

*Other occupations are included in statewide. They are not disaggregated by urban vs. rural, geographic region, or organization type.

Paramedic positions had a high vacancy rate in the rural areas at 66.7% (Table 85).

Table 85. Paramedic Estimated Vacancies and Vacancy Rates by Urban and Rural Regions

Occupation	Urban		Rural	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Health Care Organizations Sample				
EMT/ETT	0.0	0.0%	0.0	0.0%
Paramedic	0.0	0.0%	4.0	66.7%
Augmented Sample				
Paramedic	4.9	3.6%	2.5	1.6%
Firefighter with Emergency Medical Service	30.8	4.0%	1.2	0.4%

Consistent with the high estimated vacancy rate in the rural areas for paramedics was the high rate in the North region, which is predominately rural (Table 86). The Interior region shows an estimated vacancy rate of 15.1% for firefighter with EMT training and may be related to a concentration of firefighters who were employed in this area.

Table 86. Paramedic Estimated Vacancies and Vacancy Rates by Labor Market Region

Occupation	Anchorage		Gulf Coast		Interior		Southeast		North		Southwest	
	Estimated Vacancies	Estimated Vacancy Rate										
Health-Care Organizations Sample												
EMT/ETT		NP	0.0	0.0%	0.0	0.0%	0.0	0.0%		NP	0.0	0.0%
Paramedic	0.0	0.0%		NP		NP	0.0	0.0%	4.0	66.7%		NP
Augmented Sample												
Paramedic	2.5	2.4%	0.0	0.0%	1.2	2.6%	1.2	4.8%	2.5	13.3%		NP
Firefighter with Emergency Medical Service	7.4	1.2%	0.0	0.0%	23.4	15.1%	0.0	0.0%	1.2	1.7%	0.0	0.0%

NP=No Positions Reported

The 50.0% vacancy rate in paramedic positions reflects the need for employment in these occupations in fire department/emergency services (military, borough, and municipality), air medevac services, and airports (Table 87).

Table 87. Paramedic Estimated Vacancies and Vacancy Rates by Organization Type

Occupation	Tribal Health		Paramedic	
	Estimated Vacancies	Estimated Vacancy Rates	Estimated Vacancies	Estimated Vacancy Rates
Health-Care Organizations Sample				
EMT/ETT	0.0	0.0%	0.0	0.0%
Paramedic	4.0	50.0%		NP
Augmented Sample				
Paramedic		NP	7.4	2.6%
Firefighter with EMS		NP	32.1	2.9%

NP=No Positions Reported

4. Reasons for Vacancies

Respondents were provided with a list of causes for vacancies. They were asked “What are the top two underlying causes of vacancies when they occur?” and to select only two. A subset of the sample respondents answered this question. We have provided the number of respondents for each of the reasons (Table 88).

By far, the most frequently reported reason for vacancies—cited by 677 organizations in the sample—was “inadequate pool of qualified workers, followed by “relocation”, “insufficient compensation package” and “rural isolation.”

Table 88. Reasons for Vacancies—All

Organizations that have positions	Number of Responses
Inadequate Worker Pool	279
Relocation*	135
Compensation Package Insufficient	110
Rural Isolation	101
Stressful Job	69
Schedule/shift Work	41
Workplace Issues	28
Inadequate Training Opportunities	27

Reasons for vacancies that were not included in the survey instrument but listed by respondents were:

- Relocation
- Retirement
- Maternity
- Career change
- Cont. Education
- Better job/higher pay
- High cost of living
- Housing shortage
- Need full-time work
- Poor performance/work ethic
- Volunteer positions
- Personal/family responsibility
- Funding issues
- Undesirable location
- Shortage of profession in AK
- Natural attrition
- Need specialized training
- Growth/New positions
- Lack of job satisfaction
- Hiring issues
- Other/Misc

Among other reasons relocation was cited a little more than 50% of the time and added to the reasons for vacancies analyzed.

When the sample was separated into urban and rural regions, the general similarity in the frequency distributions of the reasons cited was striking. For both urban and rural respondents, the most commonly cited cause was “insufficient pool of qualified applicants” (163 urban, 116 rural). For urban respondents, relocation at 92 was the second most frequently cited cause versus rural respondents who cited insufficient compensation package as the second most frequent reason for vacancies (Table 89).

Table 89. Reasons for Vacancies, Urban and Rural

Reasons for Vacancies	Inadequate Worker Pool	Relocation	Compensation Package Insufficient	Inadequate Training Opportunities	Stressful Job	Rural Isolation	Schedule/Shift Work	Workplace Issues
Urban (n=393)	163	92	56	18	47	23	26	18
Rural (n=284)	116	43	54	9	22	78	15	10

Separating the reasons by organization type yields varying distributions of most frequently cited causes for vacancies (Table 90, next page). Every respondent type cited “inadequate pool of qualified applicants”. “Inadequate compensation” and “relocation” were also noted as second across the organization groups, with the exception of the dental clinics for compensation package and school districts for relocation.

Table 90. Vacancy Causes by Respondent Type

Respondent Type	Inadequate Worker Pool	Relocation	Compensation Package Insufficient	Inadequate Training Opportunities	Stressful Job	Rural Isolation	Schedule/Shift Work	Workplace Issues
Behavioral Health (n=84)	29	9	28	2	18	8	7	0
Dental Clinics (n=148)	60	50	12	8	14	7	16	11
Diagnostic Imaging (n=16)	3	5	0	0	0	1	1	1
Hospitals/Nursing Homes (n=17)	11	2	4	2	4	3	0	1
Laboratories(n=13)	4	4	3	0	2	0	0	0
Med Clinics/Dr Offices (n=171)	61	41	24	4	21	18	3	9
Tribal Health (n=25)	9	4	3	1	4	10	0	2
Pharmacies (n=35)	23	7	7	3	3	7	1	0
PT/OT/ST (n=64)	37	4	10	5	2	9	7	3
School Districts (n=15)	7	3	6	0	0	4	0	0
State/Municipal (n=24)	23	0	1	0	0	23	1	0
Paramedic (n=73)	12	6	12	2	1	11	5	1

Across the regions, as previous noted the most frequently cited reason was inadequate pool of qualified workers. (Table 91). Insufficient compensation, relocation and rural isolation were also cited frequently cited in most regions.

Table 91. Vacancy Causes by Labor Market Region

Labor Market Region	Inadequate Worker Pool	Relocation	Compensation Package Insufficient	Inadequate Training Opportunities	Stressful Job	Rural Isolation	Schedule/Shift Work	Workplace Issues
Anchorage/Mat-Su (n=335)	135	82	47	13	41	10	27	17
Gulf Coast (n=102)	46	19	22	4	9	27	7	4
Interior (n=104)	45	21	17	5	8	22	2	3
Southeast (n=93)	44	12	18	5	8	26	4	2
North (n=16)	4	0	4	0	2	5	1	1
Southwest (n=27)	5	1	2	0	1	11	0	1

5. New Graduates

Respondents were asked two questions on the hiring of new graduates. The first was “Do you hire new graduates in this occupation?” Table 92 displays occupations with estimated 50 or more “yes” responses.

**Table 92. “Do You Hire New Graduates in this Occupation?”
with Estimated 50 or More “Yes” Responses**

Organization Type	Occupation	Sample	Estimate
		100 Plus Estimated	
Information and Reimbursement	Billing Clerk/Technician	186	324
Allied Health	Health Dental Assistant	122	218
Managers and Administrators	Administrator/Director/CEO/Manager	115	218
Professional Nurses	Registered Nurse	96	187
Allied Health	Dental Hygienist	99	180
Information and Reimbursement	Records Clerk/Technician	91	163
Allied Health	Medical Assistant	61	143
Other Nursing Staff	Licensed Practical Nurse	68	131
Other Clinicians/Therapists	Dentist	69	120
Professional Nurses	Family Nurse Practitioner	49	106
Other Nursing Staff	Certified Nurse Assistant	58	100
		>50 and <100 Estimated	
Information and Reimbursement	Billing Supervisor	46	88
Other Clinicians/Therapists	Physician Assistant	37	85
Physicians	Family Physician	34	79
Behavioral Health	Behavioral Health Case Manager	44	67
Other Clinicians/Therapists	Physical Therapist	53	65
Information and Reimbursement	Coding Clerk/Technician	34	60
Allied Health	Allied Health Medical Lab Technician	30	57
Allied Health	Allied Health Pharmacy Technician	42	52
Behavioral Health	Chemical/Substance Counselor	35	52
Behavioral Health	Clinician	35	51

Respondents were asked “How many of the currently vacant budgeted positions could be filled by new graduates of training programs?” This question provides an indication of the demand for new graduates of training programs.

Among occupations that had at least 50 positions that could be filled by new graduates were two nursing occupations—Certified Nurse Assistant and Registered Nurse. In addition, the leading position that could be filled by new graduates was a Behavioral Health occupation—Human Services Worker–HS (Table 93).

Table 93. Occupations with at Least 50 Estimated Positions that Could Be Filled With New Graduates

Organization Type	Occupation	Sample	Estimate
		Current vacancies that could be filled with new graduates	Current vacancies that could be filled with new graduates
Behavioral Health	Human Services Worker–HS	79	121
Other Nursing Staff	Certified Nurse Assistant	89	102
Professional Nurses	Registered Nurse	64	96

See Appendix E for detailed tables on all occupations by organization type, urban versus rural, and geographic regions.

6. Length of Longest Vacancy Expressed in Months

Respondents were asked to tell us the longest length of time, in months, a vacancy had existed. In the analysis, we combined the responses in SPSS and calculated the mean (average) and maximum (longest) length of vacancy in months.

Twelve occupations had the same mean and maximum vacancy length (see Table 94) with the longest length for the General Internist at 24 months.

Table 94. Occupations with Equal Sample Mean and Maximum Length of Vacancy

Occupation Group	Occupations	Sample Maximum	Sample Mean
Physicians	General Internist	24.0	24.0
Managers and Administrators	Hospital Administrator	6.0	6.0
Information and Reimbursement	Coding Clerk/Technician	6.0	6.0
Allied Health	MRI/CT Technician	4.0	4.0
Allied Health	Nuclear Med Technician	4.0	4.0
Physicians	Emergency Physician	3.0	3.0
Health Education and Community Wellness	Nutritionist	3.0	3.0
Behavioral Health	Psychiatric Aide/Technician	2.0	2.0
Behavioral Health	Social Worker MSW	2.0	2.0
Allied Health	Echocardiography Technician	2.0	2.0
Health Education and Community Wellness	Health Educator	1.0	1.0
Information and Reimbursement	Compliance/Auditor	1.0	1.0

Fourteen occupations shown in Table 95 had an estimated mean vacancy length of one year or greater. A relatively new occupation in dental health care—Dental Health Aide Therapist—was the position with the greatest vacancy length (25 months mean). This occupation was followed by General Internists (24 months mean); rounding out the top three occupations was Public Health Nurse (24 months mean).

Table 95. Occupations with a Mean Vacancy Length of at least Twelve Months

Occupation Group	Occupations	Sample Maximum	Sample Mean
Allied Health	Dental Health Aide Therapist	48.0	25.0
Physicians	General Internist	24.0	24.0
Professional Nurses	Public Health Nurse	51.0	24.0
Health Education and Community Wellness	Community Health Aide/Practitioner (CHAP)	95.0	22.8
Information and Reimbursement	Certified Coder	36.0	16.0
Other Clinicians/Therapists	Occupational Therapist	36.0	14.5
Paramedics	Firefighter with Emergency Medical Service	50.0	14.4
Allied Health	Dental Hygienist	108.0	14.4
Other Clinicians/Therapists	Speech Language Pathologist	60.0	14.2
Other Nursing Staff	Home Health Aide	16.0	13.0
Other Clinicians/Therapists	Speech Therapist	30.0	12.8
Physicians	Family Physician	48.0	12.7
Managers and Administrators	Nursing Director/Executive	48.0	12.6
Professional Nurses	Nurse Manager	48.0	12.4

An additional 23 occupations had an estimated mean vacancy length of less than 12 months and greater than 6 months (Table 96). The highest among these were Nurse Manger, Sonographer, and Women's Health Care Nurse Practitioner 11.6, 11.2, and 11.0 months respectively.

Table 96. Occupations with a Mean Vacancy Length at least Six Months and Less than Twelve Months

Occupation Group	Occupations	Sample Maximum	Sample Mean
Professional Nurses	Nurse Case Manger	48.0	11.6
Allied Health	Sonographer	24.0	11.2
Professional Nurses	Women's Health Care Nurse Practitioner	24.0	11.0
Other Clinicians/Therapists	Pharmacist	36.0	10.6
Other Clinicians/Therapists	Physical Therapist	30.0	10.4
Physicians	Radiation Oncologist	10.0	9.3
Managers and Administrators	Health Information Administrator/Manager	12.0	9.3
Professional Nurses	Pediatric Nurse Practitioner	12.0	9.3
Other Clinicians/Therapists	Dentist	26.0	9.2
Professional Nurses	Nurse Midwife	12.0	9.0
Health Education and Community Wellness	Village Health Educator	9.0	9.0
Other Clinicians/Therapists	Physician Assistant	30.0	8.9
Professional Nurses	Family Nurse Practitioner	24.0	7.9
Behavioral Health	Psychologist/Psychological Associate	12.0	7.4
Behavioral Health	Professional Counselor	9.0	7.0
Allied Health	Allied Health Physical Therapy Assistant	12.0	6.9
Professional Nurses	Registered Nurse	48.0	6.8
Health Education and Community Wellness	Community Health Representative	16.0	6.3
Behavioral Health	Clinical Psychologist	12.0	6.0
Managers and Administrators	Hospital Administrator	6.0	6.0
Information and Reimbursement	Coding Clerk/Technician	6.0	6.0
Information and Reimbursement	Coding Specialist	10.0	6.0
Behavioral Health	Aide/Village Counselor	17.0	6.0

There were 46 health occupations (almost half of the 93 occupations included in this study) that had a maximum vacancy length of at least 12 months. Table 97 illustrates the deficient “supply side” of numerous health occupations, recruitment of which is impeded by the reasons for vacancies highlighted by the respondents in this report.

Table 97. Occupations with a Maximum Vacancy Length of Twelve Months and Greater

Occupation Group	Occupations	Sample Maximum	Sample Mean
Allied Health	Dental Hygienist	108.0	14.4
Health Education and Community Wellness	Community Health Aide/Practitioner	95.0	22.8
Other Clinicians/Therapists	Speech Language Pathologist	60.0	14.2
Professional Nurses	Public Health Nurse	51.0	24.0
Paramedics	Firefighter with Emergency Medical Service	50.0	14.4
Allied Health	Dental Health Aide Therapist	48.0	25.0
Physicians	Family Physician	48.0	12.7
Managers and Administrators	Nursing Director/Executive	48.0	12.6
Professional Nurses	Nurse Manager	48.0	12.4
Professional Nurses	Nurse Case Manger	48.0	11.6
Professional Nurses	Registered Nurse	48.0	6.8
Information and Reimbursement	Certified Coder	36.0	16.0
Other Clinicians/Therapists	Occupational Therapist	36.0	14.5
Other Clinicians/Therapists	Pharmacist	36.0	10.6
Information and Reimbursement	Billing Clerk/Technician	36.0	5.3
Allied Health	Dental Assistant	36.0	4.3
Other Clinicians/Therapists	Speech Therapist	30.0	12.8
Other Clinicians/Therapists	Physical Therapist	30.0	10.4
Other Clinicians/Therapists	Physician Assistant	30.0	8.9
Other Clinicians/Therapists	Dentist	26.0	9.2
Managers and Administrators	Administrator/Director/CEO/Manager	26.0	5.5
Physicians	General Internist	24.0	24.0
Allied Health	Sonographer	24.0	11.2
Professional Nurses	Women's Health Care Nurse Practitioner	24.0	11.0
Professional Nurses	Family Nurse Practitioner	24.0	7.9
Other Nursing Staff	Certified Nurse Assistant	24.0	5.6
Behavioral Health	Clinician	18.0	4.1
Behavioral Health	Chemical/Substance Counselor	18.0	3.4
Behavioral Health	Aide/Village Counselor	17.0	6.0
Other Nursing Staff	Home Health Aide	16.0	13.0
Health Education and Community Wellness	Community Health Representative	16.0	6.3
Physicians	Psychiatrist	15.0	5.0
Managers and Administrators	Health Information Administrator/Manager	12.0	9.3
Professional Nurses	Pediatric Nurse Practitioner	12.0	9.3
Professional Nurses	Nurse Midwife	12.0	9.0
Behavioral Health	Psychologist/Psychological Associate	12.0	7.4
Allied Health	Physical Therapy Assistant	12.0	6.9
Behavioral Health	Clinical Psychologist	12.0	6.0
Allied Health	Massage Therapist	12.0	5.3
Professional Nurses	Critical Care/ER/Intensive Care Unit Nurse	12.0	5.3
Managers and Administrators	Medical Director	12.0	5.0
Behavioral Health	Human Services Worker Degree	12.0	4.8
Allied Health	Allied Health Medical Technician	12.0	4.6
Other Nursing Staff	Licensed Practical Nurse	12.0	3.0
Other Nursing Staff	Personal Care Attendant	12.0	2.4
Behavioral Health	Human Services Worker HS	12.0	2.2